

VALIDATING ACCOUNT NUMBERS

# UK Modulus Checking

9 APRIL 2025



# Authorisation

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### Contacts

Vocalink Limited  
1 Angel Lane  
London  
EC4R 3AB  
United Kingdom

+44 (0)370 165 0019

[www.vocalink.com](http://www.vocalink.com)

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## Version history

| Version | Date              | Details   |
|---------|-------------------|---|
| 1.00    | 13 June 2005      | New version following Voca launch and sorting code update.  |
| 1.10    | 16 August 2006    | Release following addition of new sorting codes.  |
| 1.20    | 24 July 2007      | Release following the launch of Vocalink. No other changes were made in this version.   |
| 1.3     | 19 November 2007  | Release following addition of new sorting codes.  |
| 1.40    | 25 February 2008  | Release following addition of new sorting codes.  |
| 1.50    | 30 April 2008     | Release following addition of new sorting codes.  |
| 1.60    | 15 September 2008 | Baselined version.  |
| 1.70    | 18 September 2008 | Minor clarification to section 6.2.   |
| 1.80    | 2 November 2009   | Release following addition of a sorting code range.   |
| 1.90    | 18 October 2010   | Added exception 14, new sorting codes and a new test case (for exception 14). Removed information on how to write modulus checking software.          |
| 2.00    | 17 January 2011   | Amendments to sorting code ranges.  |
| 2.10    | 21 March 2011     | Amendments to sorting code ranges.  |
| 2.20    | 17 October 2011   | Addition of a new sorting code range. Clarification of 2 examples in test data; added new test case. Updated flow diagram to also cover exception 14. |
| 2.30    | 28 November 2011  | Removal of a sorting code from modulus checking.  |
| 2.40    | 23 April 2012     | Removal of a sorting code from modulus checking.  |
| 2.50    | 22 October 2012   | Addition and removal of sorting codes from the sorting code specification.  |
| 2.60    | 10 June 2013      | Removal of sorting codes from modulus checking.   |
| 2.70    | 2 September 2013  | Removal of sorting codes from modulus checking.   |
| 2.80    | 14 October 2013   | Removal of sorting codes from modulus checking.   |
| 2.90    | 18 November 2013  | Addition of sorting codes for modulus checking. Minor correction to test case 19.   |

| Version | Date             | Details  |
|---------|------------------|--|
| 3.00    | 24 February 2014 | Removal of exceptions from two sorting code ranges.<br>Correction to remove a sorting code range.  |
| 3.10    | 6 October 2014   | Addition of sorting codes for modulus checking.  |
| 3.20    | 23 March 2015    | Addition of sorting code for modulus checking.<br>Amendment of LTSB to Lloyds bank and TSB bank.   |
| 3.30    | 20 July 2015     | <ul style="list-style-type: none"> <li>• Section 6.1: Addition of sorting code 230580.</li> <li>• Section 5.2: Updated exceptions 12 and 13 - no longer Nationwide specific.</li> </ul>  |
| 3.40    | 26 October 2015  | Section 6.1: Addition of sorting code 233142   |
| 3.50    | 7 December 2015  | Section 6.1: Addition of new sorting code range 170000 - 179499.   |
| 3.60    | 21 December 2015 | Section 6.1: Addition of new sorting code range 608316 - 608316.<br><b>Note:</b> This version was not formally released.   |
| 3.70    | 8 January 2016   | Section 4.1: Added financial institutions: <ul style="list-style-type: none"> <li>• Charity Bank</li> <li>• Tesco Bank</li> <li>• Williams &amp; Glyn</li> </ul> <b>Note:</b> This version was formally released with an incorrect 'live from' date.   |
| 3.80    | 15 February 2016 | <ul style="list-style-type: none"> <li>• Baseline version containing updates made in versions 3.60 and 3.70 which were internal versions only.</li> <li>• The addition of the new sorting code range (608316 - 608316) and the additional financial institutions are active from this specification date.</li> </ul>             |
| 3.90    | 13 June 2016     | Section 6.1: Addition of new sorting codes: <ul style="list-style-type: none"> <li>• 236538</li> <li>• 237423</li> <li>• 239360</li> <li>• 238020</li> <li>• 232704</li> <li>• 236293</li> <li>• 232283</li> <li>• 233658</li> <li>• 234321</li> <li>• 235711</li> </ul> Section 6.1 - Removal of sorting codes 400194 - 400195. |

| Version | Date             | Details   |
|---------|------------------|---|
| 4.00    | 11 November 2016 | <p>Section 4.1:</p> <ul style="list-style-type: none"> <li>Removed reference to Williams &amp; Glyn</li> <li>Added Starling Bank (Active from 9 January 2017)</li> </ul> <p>Section 6.1: Addition of new sorting code 608371.<br/>Re-branded the document as per latest Vocalink template.</p>  |
| 4.10    | 18 January 2017  | <ul style="list-style-type: none"> <li>Section 4.1: Addition of Contis Financial Services to the table of institutions.</li> <li>Section 6.1: Addition of new sorting code 608370</li> </ul> <p>The addition of Contis Financial Services and the new sorting code will be active from 6 March 2017.</p>  |
| 4.20    | 11 April 2017    | <ul style="list-style-type: none"> <li>Section 4.1: Addition of HSBC and ClearBank.</li> <li>Section 6.1: Addition of new sorting code 200026.</li> <li>Section 6.1: Addition of new sorting code 040406.</li> </ul> <p>These changes will be active from 12 June 2017.</p>   |
| 4.30    | 25 April 2017    | <ul style="list-style-type: none"> <li>Section 2: Flow diagram updated to include sorting code substitution and a new note added.</li> <li>Section 4.1 - Institutions. This section has been deleted and replaced with the "Applicability of modulus checking" section.</li> <li>Re-branded the document as per latest Vocalink template</li> <li>Section 6.1 - Addition of new sorting code range 040010 -040059. This change will be active from 3 July 2017.</li> <li>Amended the weight for the following sorting codes from the range 400516 - 404799 Mod 11: 401055, 401199, 401266,401276 - 401279, 401900, 401950 and 404375 - 404384. This change will be active from 3 July 2017</li> </ul> |
| 4.40    | 13 July 2017     | <ul style="list-style-type: none"> <li>Section 6.1 - Added new sort codes 230088 and 040004.</li> </ul> <p>These changes will be active from 21 August 2017.</p>  |
| 4.50    | 25 August 2017   | <ul style="list-style-type: none"> <li>Section 6.1: Added sort code range 040072-040073</li> <li>Section 6.1: Changed sort code range 040406-040406 to 040400-041399,</li> <li>Section 6.1:Amended sort code range 040010-040059 to 040020-040059, amended sort code range 040010-040059 to 040010-040014 for both Mod11 and DbIAI, deleted 040015-040019</li> <li>Section 6.1:Added sort code range 236972-236972.</li> </ul>  |
| 4.60    | 8 September 2017 | <ul style="list-style-type: none"> <li>Section 6.1: Added sort codes - 231228, 231618 and 233135 for both Mod11 and DbIAI.</li> </ul> <p>These changes will be active from 9 October 2017</p>   |
| 4.70    | 13 February 2018 | <ul style="list-style-type: none"> <li>Section 6.1: Added sort code range 302880 - 302880 for Mod11. These changes will be active from 26 March 2018.</li> </ul>  |

| Version | Date             | Details  |
|---------|------------------|--|
| 4.80    | 6 March 2018     | <ul style="list-style-type: none"> <li>Section 6.1: Added sort code range 232290-232290 for Mod11 and sort code range 040082-040082 for Mod10. These changes will be active from 16 April 2018.</li> </ul>   |
| 4.90    | 27 April 2018    | <ul style="list-style-type: none"> <li>Section 6.1: Amended the sort code range 040020-040059 to 040020-040023 for Mod11, 040024-040039 for Mod11 and DblAI, and 040040-040059 for Mod11. Added the range 041400-041449 for Mod11.</li> </ul> <p>These changes will be active from 2 July 2018.</p>  |
| 5.00    | 25 June 2018     | <ul style="list-style-type: none"> <li>Section 6.1: Removed the sort code range 170000-179499 and added the sort code range 040015-040015 for Mod11.</li> </ul> <p>These changes will be active from 6 August 2018.</p>  |
| 5.10    | 31 July 2018     | <p>The following changes have been made to section 6.1:</p> <ul style="list-style-type: none"> <li>Added the sort code range 040074-040075.</li> <li>Deleted sort code 185010.</li> <li>Added sort codes 070030, 070040, 070055, 070066, 071040, 071120, 071310, 071350, 071490, 071520 and 071660.</li> </ul> <p>These changes will be active from 17 September 2018.</p>     |
| 5.20    | 3 September 2018 | <p>Added sort code 235889 to section 6.1.</p> <p>This change will be active from 22 October 2018.</p>  |
| 5.30    | 30 October 2018  | <p>Section 6.1: Added sort code range 304065 - 304067. This change will be active from 26 November 2018.</p>   |
| 5.40    | 11 December 2018 | <p>Section 6.1:</p> <ul style="list-style-type: none"> <li>Amended sort code 041312 (split sort code range 040400-041399 to three entries: 040400-041311, 041312, 041313-041399).</li> <li>Amended sort code range 304065-304067</li> </ul> <p>These changes will be active from 28 January 2019.</p>  |
| 5.50    | 4 February 2019  | <p>Section 6.1:</p> <ul style="list-style-type: none"> <li>Added sort code range 040083-040085</li> <li>Added sort code range 040330-040334 (Dbl AI)</li> <li>Added sort code range 040330 - 040334 (Mod11)</li> <li>Added sort code 608385</li> <li>Added sort code 608400</li> <li>Added sort code 230505</li> </ul> <p>These changes will be active from 18 March 2019.</p> |

| Version | Date             | Details  |
|---------|------------------|--|
| 5.60    | 16 April 2019    | <p>Section 6.1:</p> <ul style="list-style-type: none"> <li>• Added sort code range 040003-040003</li> <li>• Added sort code range 040005-040006</li> <li>• Amended sort code range 185003-185009 (split sort code range 185003-185009 into three entries, 185003-185003, 185004-185004 and 185005-185009)</li> </ul> <p>These changes will be effective from 27 May 2019</p>   |
| 5.70    |                  | <p>Section 6.1:</p> <ul style="list-style-type: none"> <li>• Added sort code range 608387-608389</li> <li>• Added sort code range 608384-608384</li> <li>• Added sort code range 041900-042099</li> <li>• Added sort code range 042100-042899</li> <li>• Amended sort code range 041313-041399 (split sort code range 041313-041399 into three entries, 041313-041316, 041317-041319 and 041320-041399)</li> </ul> <p>These changes will be effective from 27 May 2019</p>   |
| 5.71    | 23 August 2019   | <p>Section 6.1:</p> <ul style="list-style-type: none"> <li>• Added sort code range 400194-400195</li> <li>• Added sort code range 230120-230120</li> <li>• Added sort code range 303996-303996</li> <li>• Added sort code range 230363-230363</li> <li>• Added sort code range 230365-230365</li> <li>• Added sort code range 230366-230366</li> <li>• Added sort code range 230367-230367</li> <li>• Added sort code range 086119-086119</li> </ul> <p>These changes will be effective from 30 September 2019</p> |
| 5.72    | 4 September 2019 | <ul style="list-style-type: none"> <li>• Section 1.4: Amended the Vocalink website address.</li> <li>• Section 4.2: Added Leeds Building Society to the ten digit account numbers.</li> </ul>  |
| 5.73    | 4 September 2019 | <ul style="list-style-type: none"> <li>• Section 6.1: Added sort code range 232507-232507 This change will be effective from 30 September 2019</li> </ul>  |
| 5.80    | 4 September 2019 | Baselined.   |
| 5.81    | 17 December 2019 | <ul style="list-style-type: none"> <li>• Section 6.1: Added sort code range 231536-231536 This change will be effective from 3 February 2020</li> </ul>  |
| 5.90    | 13 January 2020  | Baselined.   |
| 5.91    | 26 February 2020 | <ul style="list-style-type: none"> <li>• Section 6.1: Added sort code range 231470-231470 This change will be effective from 6 April 2020.</li> </ul>  |
| 6.0     | 27 February 2020 | Baselined.   |

| Version | Date              | Details   |
|---------|-------------------|---|
| 6.01    | 7 April 2020      | • Section 2.3.1: Removed sort code range 231470-231470<br>This change will be effective from 7 April 2020.  |
| 6.1     | 7 April 2020      | Baselined.  |
| 6.11    | 8 June 2020       | • Section 6.1: Added sort code ranges 044001-044001, 231470-231470 and 230121-230121<br>These changes will be effective from 14 July 2020   |
| 6.12    | 12 June 2020      | Amended the text for Exception 6 in section 2.2.2   |
| 6.20    | 18 June 2020      | Baselined.  |
| 6.21    | 19 August 2020    | Section 2.3.1: Added the following sort code ranges:<br>• 040086-040086<br>• 040340-040340<br>• 040390-040393<br>• 042900-042909<br>These changes will be effective from 14 September 2020                                      |
| 6.30    | 19 August 2020    | Baselined.  |
| 6.31    | 16 September 2020 | Section 2.3.1: Added the following sort code range:<br>• 406460406460<br>This change will be effective from 12 October 2020.  |
| 6.40    | 22 September 2020 | Baselined.  |
| 6.41    | 18 November 2020  | Section 2.3.1: Added the following sort code range:<br>• 236802-236802<br>This change will be effective from 22 February 2021.  |
| 6.50    | 18 January 2021   | Baselined.  |
| 6.51    | 30 March 2021     | Section 2.3.1: Added the following sort code range:<br>• 608410-608410<br>This change will be effective from 26 April 2021.   |
| 6.60    | 7 April 2021      | Baselined.  |
| 6.61    | 25 August 2021    | Section 2.3.1: Added the following sort code ranges:<br>• 233272-233272<br>• 231185-231185<br>• 040344-040344<br>• 040350-040379<br>• 042927-042956<br>• 040300-040329<br>This change will be effective from 20 September 2021. |



| Version | Date              | Details   |
|---------|-------------------|---|
| 6.70    | 6 September 2021  | Baselined.  |
| 6.71    | 30 September 2021 | Section 2.3.1: Removed the following sort code range:<br>• 233272-233272<br>This change will be effective from 4 October 2021.  |
| 6.80    | 30 September 2021 | Baselined.  |
| 6.81    | 22 December 2021  | Section 2.3.1 - Added the following sort code ranges:<br>• 406453 - 406453<br>• 728990-728999<br>This change will be effective from 14 February 2022.   |
| 6.90    | 24 December 2021  | Baselined.  |
| 6.91    | 22 February 2022  | Section 2.3.1 - Deleted the following sort code ranges:<br>• 050095 - 050095<br>• 826098 - 826098 for both DBLAL and MOD11<br>These changes will be effective from 7 March 2022.  |
| 7.0     | 28 February 2022  | Baselined.  |
| 7.01    | 3 March 2022      | Section 2.3.1 - Added the following sort code range:<br>• 406466 - 406466<br>This change will be effective from 21 March 2022.  |
| 7.10    | 3 March 2022      | Baselined.  |
| 7.11    | 26 May 2022       | Section 2.3.1 - Deleted the following sort code range:<br>• 040005-040006<br>Added the following sort code ranges:<br>• 040005-040005<br>• 040006-040006<br>• 040008-040008<br>These changes will be effective from 13 June 2022. |
| 7.20    | 31 May 2022       | Baselined.  |
| 7.21    | 17 June 2022      | Section 2.3.1 - Deleted the following sort code range:<br>• 406460-406460<br>This change will be effective from 25 July 2022.   |
| 7.30    | 24 June 2022      | Baselined.  |

| Version | Date             | Details   |
|---------|------------------|---|
| 7.31    | 16 January 2023  | Section 2.3.1 - Added the following sort code ranges for both mod11 and DbIAI:<br><ul style="list-style-type: none"> <li>• 234035 - 234035</li> <li>• 234036 - 234036</li> <li>• 234037 - 234037</li> </ul> This change will be effective from 5 June 2023. |
| 7.40    | 14 April 2023    | Baselined version.  |
| 7.41    | 27 July 2023     | Section 2.3.1 - Amended the weights for the following sort code ranges to align with the text file<br><ul style="list-style-type: none"> <li>• 233135 - 233135</li> <li>• 233142 - 233142</li> <li>• 233171 - 233171.</li> </ul>                            |
| 7.50    | 2 August 2023    | Baseline version.   |
| 7.51    | 28 November 2023 | Section 2.3.1 - Added the following sort code ranges:<br><ul style="list-style-type: none"> <li>• 090120-090125</li> <li>• 090130-090130</li> </ul> These changes will be effective from 8 January 2023.  |
| 7.60    | 28 November 2023 | Baselined version.  |
| 7.61    | 5 March 2024     | Section 2.3.1 - Added the following sort code range:<br><ul style="list-style-type: none"> <li>• 042957-042957</li> </ul> These changes will be effective from 27 April 2024.   |
| 7.70    | 25 March 2024    | Baselined version.  |
| 7.71    | 17 May 2024      | Section 2.3.1 - Added the following sort code range:<br><ul style="list-style-type: none"> <li>• 230122-230122</li> </ul> These changes will be effective from 29 June 2024.  |
| 7.80    | 22 May 2024      | Baselined version.  |
| 7.81    | 27 June 2024     | Section 2.3.1 - Added the following sort code ranges:<br><ul style="list-style-type: none"> <li>• 040335-040339</li> <li>• 043926-043935</li> </ul> These changes will be effective from 17 August 2024.  |
| 7.90    | 8 July 2024      | Baselined version.  |
| 7.91    | 18 July 2024     | Section 2.3.1 - Added the following sort code range:<br><ul style="list-style-type: none"> <li>• 230145-230145</li> </ul> These changes will be effective from 17 August 2024.  |
| 8.0     | 2 August 2024    | Baselined version.  |

| Version | Date             | Details  |
|---------|------------------|--|
| 8.01    | 10 December 2024 | Section 2.3.1 - Added the following sort code range:<br>• 230163-230163<br>These changes will be effective from 25 January 2025.                 |
| 8.10    | 11 December 2024 | Baselined version.   |
| 8.11    | 28 February 2025 | Section 2.3.1 - Added the following sort code range:<br>• 044010-044059<br>These changes will be effective from 12 April 2025.                   |
| 8.20    | 3 March 2025     | Baselined version.   |
| 8.21    | 31 March 2025    | Section 2.3.1 - Added the following sort code ranges:<br>• 230221-230221<br>• 230182-230182<br>These changes will be effective from 10 May 2025. |
| 8.3     | 9 April 2025     | Baselined version.   |

# Contents

|                                      |  |    |
|--------------------------------------|--|----|
| <b>Chapter 1:</b>                    |  |    |
| <b>Modulus checking overview</b>     | .....                                      | 13 |
| 1.1                                  | Introduction                               | 13 |
| 1.1.1                                | About this specification                   | 13 |
| 1.1.2                                | What is modulus checking?                  | 13 |
| 1.1.3                                | What does this specification provide?      | 13 |
| 1.1.4                                | Update service                             | 13 |
| 1.1.5                                | Changes to the specification               | 14 |
| 1.1.6                                | What is in this document?                  | 14 |
| 1.2                                  | Validation process                         | 15 |
| 1.3                                  | Modulus check methods                      | 16 |
| 1.3.1                                | The modulus                                | 16 |
| 1.3.2                                | Notation                                   | 16 |
| 1.3.3                                | Double alternate modulus check             | 16 |
| 1.3.4                                | Standard (10 and 11) modulus check         | 18 |
| <b>Chapter 2:</b>                    |  |    |
| <b>Specification by sorting code</b> | .....                                      | 19 |
| 2.1                                  | Overview                                   | 19 |
| 2.1.1                                | Applicability of modulus checking          | 19 |
| 2.1.2                                | Nonstandard account numbers                | 19 |
| 2.2                                  | Modulus checking                           | 20 |
| 2.2.1                                | Checking a sorting code and account number | 20 |
| 2.2.2                                | Exceptions                                 | 21 |
| 2.3                                  | Specification for sorting code ranges      | 25 |
| 2.3.1                                | Modulus weight table                       | 25 |
| 2.3.2                                | Text file format                           | 71 |
| <b>Chapter 3:</b>                    |  |    |
| <b>Test cases</b>                    | .....                                      | 72 |
| 3.1                                  | Test data and expected results             | 72 |

# Chapter 1: Modulus checking overview

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## 1.1 Introduction

### 1.1.1 About this specification

This document provides details of the modulus checking process used by some financial institutions and the technical specification for validating account numbers using these modulus checks.

**NOTE:** Every effort is made to ensure that the information contained in this document is correct at the time of publication. However, users of this document should understand that changes do occur from time to time which affect the ranges of sorting codes quoted, as well as the modulus checks and weighting factors. Vocalink Limited shall accept no liability for any loss or damage that may be suffered as a result of the incorrect processing of transactions resulting from the use of the information contained in this document.

### 1.1.2 What is modulus checking?

Modulus checking is used to check the validity of account numbers for a sorting code.

Modulus checking can be applied to various activities, including allowing originators of transactions for the Bacs clearing service to write and use software that checks the possible validity of the account details quoted in their payment instructions before submission. Validating the sorting code and account details of these transactions has many benefits including helping to reduce the number of transactions that may be returned.

### 1.1.3 What does this specification provide?

This specification provides details of the modulus checking methods for sorting codes of certain financial institutions. Methods differ slightly from institution to institution, but are fundamentally the same. This specification provides details of two general modulus checking methods used, and specific details used for each sorting code.

Checks in this specification can be used for sterling and euro transactions, unless stated otherwise.

### 1.1.4 Update service

The latest version of the modulus checking specification and files are available for download on the Vocalink website. On this site, you can also register to receive automatic email notifications as soon as a new versions of the specification and files become available.

The data used for the validating accounts, that is specified in this document, is also available for download from the website as two text files for ease of uploading into your systems. You must ensure that when you download the latest specification you download all the new files:

- Validating account numbers: UK modulus checking  
An Adobe Acrobat file (.pdf)
- Modulus weight table data  
A text file (VALACDOS.txt)
- Sorting code substitution data  
A text file (SCSUBTAB.txt)

**See also:**

<https://www.vocalink.com/tools/modulus-checking/>

**1.1.5 Changes to the specification**

When a new version of this document is produced changes of the previous version are detailed in the change history table at the beginning of this document.

**1.1.6 What is in this document?**

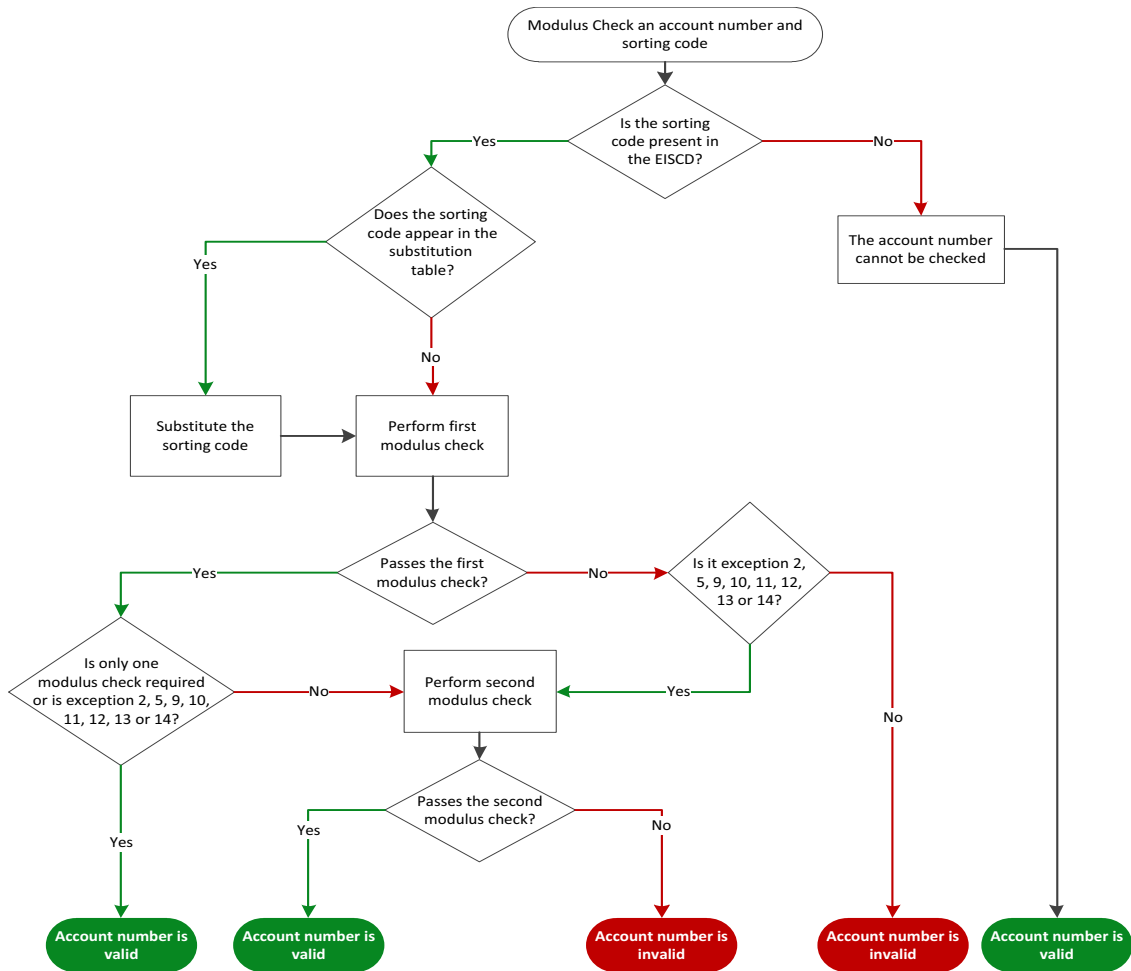
Chapter 1 (this chapter) explains the different modulus checks that are used by certain UK financial institutions.

Chapter 2 details the specific checks and details of those checks for each sorting code that can be modulus checked. The chapter also details which institutions are covered by this specification, and how to check nonstandard account numbers.

Chapter 3 provides test cases that can be used to test modulus checking software.

## 1.2 Validation process

The following diagram provides a general overview of how to determine if an account number is valid. There are exceptions to this method which are explained in the following chapters.



**Figure 1: Overview of the validation process**

**NOTE:** If the modulus check shows the account number as valid, this means that the account number is a possible account number for the sorting code, but does not necessarily mean that it is an account number being used at that sorting code. Any account details found as invalid should be checked with the account holder where possible.

### 1.3 Modulus check methods

There are two modulus check methods in use:

- Double alternate
- Standard (standard 10 and standard 11)

#### 1.3.1 The modulus

Both of these modulus check methods use a modulus. In part of the processes for these methods, a weighted total is divided by a number – this number is the modulus. There are two modulus values in use, 10 and 11:

- Double alternate uses modulus 10
- Standard 10 uses a modulus of 10
- Standard 11 uses a modulus of 11

#### 1.3.2 Notation

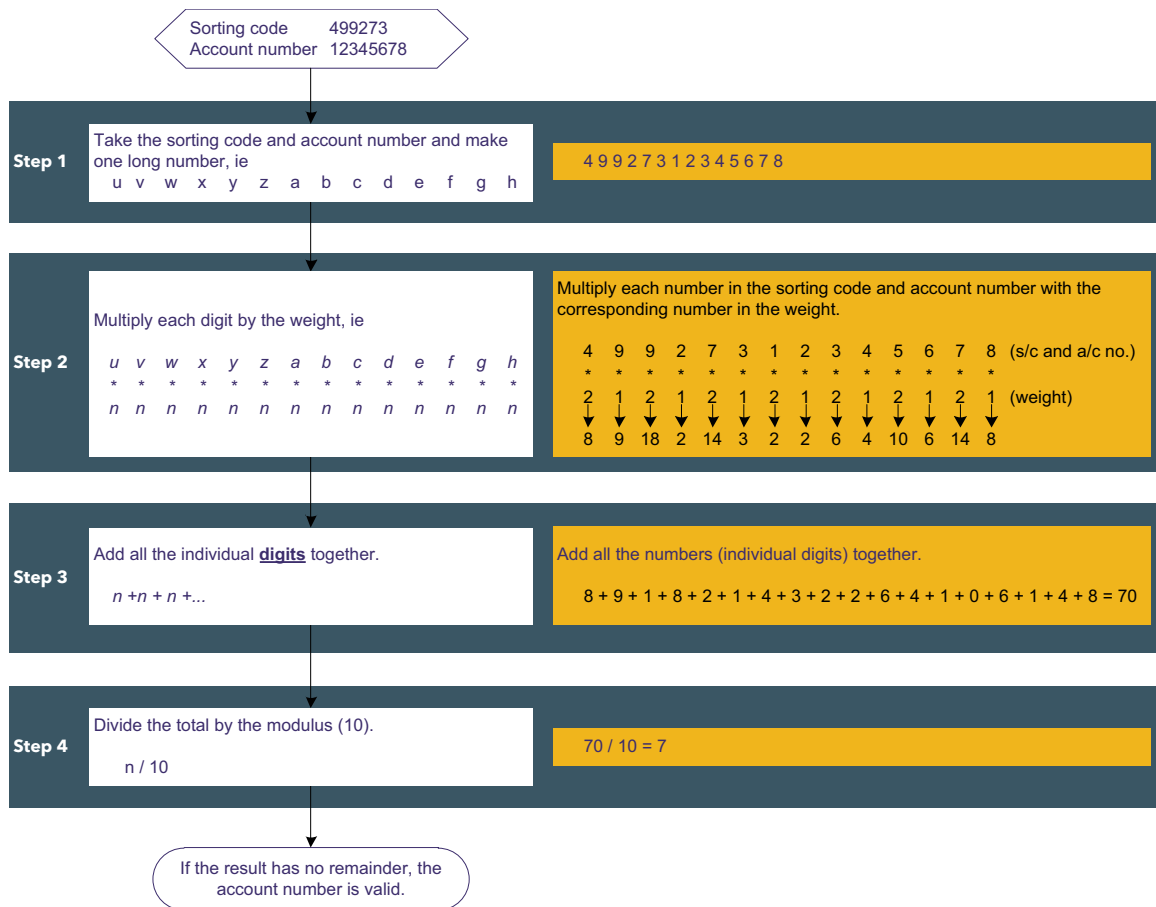
In this specification the following notation is used to define the specific digits within sorting codes and account numbers.

|              | Sorting code |   |   |   |   |   | Account number |   |   |   |   |   |   |   |
|--------------|--------------|---|---|---|---|---|----------------|---|---|---|---|---|---|---|
| Digit number | 1            | 2 | 3 | 4 | 5 | 6 | 1              | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Notation     | u            | v | w | x | y | z | a              | b | c | d | e | f | g | h |

#### 1.3.3 Double alternate modulus check

The following diagram describes the double alternate modulus check and provides an example of how it works. This modulus check usually uses all the digits of the sorting code and the account number, and is called "double alternate" as it effectively doubles the value of each alternate digit, starting with the penultimate right hand digit and working left. However, some specific sorting code ranges do not include all digits in the check, therefore the weight for their position is 0. Therefore, you should always use the weight given in the modulus weight table rather than "working out" the appropriate weight.





Double alternate modulus check process

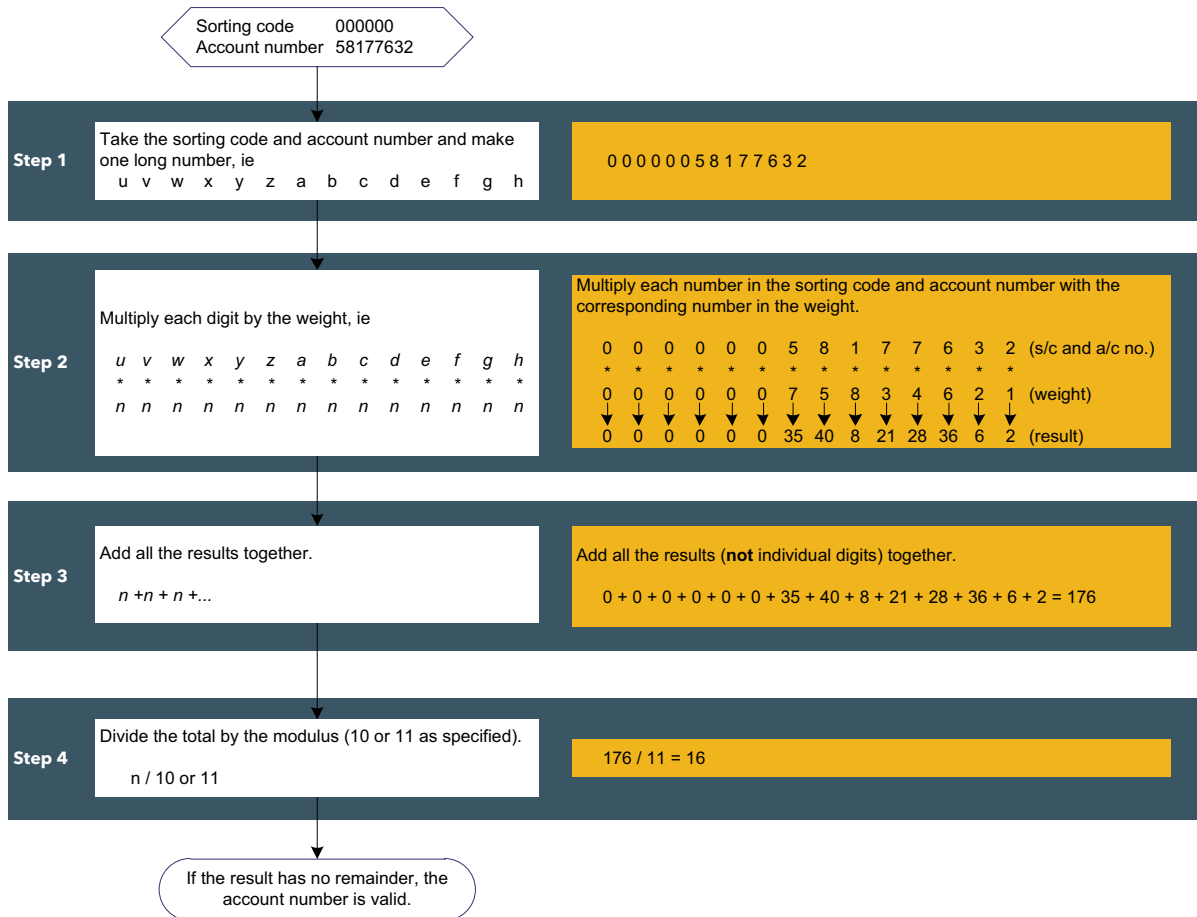
**NOTE:** Some institutions/sorting codes have slight variations (exceptions) to this process.

**See also:**

["Exceptions" on page 21](#)

### 1.3.4 Standard (10 and 11) modulus check

The following diagram describes the standard modulus check and provides an example of how it works. This modulus check usually uses all the digits of the sorting code and the account number. If certain digits are not included in the check, the weight for their character position is 0. Standard 10 and standard 11 both use this method, but with a different modulus value.



**Figure 2: Standard modulus check process**

**NOTE:** Some institutions/sorting codes have slight variations (exceptions) to this process.

**See also:**

["Exceptions" on page 21](#)

# Chapter 2: Specification by sorting code

## 2.1 Overview

This chapter details the specifics of the modulus checks for all sorting codes covered by this document.

**NOTE:** Modulus check information may be in the specification for sorting codes that are not currently set up. All sorting codes must be checked against the current EISCD (Extended Industry Sorting Code Directory) or ISCD to ensure that sorting codes are valid.

### 2.1.1 Applicability of modulus checking

Modulus checking is a recommended way of checking that a sorting codes and account numbers have been captured correctly. The "Modulus weight table" on page 25 specifies the sorting code ranges for which Modulus rules have been defined by participating institutions.

If a sort code appears in a range within the modulus weight table, the accounts at those sorting codes should conform to the defined rules for that range and can be validated accordingly.

**NOTE:** Not all sorting codes in any given range may be in use, in which case, they are not present in the current EISCD (Extended Industry Sorting Code Directory) or the ISCD (Industry Sorting Code Directory). Therefore, users of Modulus Checking should first check if the sorting code is present in the EISCD, and if so, apply modulus checks to the account as specified in the "Modulus weight table" on page 25.

### 2.1.2 Nonstandard account numbers

The modulus check methods described in this specification are based on a standard account number of eight digits. Some Payment Service Providers (PSPs) and building societies have account numbers of different lengths.

The following table details how to convert nonstandard account numbers into eight digit account numbers, suitable for validating through modulus checking.

| Bank/building society         | To standardise the account number   | Eg for...                       | ...use   |
|-------------------------------|---|---------------------------------|----------|
| Ten digit account numbers     |   |                                 |          |
| National Westminster Bank plc | Use the last eight digits only. If there is a hyphen in the account number between the second and third numbers this should be ignored. | 0123456789<br>or<br>01-23456789 | 23456789 |
| Co-Operative Bank plc         | Use the first eight digits only.  | 1234567890                      | 12345678 |
| Leeds Building Society        | Use the first eight digits only.  | 1234567890                      | 12345678 |
| Nine digit account numbers    |   |                                 |          |

| Bank/building society   | To standardise the account number  | Eg for...             | ...use               |
|---|--|-----------------------|----------------------|
| Santander (formerly Alliance & Leicester Commercial Bank plc) | Replace the last digit of the sorting code with the first digit of the account number, then use the last eight digits of the account number only.  | nn-nn-nn<br>123456789 | nn-nn-n1<br>23456789 |
| Seven digit account numbers                                   |  |                       |                      |
| General   | Prefix the account number with a zero (0).   | 1234567               | 01234567             |
| Six digit account numbers                                     |  |                       |                      |
| General   | Prefix the account number with two zeros (00)<br><b>NOTE:</b> Customers of Clydesdale Bank plc can make payments at their branch using only the last six digits of their account number. However, for modulus checking purposes and for Bacs payment instructions all eight digits must be used. | 123456                | 00123456             |

For information on how to complete all payment instruction fields for Bacs clearing when accounts have nonstandard numbers, please refer to the following documents which are published by Pay.UK Limited:

- *Bacstel-IP Service - Service User Guide*
- *Crediting and Debiting Building Society Accounts – Service User's Guide*

## 2.2 Modulus checking

### 2.2.1 Checking a sorting code and account number

The following procedure details how to validate a sorting code and account number. The procedure should be used in conjunction with the modulus weight table and the exception table.

#### Steps

1. Find the sorting code.

In the modulus weight table, find the modulus weight that contains the sorting code you want to check an account number for. There may be one or two entries in the table for the sorting code, depending on whether one or two modulus checks must be carried out. If no range is found that contains the sorting code, there is no modulus check that can be performed. The sorting code and account number should be presumed valid unless other evidence implies otherwise.

2. Determine which modulus checking method(s) is required.

Look in the Alg column for your sorting code to see which check(s) should be made:

- Mod 10 – Standard 10 modulus check
- Mod 11 – Standard 11 modulus check
- DbIAI – Double alternate modulus check.

3. Note the weight(s) to be used.

The columns u to h show the weighting to be used for the modulus check.

4. Carry out the modulus check, including any exceptions.

Perform the check(s) as specified for the required modulus check method. If there is more than one entry for a sorting code range, the first entry in the table for the sorting code should be carried out first. If in the final column (Ex) there is a number, the corresponding exception must be followed for the check(s).

## 2.2.2 Exceptions

Some sorting codes have slight variations to the modulus checking methods. These exceptions are shown in the modulus weight table by a number in the Ex column. The following explains what variations must be made to the modulus check method(s) for each exception type.

### Exception 1

Perform the double alternate check except:

- Add **27** to the total (ie before you divide by 10)

This effectively places a financial institution number (580149) before the sorting code and account number which is subject to the alternate doubling as well.

### Exception 2 and 9

Only occurs for some standard modulus 11 checks, when there is a **2** in the exception column for the first check for a sorting code and a **9** in the exception column for the second check for the same sorting code. This is used specifically for Lloyds euro accounts.

Perform the standard check, except:

- If **a <> 0** and **g <> 9**, substitute the weight specified in the modulus weight table with:

| u | v | w | x | y | z | a | b | c | d | e  | f | g | h |
|---|---|---|---|---|---|---|---|---|---|----|---|---|---|
| 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 |

- If **a <> 0** and **g = 9**, substitute the weight specified in the modulus weight table with:

| u | v | w | x | y | z | a | b | c | d | e  | f | g | h |
|---|---|---|---|---|---|---|---|---|---|----|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 10 | 9 | 3 | 1 |

If the first row with exception 2 passes the standard modulus 11 check, you do not need to carry out the second check (that is, it is deemed to be a valid sterling account).

All Lloyds euro accounts are held at sorting code 30-96-34, however customers may perceive that their euro account is held at the branch where sterling accounts are held and thus quote a sorting code other than 30-96-34. The combination of the "sterling" sorting code and "euro" account number will cause the first standard modulus 11 check to fail. In such cases, carry out the second modulus 11 check, substituting the sorting code with **309634** and the appropriate weighting. If this check passes it is deemed to be a valid euro account.

**Exception 3**

If **c=6** or **c=9** the double alternate check does not need to be carried out.

**Exception 4**

Perform the standard modulus 11 check.

After you have finished the check, ensure that the remainder is the same as the two-digit checkdigit; the checkdigit for exception 4 is **gh** from the original account number.

**Exception 5**

Perform the first check (standard modulus check) except:

- If the sorting code appears in this table in the "Original s/c" column, substitute it for the "substitute with" column (for check purposes only). If the sorting code is not found, use the original sorting code.

| Original s/c | Substitute with | Original s/c | Substitute with |
|--------------|-----------------|--------------|-----------------|
| 938173       | 938017          | 938620       | 938343          |
| 938289       | 938068          | 938622       | 938130          |
| 938297       | 938076          | 938628       | 938181          |
| 938600       | 938611          | 938643       | 938246          |
| 938602       | 938343          | 938647       | 938611          |
| 938604       | 938603          | 938648       | 938246          |
| 938608       | 938408          | 938649       | 938394          |
| 938609       | 938424          | 938651       | 938335          |
| 938613       | 938017          | 938653       | 938424          |
| 938616       | 938068          | 938654       | 938621          |
| 938618       | 938657          |              |                 |

**NOTE:** The sorting code substitution table information above is also available as a text file (SCSUBTAB.txt). Each original sorting code entry in the table above is represented as a line in the text file. The fields in the file are a fixed length and are separated by a "space". The fields in the text file read from left to right as follows:

- Original sorting code - 6 characters
- Substitute sorting code - 6 characters

For the standard check with exception 5 the checkdigit is **g** from the original account number.

- After dividing the result by 11:
  - if the **remainder = 0** and **g = 0** the account number is valid
  - if the **remainder = 1** the account number is invalid
  - for all other remainders, take the remainder away from 11. If the number you get is the same as **g** then the account number is valid.

Perform the second double alternate check, and for the double alternate check with exception 5 the checkdigit is **h** from the original account number, except:

- After dividing the result by 10:
  - if the **remainder = 0** and **h = 0** the account number is valid
  - for all other remainders, take the remainder away from 10. If the number you get is the same as **h** then the account number is valid.

### Exception 6

Indicates that these sorting codes may contain foreign currency accounts which cannot be checked. Perform the first check, and if present perform the second check, and note that in either check:

- If **a = 4, 5, 6, 7** or **8**, and **g** and **h** are the same, the accounts are for a foreign currency and the checks cannot be used.

### Exception 7

Perform the check as specified, except if **g = 9** zeroise weighting positions u-b.

### Exception 8

Perform the check as specified, except substitute the sorting code with **090126**, for check purposes only.

### Exception 10 and 11

These exceptions are for some Lloyds accounts and some TSB accounts. If there is a **10** in the exception column for the first check for a sorting code and an **11** in the exception column for the second check for the same sorting code, if either check is successful the account number is deemed valid.

For the exception 10 check, if **ab = 09** or **ab = 99** and **g = 9**, zeroise weighting positions **u-b**.

### Exception 12 and 13

Where there is a **12** in the exception column for the first check for a sorting code and a **13** in the exception column for the second check for the same sorting code, if either check is successful the account number is deemed valid.

### Exception 14

Perform the modulus 11 check as normal:

- If the check passes (that is, there is no remainder), then the account number should be considered valid. Do not perform the second check
- If the first check fails, then the second check must be performed as specified below.

Second check:

- If the 8th digit of the account number (reading from left to right) is not **0, 1** or **9** then the account number fails the second check and is not a valid Coutts account number

- If the 8th digit is **0, 1** or **9**, then remove the digit from the account number and insert a **0** as the 1st digit for check purposes only
- Perform the modulus 11 check on the modified account number using the same weightings as specified in the table (that is, **0000087654321**):
  - If there is no remainder, then the account number should be considered valid
  - If there is a remainder, then the account number fails the second check and is not a valid Coutts account number

### Example 1

Sort code 180002 Account number 98093517

- Weightings are 0 0 0 0 0 0 8 7 6 5 4 3 2 1
- Calculation  $0+0+0+0+0+0+72+56+0+45+12+15+2+7=209$
- Division  $209/11 = 19$
- No remainder, therefore passed check 1 and the account number should be considered valid.

### Example 2

Sort code 180002 Account number 00000190

Check 1:

- Weightings are 0 0 0 0 0 0 8 7 6 5 4 3 2 1
- Calculation  $0+0+0+0+0+0+0+0+0+0+0+3+18+0=21$
- Division  $21/11 = 1$  remainder 9
- Failed check 1 as there is a remainder. Perform check 2.

Check 2:

- Modify account number to be 00000019 and perform the modulus 11 check again.
- Weightings are 0 0 0 0 0 0 8 7 6 5 4 3 2 1
- Calculation  $0+0+0+0+0+0+0+0+0+0+0+0+2+9=11$
- Division  $11/11 = 1$
- No remainder, therefore passed check 2 and the account number should be considered valid.



## 2.3 Specification for sorting code ranges

The table over the following pages shows the modulus check method, weight and any exceptions that should be used for checking account numbers for accounts held at the sorting codes specified. The data in the table is also provided as a separate text file (VALACDOS.txt) for your use.

The table is in sorting code order and a row in the table can represent a single sorting code or a range of sorting codes. Some sorting codes/ranges have more than one entry as they have two checks. The ranges are inclusive of the start and end sorting code values.

### 2.3.1 Modulus weight table

These are the weightings to use for modulus checking. The table details the sorting code range, which modulus check to apply, the weightings for each position and the exception (if any).

In the Mod check column the following abbreviations are used:

- Mod10 indicates that the standard modulus check should be used with a modulus of 10.
- Mod11 indicates that the standard modulus check should be used with a modulus of 11.
- DbIAI indicates that the double alternate modulus check should be used.

**NOTE:** In the valacdox.txt file, the modulus check methods are denoted by the same codes as above, except with all characters as capitals, ie MOD10, MOD11, DBLAL.

In the Ex column the number represents the exception that should be followed when carrying out the modulus check.

| Sorting code range |        | Mod check | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   | Ex |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    |           | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h |    |
| 010004             | 016715 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040003             | 040003 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040004             | 040004 | DbIAI     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040005             | 040005 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040006             | 040006 | DbIAI     | 0                                     | 3 | 0 | 0 | 0 | 3 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040008             | 040008 | DbIAI     | 0                                     | 3 | 0 | 0 | 0 | 4 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040010             | 040014 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040010             | 040014 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 040015             | 040015 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 040020             | 040023 | Mod11     | 0                                     | 2 | 0 | 0 | 9 | 1 | 2 | 8 | 4 | 3 | 7 | 5 | 6 | 1 |    |
| 040024             | 040039 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b  | c  | d  | e | f | g | h | Ex |
| 040024             | 040039 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 040040             | 040059 | Mod11     | 0                                     | 2 | 0 | 0 | 9 | 1 | 2 | 8  | 4  | 3  | 7 | 5 | 6 | 1 |    |
| 040072             | 040073 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040074             | 040075 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040082             | 040082 | Mod10     | 2                                     | 1 | 2 | 1 | 2 | 1 | 0 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 040083             | 040085 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040086             | 040086 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040300             | 040329 | Mod10     | 0                                     | 0 | 3 | 7 | 1 | 3 | 7 | 1  | 3  | 7  | 1 | 3 | 7 | 1 |    |
| 040330             | 040334 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 040330             | 040334 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040335             | 040339 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040335             | 040339 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 040340             | 040340 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040344             | 040344 | Mod10     | 0                                     | 0 | 1 | 8 | 2 | 6 | 3 | 7  | 9  | 5  | 8 | 4 | 2 | 1 |    |
| 040350             | 040379 | Mod10     | 0                                     | 0 | 1 | 8 | 2 | 6 | 3 | 7  | 9  | 5  | 8 | 4 | 2 | 1 |    |
| 040390             | 040393 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 040400             | 041311 | DbIAI     | 1                                     | 3 | 4 | 3 | 9 | 3 | 1 | 7  | 5  | 5  | 4 | 5 | 2 | 4 |    |
| 041312             | 041312 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 041313             | 041316 | DbIAI     | 1                                     | 3 | 4 | 3 | 9 | 3 | 1 | 7  | 5  | 5  | 4 | 5 | 2 | 4 |    |
| 041317             | 041319 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 041320             | 041399 | DbIAI     | 1                                     | 3 | 4 | 3 | 9 | 3 | 1 | 7  | 5  | 5  | 4 | 5 | 2 | 4 |    |
| 041400             | 041449 | Mod11     | 0                                     | 2 | 0 | 0 | 9 | 1 | 2 | 8  | 4  | 3  | 7 | 5 | 6 | 1 |    |
| 041900             | 042099 | Mod10     | 1                                     | 3 | 4 | 3 | 9 | 3 | 1 | 7  | 5  | 5  | 4 | 5 | 2 | 4 |    |
| 042100             | 042899 | Mod11     | 1                                     | 3 | 4 | 3 | 9 | 3 | 1 | 7  | 5  | 5  | 4 | 5 | 2 | 4 |    |
| 042900             | 042909 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |

| Sorting code range |        | Mod check | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |    |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|----|----|
| Start              | End    |           | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h  | Ex |
| 042927             | 042956 | Mod10     | 0                                     | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1  |    |
| 042957             | 042957 | Mod11     | 6                                     | 5 | 4 | 3 | 2 | 1 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |    |
| 043926             | 043935 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |    |
| 043926             | 043935 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1  |    |
| 044001             | 044001 | Mod10     | 0                                     | 2 | 1 | 2 | 0 | 7 | 1 | 1 | 0 | 3 | 8 | 1 | 9 | 1  |    |
| 044010             | 044059 | Mod10     | 0                                     | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 050000             | 050020 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 7 | 5 | 8 | 2 | 4 | 1  |    |
| 050022             | 050094 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 7 | 5 | 8 | 2 | 4 | 1  |    |
| 050096             | 058999 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 7 | 5 | 8 | 2 | 4 | 1  |    |
| 070030             | 070030 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 070040             | 070040 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 070055             | 070055 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 070066             | 070066 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 070116             | 070116 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 | 12 |
| 070116             | 070116 | Mod10     | 0                                     | 3 | 2 | 4 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 | 13 |
| 070246             | 070246 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 070436             | 070436 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 070806             | 070806 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 070976             | 070976 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071040             | 071040 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071096             | 071096 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071120             | 071120 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071226             | 071226 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071306             | 071306 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071310             | 071310 | Mod11     | 0                                     | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h  | Ex |
| 071350             | 071350 | Mod11                                 | 0 | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071490             | 071490 | Mod11                                 | 0 | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071520             | 071520 | Mod11                                 | 0 | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071660             | 071660 | Mod11                                 | 0 | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 071986             | 071986 | Mod11                                 | 0 | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 074456             | 074456 | Mod11                                 | 0 | 0 | 7 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 | 12 |
| 074456             | 074456 | Mod10                                 | 0 | 3 | 2 | 4 | 5 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 | 13 |
| 080211             | 080211 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 080228             | 080228 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 086001             | 086001 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 086020             | 086020 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 086086             | 086086 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | -1 |    |
| 086090             | 086090 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  | 8  |
| 086119             | 086119 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1  | 12 |
| 086119             | 086119 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 5 | 2 | 6 | 1  | 13 |
| 089000             | 089999 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 090013             | 090013 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 090105             | 090105 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 090118             | 090118 | Mod11                                 | 0 | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |    |
| 090120             | 090125 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 090126             | 090129 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 090130             | 090130 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |
| 090131             | 090136 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |    |
| 090150             | 090156 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |    |
| 090180             | 090185 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1  |    |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 090190             | 090196 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090204             | 090204 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090222             | 090222 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090356             | 090356 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 090500             | 090599 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090704             | 090704 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090705             | 090705 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090710             | 090710 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090715             | 090715 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090720             | 090726 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 090736             | 090739 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 090790             | 090790 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 091600             | 091600 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 091601             | 091601 | Mod10                                 | 0 | 0 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 091740             | 091743 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 091800             | 091809 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 091811             | 091865 | Mod10                                 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 1 | 3 | 7 | 1 | 3 | 7 | 1 |    |
| 100000             | 101099 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 101101             | 101498 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 101500             | 101999 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 102400             | 107999 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 108000             | 108079 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 108080             | 108099 | Mod11                                 | 0 | 0 | 0 | 0 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 108100             | 109999 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 110000             | 119280 | DbIAI                                 | 0 | 0 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 1  |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |    |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|----|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z  | a | b | c | d | e | f | g | h | Ex |
| 119282             | 119283 | DbIAI     | 0                                     | 0 | 2 | 1 | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 1  |
| 119285             | 119999 | DbIAI     | 0                                     | 0 | 2 | 1 | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 1  |
| 120000             | 120961 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 120963             | 122009 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 122011             | 122101 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 122103             | 122129 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 122131             | 122135 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 122213             | 122299 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 122400             | 122999 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 124000             | 124999 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6  | 3 | 7 | 9 | 5 | 8 | 4 | 2 | 1 |    |
| 133000             | 133999 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 10 | 7 | 8 | 4 | 6 | 3 | 5 | 2 | 1 |    |
| 134012             | 134020 | Mod11     | 0                                     | 0 | 0 | 7 | 5 | 9  | 8 | 4 | 6 | 3 | 5 | 2 | 0 | 0 | 4  |
| 134121             | 134121 | Mod11     | 0                                     | 0 | 0 | 1 | 0 | 0  | 8 | 4 | 6 | 3 | 5 | 2 | 0 | 0 | 4  |
| 150000             | 158000 | Mod11     | 4                                     | 3 | 0 | 0 | 0 | 0  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 159800             | 159800 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0  | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 159900             | 159900 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0  | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 159910             | 159910 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0  | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 160000             | 161027 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161029             | 161029 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161030             | 161041 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161050             | 161050 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161055             | 161055 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161060             | 161060 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161065             | 161065 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161070             | 161070 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3  | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 161075             | 161075 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161080             | 161080 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161085             | 161085 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161090             | 161090 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 161100             | 162028 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 162030             | 164300 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 165901             | 166001 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 166050             | 167600 | Mod11     | 0                                     | 0 | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 168600             | 168600 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 180002             | 180002 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180005             | 180005 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180009             | 180009 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180036             | 180036 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180038             | 180038 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180091             | 180092 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180104             | 180104 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180109             | 180110 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 180156             | 180156 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 185001             | 185001 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 14 |
| 185003             | 185003 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 185004             | 185004 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 185005             | 185009 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 185011             | 185025 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 185027             | 185099 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 200000             | 200002 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 200000             | 200002 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200004             | 200004 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200004             | 200004 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200026             | 200026 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200026             | 200026 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200051             | 200077 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200051             | 200077 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200079             | 200097 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200079             | 200097 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200099             | 200156 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200099             | 200156 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200158             | 200387 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200158             | 200387 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200403             | 200405 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200403             | 200405 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200407             | 200407 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200407             | 200407 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200411             | 200412 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200411             | 200412 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200414             | 200423 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200414             | 200423 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200425             | 200899 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200425             | 200899 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 200901             | 201159 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 200901             | 201159 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |



| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 201161             | 201177 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 201161             | 201177 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 201179             | 201351 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 201179             | 201351 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 201353             | 202698 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 201353             | 202698 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 202700             | 203239 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 202700             | 203239 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 203241             | 203255 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 203241             | 203255 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 203259             | 203519 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 203259             | 203519 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 203521             | 204476 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 203521             | 204476 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 204478             | 205475 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 204478             | 205475 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 205477             | 205954 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 205477             | 205954 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 205956             | 206124 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 205956             | 206124 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 206126             | 206157 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 206126             | 206157 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 206159             | 206390 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |
| 206159             | 206390 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 6  |
| 206392             | 206799 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 6  |

| Sorting code range |        | Mod check | Weight to use for each digit position |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    |           | u                                     | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 206392             | 206799 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 206802             | 206874 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 6  |
| 206802             | 206874 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 206876             | 207170 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 6  |
| 206876             | 207170 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 207173             | 208092 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 6  |
| 207173             | 208092 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 208094             | 208721 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 6  |
| 208094             | 208721 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 208723             | 209034 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 6  |
| 208723             | 209034 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 209036             | 209128 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 6  |
| 209036             | 209128 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 209130             | 209999 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 6  |
| 209130             | 209999 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 | 6  |
| 230088             | 230088 | Mod10     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 7  | 4  | 5  | 6 | 3 | 8 | 1 |    |
| 230120             | 230120 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 7 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 230121             | 230121 | Mod11     | 8                                     | 7 | 1 | 5 | 8 | 6 | 1   | 7  | 6  | 5  | 5 | 4 | 9 | 1 |    |
| 230122             | 230122 | Mod11     | 8                                     | 7 | 1 | 5 | 8 | 6 | 1   | 7  | 6  | 5  | 5 | 4 | 9 | 1 |    |
| 230145             | 230145 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7   | 6  | 5  | 4  | 3 | 2 | 1 | 0 |    |
| 230163             | 230163 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 9   | 7  | 6  | 4  | 3 | 2 | 2 | 1 |    |
| 230182             | 230182 | Mod11     | 8                                     | 7 | 1 | 5 | 8 | 6 | 1   | 7  | 6  | 5  | 5 | 4 | 9 | 1 |    |
| 230221             | 230221 | Mod11     | 8                                     | 7 | 1 | 5 | 8 | 6 | 1   | 7  | 6  | 5  | 5 | 4 | 9 | 1 |    |
| 230338             | 230338 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 230338             | 230338 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 230363             | 230363 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230364             | 230364 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230365             | 230365 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230366             | 230366 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230367             | 230367 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230505             | 230505 | Mod11     | 9                                     | 8 | 7 | 6 | 5 | 4 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |    |
| 230580             | 230580 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 12 |
| 230580             | 230580 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 13 |
| 230614             | 230614 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 230614             | 230614 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230709             | 230709 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 230709             | 230709 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230872             | 230872 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 230872             | 230872 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 230933             | 230933 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 230933             | 230933 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231018             | 231018 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231018             | 231018 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231185             | 231185 | Mod11     | 4                                     | 8 | 1 | 6 | 5 | 8 | 1 | 9 | 5 | 1 | 8 | 1 | 7 | 3 |    |
| 231213             | 231213 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231213             | 231213 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231228             | 231228 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231228             | 231228 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231354             | 231354 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231354             | 231354 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |

| Sorting code range |        | Weight to use for each digit position |   |   |    |    |   |    |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|----|----|---|----|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w  | x  | y | z  | a | b | c | d | e | f | g | h | Ex |
| 231469             | 231469 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231469             | 231469 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231470             | 231470 | Mod11                                 | 0 | 0 | 20 | 18 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |    |
| 231536             | 231536 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231536             | 231536 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231558             | 231558 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231558             | 231558 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231618             | 231618 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231618             | 231618 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231679             | 231679 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231679             | 231679 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231843             | 231843 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231843             | 231843 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 231985             | 231985 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 231985             | 231985 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 232130             | 232130 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 232130             | 232130 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 232279             | 232279 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 232279             | 232279 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 232283             | 232283 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 232283             | 232283 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 232290             | 232290 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 232445             | 232445 | Mod11                                 | 0 | 0 | 0  | 0  | 0 | 0  | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 232445             | 232445 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 232507             | 232507 | DbIAI                                 | 2 | 1 | 2  | 1  | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |    |    |    |    |    |    |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|----|----|----|----|----|----|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a  | b  | c  | d  | e  | f  | g | h | Ex |
| 232571             | 232571 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 232571             | 232571 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 232636             | 232636 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 232636             | 232636 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 232704             | 232704 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 232704             | 232704 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 232725             | 232725 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 232725             | 232725 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 232813             | 232813 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 232813             | 232813 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 232939             | 232939 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 232939             | 232939 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 233080             | 233080 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 233080             | 233080 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 233135             | 233135 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 233135             | 233135 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 233142             | 233142 | Mod10     | 2                                     | 1 | 2 | 1 | 2 | 1 | 30 | 36 | 24 | 20 | 16 | 12 | 8 | 4 |    |
| 233171             | 233171 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 233171             | 233171 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 233188             | 233188 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 233188             | 233188 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 233231             | 233231 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |
| 233231             | 233231 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2  | 1  | 2  | 1  | 2  | 1  | 2 | 1 |    |
| 233272             | 233272 | Mod10     | 7                                     | 2 | 5 | 9 | 4 | 7 | 7  | 9  | 4  | 2  | 8  | 8  | 3 | 8 |    |
| 233344             | 233344 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0  | 7  | 6  | 5  | 4  | 3  | 2 | 1 |    |

| Sorting code range |        | Mod check | Weight to use for each digit position |   |   |   |   |   |   |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|----|----|----|---|---|---|---|----|
| Start              | End    |           | u                                     | v | w | x | y | z | a | b  | c  | d  | e | f | g | h | Ex |
| 233344             | 233344 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 233438             | 233438 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 233438             | 233438 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 233456             | 233456 | Mod10     | 2                                     | 1 | 2 | 1 | 2 | 1 | 0 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 233483             | 233483 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 233556             | 233556 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 233556             | 233556 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 233658             | 233658 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 233658             | 233658 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 233693             | 233693 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 233693             | 233693 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 233752             | 233752 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 233752             | 233752 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 234035             | 234035 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 234035             | 234035 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 234036             | 234036 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 234036             | 234036 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 234037             | 234037 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 234037             | 234037 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 234081             | 234081 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 234081             | 234081 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 234193             | 234193 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 234193             | 234193 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 234252             | 234252 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 234252             | 234252 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 234321             | 234321 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 234321             | 234321 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 234377             | 234377 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 234377             | 234377 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 234570             | 234570 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 234570             | 234570 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 234666             | 234666 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 234666             | 234666 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 234779             | 234779 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 234779             | 234779 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 234828             | 234828 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 234828             | 234828 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 234985             | 234985 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 234985             | 234985 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 235054             | 235054 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 235054             | 235054 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 235164             | 235164 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 235164             | 235164 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 235262             | 235262 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 235262             | 235262 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 235323             | 235323 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 235323             | 235323 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 235451             | 235451 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 235459             | 235459 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 235459             | 235459 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b  | c  | d  | e | f | g | h | Ex |
| 235519             | 235519 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 235519             | 235519 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 235676             | 235676 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 235676             | 235676 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 235711             | 235711 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 235711             | 235711 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 235756             | 235756 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 235756             | 235756 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 235889             | 235889 | Mod10     | 2                                     | 1 | 2 | 1 | 2 | 1 | 0 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 235945             | 235945 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 235945             | 235945 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 236006             | 236006 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 236006             | 236006 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 236119             | 236119 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 236119             | 236119 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 236233             | 236233 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 236233             | 236233 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 236247             | 236247 | Mod11     | 0                                     | 0 | 1 | 8 | 2 | 6 | 3 | 7  | 9  | 5  | 8 | 4 | 2 | 1 |    |
| 236293             | 236293 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 236293             | 236293 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 236422             | 236422 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 236422             | 236422 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 236527             | 236527 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 236527             | 236527 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 236538             | 236538 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |



| Sorting code range |        | Mod check | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    |           | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 236538             | 236538 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 236643             | 236643 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 236643             | 236643 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 236761             | 236761 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 236761             | 236761 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 236802             | 236802 | Mod11     | 9                                     | 8 | 7 | 6 | 5 | 4 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |    |
| 236907             | 236907 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 236907             | 236907 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 236972             | 236972 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237130             | 237130 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237130             | 237130 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237265             | 237265 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237265             | 237265 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237355             | 237355 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237355             | 237355 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237423             | 237423 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237423             | 237423 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237427             | 237427 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237427             | 237427 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237563             | 237563 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237563             | 237563 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237622             | 237622 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237622             | 237622 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 237728             | 237728 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1  |
| 237728             | 237728 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 237873             | 237873 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 237873             | 237873 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238020             | 238020 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238020             | 238020 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238043             | 238043 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238043             | 238043 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238051             | 238051 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238051             | 238051 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238175             | 238175 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238175             | 238175 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238257             | 238257 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238257             | 238257 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238392             | 238431 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 238392             | 238431 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238432             | 238432 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238432             | 238432 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238433             | 238583 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 238433             | 238583 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238585             | 238590 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 238585             | 238590 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238599             | 238599 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238599             | 238599 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238613             | 238613 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238613             | 238613 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238672             | 238672 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |

| Sorting code range |        | Mod check | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    |           | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 238672             | 238672 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238717             | 238717 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238717             | 238717 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 238890             | 238899 | Mod11     | 0                                     | 0 | 0 | 0 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238908             | 238908 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 238908             | 238908 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239071             | 239071 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 239071             | 239071 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239126             | 239126 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 239126             | 239126 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239136             | 239140 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 239136             | 239140 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239143             | 239144 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 239143             | 239144 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239282             | 239283 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 239282             | 239283 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239285             | 239294 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 239285             | 239294 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239295             | 239295 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 239295             | 239295 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239296             | 239318 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 239296             | 239318 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239360             | 239360 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 239360             | 239360 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 239380             | 239380 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 239380             | 239380 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 239435             | 239435 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 239435             | 239435 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 239525             | 239525 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 239525             | 239525 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 239642             | 239642 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 239642             | 239642 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 239751             | 239751 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0   | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 239751             | 239751 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2   | 1  | 2  | 1  | 2 | 1 | 2 | 1 |    |
| 300000             | 300006 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 300000             | 300006 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 300008             | 300009 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 300008             | 300009 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 300050             | 300051 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 300134             | 300138 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 300134             | 300138 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 300161             | 300161 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 300176             | 300176 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 |    |
| 301001             | 301001 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301001             | 301001 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301004             | 301004 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301004             | 301004 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301007             | 301007 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301007             | 301007 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301012             | 301012 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 301012             | 301012 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301022             | 301022 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301027             | 301027 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301047             | 301047 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301047             | 301047 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301049             | 301049 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301049             | 301049 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301052             | 301052 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301052             | 301052 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301075             | 301076 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301075             | 301076 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301108             | 301108 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301108             | 301108 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301112             | 301112 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301112             | 301112 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301127             | 301127 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301127             | 301127 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301137             | 301137 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301142             | 301142 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301148             | 301148 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301148             | 301148 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301154             | 301155 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301161             | 301161 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301161             | 301161 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301166             | 301166 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 301170             | 301170 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301174             | 301175 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301174             | 301175 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301191             | 301191 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301191             | 301191 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301194             | 301195 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301194             | 301195 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301204             | 301205 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301204             | 301205 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301209             | 301210 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301209             | 301210 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301215             | 301215 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301215             | 301215 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301218             | 301218 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301218             | 301218 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301220             | 301221 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301220             | 301221 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301234             | 301234 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301234             | 301234 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301251             | 301251 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301251             | 301251 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301259             | 301259 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301259             | 301259 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301274             | 301274 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301274             | 301274 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 301280             | 301280 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301280             | 301280 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301286             | 301286 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301286             | 301286 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301295             | 301296 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301295             | 301296 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301299             | 301299 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301299             | 301299 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301301             | 301301 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301301             | 301301 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301305             | 301305 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301305             | 301305 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301318             | 301318 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301318             | 301318 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301330             | 301330 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301330             | 301330 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301332             | 301332 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301332             | 301332 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301335             | 301335 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301335             | 301335 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301342             | 301342 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301342             | 301342 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301350             | 301355 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301350             | 301355 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301364             | 301364 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 301364             | 301364 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301368             | 301368 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301368             | 301368 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301376             | 301376 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301376             | 301376 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301380             | 301380 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301380             | 301380 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301388             | 301388 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301388             | 301388 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301390             | 301390 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301390             | 301390 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301395             | 301395 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301395             | 301395 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301400             | 301400 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301400             | 301400 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301424             | 301424 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301424             | 301424 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301432             | 301432 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301432             | 301432 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301433             | 301433 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301435             | 301435 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301437             | 301437 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301437             | 301437 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301439             | 301439 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301440             | 301440 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |



| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 301440             | 301440 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301443             | 301443 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301444             | 301444 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301444             | 301444 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301447             | 301447 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301447             | 301447 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301451             | 301451 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301451             | 301451 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301456             | 301456 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301456             | 301456 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301458             | 301458 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301460             | 301460 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301460             | 301460 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301463             | 301463 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301464             | 301464 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301464             | 301464 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301466             | 301466 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301469             | 301469 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301469             | 301469 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301471             | 301471 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301471             | 301471 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301474             | 301474 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301477             | 301477 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301477             | 301477 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301482             | 301482 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |

| Sorting code range |        | Mod check | Weight to use for each digit position |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    |           | u                                     | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 301483             | 301483 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301483             | 301483 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301485             | 301485 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301487             | 301487 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301504             | 301504 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301504             | 301504 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301510             | 301510 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301514             | 301514 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301517             | 301517 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301525             | 301525 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301539             | 301539 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301539             | 301539 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301542             | 301542 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301542             | 301542 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301552             | 301553 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301552             | 301553 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301557             | 301557 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301557             | 301557 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301573             | 301573 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301593             | 301593 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301593             | 301593 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301595             | 301595 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301595             | 301595 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301597             | 301597 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301597             | 301597 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 301599             | 301599 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301599             | 301599 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301607             | 301607 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301609             | 301609 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301609             | 301609 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301611             | 301611 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301611             | 301611 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301620             | 301620 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301620             | 301620 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301628             | 301628 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301628             | 301628 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301634             | 301634 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301634             | 301634 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301641             | 301642 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301641             | 301642 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301653             | 301653 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301653             | 301653 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301657             | 301657 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301662             | 301662 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301662             | 301662 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301664             | 301664 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301664             | 301664 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301670             | 301670 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301670             | 301670 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301674             | 301674 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |     |    |    |    |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|-----|----|----|----|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a   | b  | c  | d  | e | f | g | h | Ex |
| 301674             | 301674 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301684             | 301684 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301684             | 301684 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301695             | 301696 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301695             | 301696 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301700             | 301702 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301700             | 301702 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301705             | 301705 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |    |
| 301712             | 301712 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301712             | 301712 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301716             | 301716 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301716             | 301716 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301748             | 301748 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301748             | 301748 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301773             | 301773 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301773             | 301773 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301777             | 301777 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301777             | 301777 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301780             | 301780 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301780             | 301780 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301785             | 301785 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301785             | 301785 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301803             | 301803 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |
| 301803             | 301803 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 9  |
| 301805             | 301805 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5   | 7  | 6  | 5  | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 301805             | 301805 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301806             | 301806 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301806             | 301806 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301816             | 301816 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301816             | 301816 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301825             | 301825 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301825             | 301825 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301830             | 301830 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301830             | 301830 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301834             | 301834 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301834             | 301834 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301843             | 301843 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301843             | 301843 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301845             | 301845 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301845             | 301845 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301855             | 301856 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301855             | 301856 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301864             | 301864 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301864             | 301864 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301868             | 301869 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301868             | 301869 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301883             | 301883 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301883             | 301883 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301886             | 301888 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301886             | 301888 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 301898             | 301898 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301898             | 301898 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 301914             | 301996 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 301914             | 301996 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 302500             | 302500 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 302500             | 302500 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 302556             | 302556 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 302556             | 302556 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 302579             | 302580 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 302579             | 302580 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 302880             | 302880 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 303460             | 303461 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 303460             | 303461 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 303996             | 303996 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 304065             | 304067 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 305907             | 305939 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305907             | 305939 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 305941             | 305960 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305941             | 305960 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 305971             | 305971 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305971             | 305971 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 305974             | 305974 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305974             | 305974 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 305978             | 305978 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305978             | 305978 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 305982             | 305982 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305982             | 305982 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 305984             | 305988 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305984             | 305988 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 305990             | 305993 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 305990             | 305993 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306017             | 306018 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306017             | 306018 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306020             | 306020 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306020             | 306020 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306028             | 306028 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306028             | 306028 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306038             | 306038 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306038             | 306038 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306150             | 306151 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306150             | 306151 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306154             | 306155 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306154             | 306155 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306228             | 306228 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306228             | 306228 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306229             | 306229 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306229             | 306229 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306232             | 306232 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306232             | 306232 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306242             | 306242 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 306242             | 306242 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306245             | 306245 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306245             | 306245 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306249             | 306249 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306249             | 306249 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306255             | 306255 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306255             | 306255 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306259             | 306263 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306259             | 306263 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306272             | 306279 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306272             | 306279 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306281             | 306281 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306281             | 306281 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306289             | 306289 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306289             | 306289 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306296             | 306296 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306296             | 306296 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306299             | 306299 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306299             | 306299 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306300             | 306300 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306300             | 306300 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306347             | 306347 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306347             | 306347 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306354             | 306355 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306354             | 306355 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |



| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 306357             | 306357 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306357             | 306357 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306359             | 306359 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306359             | 306359 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306364             | 306364 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306364             | 306364 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306394             | 306394 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306394             | 306394 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306397             | 306397 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306397             | 306397 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306410             | 306410 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306410             | 306410 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306412             | 306412 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306412             | 306412 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306414             | 306415 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306414             | 306415 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306418             | 306419 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306418             | 306419 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306422             | 306422 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306422             | 306422 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306434             | 306434 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306434             | 306434 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306437             | 306438 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306437             | 306438 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306442             | 306444 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 306442             | 306444 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306457             | 306457 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306457             | 306457 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306472             | 306472 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306472             | 306472 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306479             | 306479 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306479             | 306479 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306497             | 306497 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306497             | 306497 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306521             | 306522 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306521             | 306522 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306537             | 306539 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306537             | 306539 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306541             | 306541 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306541             | 306541 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306549             | 306549 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306549             | 306549 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306562             | 306565 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306562             | 306565 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306572             | 306572 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306572             | 306572 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306585             | 306586 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306585             | 306586 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306592             | 306593 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306592             | 306593 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 306675             | 306677 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306675             | 306677 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306689             | 306689 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306689             | 306689 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306695             | 306696 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306695             | 306696 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306733             | 306735 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306733             | 306735 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306747             | 306749 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306747             | 306749 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306753             | 306753 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306753             | 306753 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306756             | 306756 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306756             | 306756 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306759             | 306759 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306759             | 306759 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306762             | 306762 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306762             | 306762 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306764             | 306764 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306764             | 306764 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306766             | 306767 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306766             | 306767 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306769             | 306769 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306769             | 306769 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306772             | 306772 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 306772             | 306772 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306775             | 306776 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306775             | 306776 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306779             | 306779 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306779             | 306779 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306782             | 306782 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306782             | 306782 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306788             | 306789 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306788             | 306789 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 306799             | 306799 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 306799             | 306799 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307184             | 307184 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307184             | 307184 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307188             | 307190 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307188             | 307190 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307198             | 307198 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307198             | 307198 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307271             | 307271 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307271             | 307271 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307274             | 307274 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307274             | 307274 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307654             | 307654 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307654             | 307654 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307779             | 307779 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307779             | 307779 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 307788             | 307789 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307788             | 307789 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 307809             | 307809 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 307809             | 307809 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308012             | 308012 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308012             | 308012 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308016             | 308016 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308016             | 308016 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308026             | 308027 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308026             | 308027 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308033             | 308034 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308033             | 308034 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308037             | 308037 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308037             | 308037 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308042             | 308042 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308042             | 308042 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308045             | 308045 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308045             | 308045 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308048             | 308049 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308048             | 308049 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308054             | 308055 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308054             | 308055 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308063             | 308063 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308063             | 308063 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308076             | 308077 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 308076             | 308077 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308082             | 308083 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308082             | 308083 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308085             | 308085 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308085             | 308085 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308087             | 308089 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308087             | 308089 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308095             | 308097 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308095             | 308097 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308404             | 308404 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308404             | 308404 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308412             | 308412 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308412             | 308412 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308420             | 308427 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308420             | 308427 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308433             | 308434 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308433             | 308434 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308441             | 308446 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308441             | 308446 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308448             | 308448 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308448             | 308448 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308451             | 308454 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308451             | 308454 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308457             | 308459 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308457             | 308459 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 308462             | 308463 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308462             | 308463 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308467             | 308469 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308467             | 308469 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308472             | 308473 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308472             | 308473 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308475             | 308477 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308475             | 308477 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308479             | 308479 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308479             | 308479 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308482             | 308482 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308482             | 308482 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308484             | 308487 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308484             | 308487 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308784             | 308784 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308784             | 308784 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308804             | 308804 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308804             | 308804 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308822             | 308822 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308822             | 308822 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 308952             | 308952 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 308952             | 308952 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 309001             | 309633 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 309001             | 309633 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 309634             | 309634 | Mod11                                 | 0 | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 309635             | 309746 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 309635             | 309746 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 309748             | 309871 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 309748             | 309871 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 309873             | 309915 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 309873             | 309915 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 309917             | 309999 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 5 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2  |
| 309917             | 309999 | Mod11     | 0                                     | 0 | 3 | 2 | 9 | 8 | 1 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 9  |
| 400000             | 400193 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 400000             | 400193 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 400194             | 400195 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 400194             | 400195 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 400196             | 400514 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 400196             | 400514 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 400515             | 400515 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 400516             | 401054 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 400516             | 401054 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 401055             | 401055 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 401056             | 401198 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 401056             | 401198 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 401199             | 401199 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 401200             | 401265 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 401200             | 401265 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 401266             | 401266 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 401267             | 401275 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |



| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 401267             | 401275 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 401276             | 401279 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 401280             | 401899 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 401280             | 401899 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 401900             | 401900 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 401901             | 401949 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 401901             | 401949 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 401950             | 401950 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 401951             | 404374 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 401951             | 404374 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 404375             | 404384 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 404385             | 404799 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 404385             | 404799 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 406420             | 406420 | Mod10     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 406453             | 406453 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 406466             | 406466 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 500000             | 501029 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 502101             | 560070 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 600000             | 600108 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 600110             | 600124 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 600127             | 600142 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 600144             | 600149 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 600180             | 600304 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 600307             | 600312 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 600314             | 600355 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |    |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|----|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e  | f | g | h | Ex |
| 600357             | 600851 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 600901             | 601360 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 601403             | 608028 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 608301             | 608301 | Mod10     | 0                                     | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 3 | 7 | 1  | 3 | 7 | 1 |    |
| 608316             | 608316 | Mod10     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 608370             | 608370 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 608371             | 608371 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 2 | 8 | 4 | 3 | 7  | 5 | 6 | 1 |    |
| 608384             | 608384 | Mod11     | 0                                     | 0 | 1 | 2 | 9 | 8 | 7 | 6 | 5 | 4 | 3  | 2 | 1 | 1 |    |
| 608385             | 608385 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 608387             | 608389 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 608400             | 608400 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 608410             | 608410 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 609593             | 609593 | Mod10     | 0                                     | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 3 | 7 | 1  | 3 | 7 | 1 |    |
| 609599             | 609599 | Mod10     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 7 | 5 | 2  | 1 | 2 | 1 |    |
| 640001             | 640001 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 720000             | 720249 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 720251             | 724443 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 725000             | 725251 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 725253             | 725616 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 726000             | 726616 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 9 | 8 | 7 | 6 | 5 | 4  | 3 | 2 | 1 |    |
| 728990             | 728999 | Mod10     | 3                                     | 1 | 7 | 3 | 1 | 7 | 3 | 1 | 7 | 3 | 1  | 7 | 3 | 1 |    |
| 770100             | 771799 | Mod11     | 0                                     | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 771877             | 771877 | Mod11     | 0                                     | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 771900             | 772799 | Mod11     | 0                                     | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 772813             | 772817 | Mod11     | 0                                     | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |

| Sorting code range |        | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |    |   |   |   |    |
|--------------------|--------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|----|---|---|---|----|
| Start              | End    | Mod check                             | u | v | w | x | y | z | a | b | c | d | e  | f | g | h | Ex |
| 772901             | 773999 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 774100             | 774599 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 774700             | 774830 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 774832             | 777789 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 777791             | 777999 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 778001             | 778001 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 778300             | 778799 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 778855             | 778855 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 778900             | 779174 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 779414             | 779999 | Mod11                                 | 0 | 0 | 1 | 2 | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 7  |
| 800000             | 802005 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802007             | 802042 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802044             | 802065 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802067             | 802109 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802111             | 802114 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802116             | 802123 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802151             | 802154 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802156             | 802179 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 802181             | 803599 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 803609             | 819999 | Mod11                                 | 0 | 0 | 1 | 8 | 2 | 6 | 3 | 7 | 9 | 5 | 8  | 4 | 2 | 1 |    |
| 820000             | 826097 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 4  | 9 | 2 | 1 |    |
| 820000             | 826097 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2  | 1 | 2 | 1 | 3  |
| 826099             | 826917 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 4  | 9 | 2 | 1 |    |
| 826099             | 826917 | DbIAI                                 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2  | 1 | 2 | 1 | 3  |
| 826919             | 827999 | Mod11                                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 4  | 9 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 826919             | 827999 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 3  |
| 829000             | 829999 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 4 | 9 | 2 | 1 |    |
| 829000             | 829999 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 3  |
| 830000             | 835700 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836500             | 836501 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836505             | 836506 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836510             | 836510 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836515             | 836515 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836530             | 836530 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836535             | 836535 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836540             | 836540 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836560             | 836560 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836565             | 836565 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836570             | 836570 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836585             | 836585 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836590             | 836590 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836595             | 836595 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836620             | 836620 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836625             | 836625 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 836630             | 836630 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 837550             | 837550 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 837560             | 837560 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 837570             | 837570 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 837580             | 837580 | Mod11     | 0                                     | 0 | 4 | 3 | 2 | 7 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 839105             | 839106 | Mod11     | 7                                     | 6 | 5 | 4 | 3 | 2 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |    |   |   |   |   |   |   |    |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|----|---|---|---|---|---|---|----|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x  | y | z | a | b | c | d | e  | f | g | h | Ex |
| 839105             | 839106 | DbIAI     | 2                                     | 1 | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2  | 1 | 2 | 1 |    |
| 839130             | 839131 | Mod11     | 7                                     | 6 | 5 | 4  | 3 | 2 | 7 | 6 | 5 | 4 | 3  | 2 | 1 | 0 |    |
| 839130             | 839131 | DbIAI     | 2                                     | 1 | 2 | 1  | 2 | 1 | 2 | 1 | 2 | 1 | 2  | 1 | 2 | 1 |    |
| 839147             | 839147 | Mod10     | 0                                     | 0 | 0 | 0  | 0 | 0 | 0 | 5 | 7 | 5 | 2  | 1 | 2 | 1 |    |
| 870000             | 872791 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 870000             | 872791 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 872793             | 876899 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 872793             | 876899 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876919             | 876919 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876919             | 876919 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876921             | 876923 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876921             | 876923 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876925             | 876932 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876925             | 876932 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876935             | 876935 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876935             | 876935 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876951             | 876951 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876951             | 876951 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876953             | 876955 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876953             | 876955 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876957             | 876957 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876957             | 876957 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 876961             | 876965 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |
| 876961             | 876965 | Mod11     | 0                                     | 0 | 5 | 10 | 9 | 8 | 0 | 7 | 6 | 5 | 4  | 3 | 2 | 1 | 11 |
| 877000             | 877070 | Mod11     | 0                                     | 0 | 1 | 2  | 5 | 3 | 6 | 4 | 8 | 7 | 10 | 9 | 3 | 1 | 10 |

| Sorting code range |        | Weight to use for each digit position |    |    |   |    |   |   |     |    |    |    |    |   |   |   |    |
|--------------------|--------|---------------------------------------|----|----|---|----|---|---|-----|----|----|----|----|---|---|---|----|
| Start              | End    | Mod check                             | u  | v  | w | x  | y | z | a   | b  | c  | d  | e  | f | g | h | Ex |
| 877000             | 877070 | Mod11                                 | 0  | 0  | 5 | 10 | 9 | 8 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 | 11 |
| 877071             | 877071 | Mod11                                 | 0  | 0  | 1 | 2  | 5 | 3 | 6   | 4  | 8  | 7  | 10 | 9 | 3 | 1 | 10 |
| 877071             | 877071 | Mod11                                 | 0  | 0  | 5 | 10 | 9 | 8 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 | 11 |
| 877078             | 877078 | Mod11                                 | 0  | 0  | 1 | 2  | 5 | 3 | 6   | 4  | 8  | 7  | 10 | 9 | 3 | 1 | 10 |
| 877078             | 877078 | Mod11                                 | 0  | 0  | 5 | 10 | 9 | 8 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 | 11 |
| 877088             | 877088 | Mod11                                 | 0  | 0  | 1 | 2  | 5 | 3 | 6   | 4  | 8  | 7  | 10 | 9 | 3 | 1 | 10 |
| 877088             | 877088 | Mod11                                 | 0  | 0  | 5 | 10 | 9 | 8 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 | 11 |
| 877090             | 877090 | Mod11                                 | 0  | 0  | 1 | 2  | 5 | 3 | 6   | 4  | 8  | 7  | 10 | 9 | 3 | 1 | 10 |
| 877090             | 877090 | Mod11                                 | 0  | 0  | 5 | 10 | 9 | 8 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 | 11 |
| 877098             | 877098 | Mod11                                 | 0  | 0  | 1 | 2  | 5 | 3 | 6   | 4  | 8  | 7  | 10 | 9 | 3 | 1 | 10 |
| 877098             | 877098 | Mod11                                 | 0  | 0  | 5 | 10 | 9 | 8 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 | 11 |
| 877099             | 879999 | Mod11                                 | 0  | 0  | 1 | 2  | 5 | 3 | 6   | 4  | 8  | 7  | 10 | 9 | 3 | 1 | 10 |
| 877099             | 879999 | Mod11                                 | 0  | 0  | 5 | 10 | 9 | 8 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 | 11 |
| 890000             | 890699 | Mod11                                 | 0  | 0  | 0 | 0  | 0 | 9 | 8   | 7  | 6  | 5  | 4  | 3 | 2 | 1 |    |
| 891000             | 891616 | Mod11                                 | 0  | 0  | 0 | 0  | 0 | 9 | 8   | 7  | 6  | 5  | 4  | 3 | 2 | 1 |    |
| 892000             | 892616 | Mod11                                 | 0  | 0  | 0 | 0  | 0 | 9 | 8   | 7  | 6  | 5  | 4  | 3 | 2 | 1 |    |
| 900000             | 902396 | Mod11                                 | 0  | 0  | 0 | 0  | 0 | 0 | 128 | 64 | 32 | 16 | 8  | 4 | 2 | 1 |    |
| 900000             | 902396 | Mod11                                 | 32 | 16 | 8 | 4  | 2 | 1 | 0   | 0  | 0  | 0  | 0  | 0 | 0 | 0 |    |
| 902398             | 909999 | Mod11                                 | 0  | 0  | 0 | 0  | 0 | 0 | 128 | 64 | 32 | 16 | 8  | 4 | 2 | 1 |    |
| 902398             | 909999 | Mod11                                 | 32 | 16 | 8 | 4  | 2 | 1 | 0   | 0  | 0  | 0  | 0  | 0 | 0 | 0 |    |
| 938000             | 938696 | Mod11                                 | 7  | 6  | 5 | 4  | 3 | 2 | 7   | 6  | 5  | 4  | 3  | 2 | 0 | 0 | 5  |
| 938000             | 938696 | DbIAI                                 | 2  | 1  | 2 | 1  | 2 | 1 | 2   | 1  | 2  | 1  | 2  | 1 | 2 | 0 | 5  |
| 938698             | 938999 | Mod11                                 | 7  | 6  | 5 | 4  | 3 | 2 | 7   | 6  | 5  | 4  | 3  | 2 | 0 | 0 | 5  |
| 938698             | 938999 | DbIAI                                 | 2  | 1  | 2 | 1  | 2 | 1 | 2   | 1  | 2  | 1  | 2  | 1 | 2 | 0 | 5  |
| 950000             | 950002 | Mod11                                 | 0  | 0  | 0 | 0  | 0 | 0 | 0   | 7  | 6  | 5  | 4  | 3 | 2 | 1 |    |

| Sorting code range |        |           | Weight to use for each digit position |   |   |   |   |   |   |   |   |   |   |   |   |   |    |
|--------------------|--------|-----------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| Start              | End    | Mod check | u                                     | v | w | x | y | z | a | b | c | d | e | f | g | h | Ex |
| 950000             | 950002 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 950004             | 950479 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 950004             | 950479 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 950500             | 959999 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |    |
| 950500             | 959999 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 980000             | 980004 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 980000             | 980004 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 980006             | 983000 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 980006             | 983000 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 983003             | 987000 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 983003             | 987000 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |
| 987004             | 989999 | Mod11     | 0                                     | 0 | 0 | 0 | 0 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |    |
| 987004             | 989999 | DbIAI     | 2                                     | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |    |

### 2.3.2 Text file format

The modulus weight table is also available as a text file (VALACDOS.txt). Each line of the table in section 6.1 is represented as a line in the text file. The fields in the file are a fixed length and are separated by a space. There will not be trailing spaces at the end of lines. The fields in the text file read from left to right as follows:

- Start sorting code – 6 characters
- End sorting code – 6 characters
- Algorithm used – 5 characters (MOD10, MOD11, or DBLAL)
- Weightings (u-z a-h) – 4 characters for each weighting position, ie a three digit signed integer
- Exception code – 3 characters, where present.

**NOTE:** Records are not fixed length and the exception code can be blank.

# Chapter 3: Test cases

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## 3.1 Test data and expected results

The following table provides a list of tests you can carry out to check that the program you have written is functioning correctly. It covers all the combinations of modulus checks and exceptions.

The account numbers used in the following table are examples only, and these sorting codes may not currently be in use.

| No | Description of test case   | Sorting code | Account number | Valid flag |
|----|--|--------------|----------------|------------|
| 1  | Pass modulus 10 check.   | 089999       | 66374958       | Y          |
| 2  | Pass modulus 11 check.   | 107999       | 88837491       | Y          |
| 3  | Pass modulus 11 and double alternate checks.   | 202959       | 63748472       | Y          |
| 4  | Exception 10 & 11 where first check passes and second check fails.   | 871427       | 46238510       | Y          |
| 5  | Exception 10 & 11 where first check fails and second check passes.   | 872427       | 46238510       | Y          |
| 6  | Exception 10 where in the account number ab=09 and the g=9. The first check passes and second check fails.       | 871427       | 09123496       | Y          |
| 7  | Exception 10 where in the account number ab=99 and the g=9. The first check passes and the second check fails.   | 871427       | 99123496       | Y          |
| 8  | Exception 3, and the sorting code is the start of a range. As c=6 the second check should be ignored.            | 820000       | 73688637       | Y          |
| 9  | Exception 3, and the sorting code is the end of a range. As c=9 the second check should be ignored.              | 827999       | 73988638       | Y          |
| 10 | Exception 3. As c<>6 or 9 perform both checks pass.  | 827101       | 28748352       | Y          |
| 11 | Exception 4 where the remainder is equal to the checkdigit.  | 134020       | 63849203       | Y          |
| 12 | Exception 1 – ensures that 27 has been added to the accumulated total and passes double alternate modulus check. | 118765       | 64371389       | Y          |
| 13 | Exception 6 where the account fails standard check but is a foreign currency account.                            | 200915       | 41011166       | Y          |
| 14 | Exception 5 where the check passes.  | 938611       | 07806039       | Y          |
| 15 | Exception 5 where the check passes with substitution.  | 938600       | 42368003       | Y          |



| No | Description of test case  | Sorting code | Account number | Valid flag |
|----|---|--------------|----------------|------------|
| 16 | Exception 5 where both checks produce a remainder of 0 and pass.  | 938063       | 55065200       | Y          |
| 17 | Exception 7 where passes but would fail the standard check.   | 772798       | 99345694       | Y          |
| 18 | Exception 8 where the check passes.   | 086090       | 06774744       | Y          |
| 19 | Exception 2 & 9 where the first check passes.   | 309070       | 02355688       | Y          |
| 20 | Exception 2 & 9 where the first check fails and second check passes with substitution.  | 309070       | 12345668       | Y          |
| 21 | Exception 2 & 9 where $a \neq 0$ and $g \neq 9$ and passes.   | 309070       | 12345677       | Y          |
| 22 | Exception 2 & 9 where $a \neq 0$ and $g = 9$ and passes.  | 309070       | 99345694       | Y          |
| 23 | Exception 5 where the first checkdigit is correct and the second incorrect.   | 938063       | 15764273       | N          |
| 24 | Exception 5 where the first checkdigit is incorrect and the second correct.   | 938063       | 15764264       | N          |
| 25 | Exception 5 where the first checkdigit is incorrect with a remainder of 1.  | 938063       | 15763217       | N          |
| 26 | Exception 1 where it fails double alternate check.  | 118765       | 64371388       | N          |
| 27 | Pass modulus 11 check and fail double alternate check.  | 203099       | 66831036       | N          |
| 28 | Fail modulus 11 check and pass double alternate check.  | 203099       | 58716970       | N          |
| 29 | Fail modulus 10 check.  | 089999       | 66374959       | N          |
| 30 | Fail modulus 11 check.  | 107999       | 88837493       | N          |
| 31 | Exception 12/13 where passes modulus 11 check (in this example, modulus 10 check fails, however, there is no need for it to be performed as the first check passed).              | 074456       | 12345112       | Y          |
| 32 | Exception 12/13 where passes the modulus 11 check (in this example, modulus 10 check passes as well, however, there is no need for it to be performed as the first check passed). | 070116       | 34012583       | Y          |
| 33 | Exception 12/13 where fails the modulus 11 check, but passes the modulus 10 check.  | 074456       | 11104102       | Y          |
| 34 | Exception 14 where the first check fails and the second check passes.   | 180002       | 00000190       | Y          |