DATABASE MAINTENANCE MANUAL

# Purpose

The purpose of this manual is to address the users of the technical issues that may occur. This manual will also be highlighting some of the examples of anomalies and the solutions to avoid them.

# Key

Primary Keys – Marked by Underline

Foreign keys – Marked by *Italics*

Errors – Marked in Red

# Insertion Anomalies

This is a customer table which records every customer. If a new customer were to be added, which he has not registered for a bank account. For example, the imagined customer is John Connor. As a new customer has been added, everything will be NULL. Therefore, the detail of the new customer cannot be inserted in the system as the attribute integrity will be ruined.

Solution: Follow the forum for adding a new customer or ensure all data is entered when adding a new customer.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CustomerNo | fName | lName | TelNo | PostalAddress | HomeAddress | Gender | *AccountType* |
| C1077 | Barry | Allen | (752) 978-9282 | 311 Manhattan Lane Natchez, MS 39120 | 46 Bayview Road,  YANTANABIE, SA, 5661, AU | M | Fixed-term saving |
| C1085 | Samuel | Brown | (931) 615-5404 | 93 Whitemarsh Drive Minneapolis, MN 55406 | 93 Shaw Drive,  GLENLOGIE, Vic, 3469, AU | M | Business account |
| C1091 | Iris | West | (484) 571-3896 | 93 Warren St. Cumming, GA 30040 | 69 Porana Place, DALWALLINU, WA, 6609 | F | High-performance saving |
| C1103 | Alfie | Rodriguez | (757) 572-7852 | 65 Academy Lane Lake Worth, FL 33460 | 81 Link Road, EDDYSTONE, TAS, 7264, AU | M | Medium performance saving |
| Null | John | Connor | Null | Null | Null | M | Null |

# Deletion Anomalies

If the customer “Iris West” is deleted from the data, the detail of her type of account will also lost.

Solution: Modify the name instead of deleting it.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CustomerNo | fName | lName | TelNo | PostalAddress | HomeAddress | Gender | *AccountType* |
| C1055 | Oliver | Williams | (521) 574-6748 | 77 Glenwood Street Morganton, NC 28655 | 71 Daly Terrace, INGLEWOOD, WA, 6052, AU | M | Fixed term saving |
| C1065 | Leyla | Smith | (573) 824-1764 | 368 S. Boston Lane Commack, NY 11725 | 60 Quayside Vista,  LYONS, ACT, 2606, AU | F | High-performance saving |
| C1077 | Barry | Allen | (752) 978-9282 | 311 Manhattan Lane Natchez, MS 39120 | 46 Bayview Road,  YANTANABIE, SA, 5661, AU | M | Fixed-term saving |
| C1085 | Samuel | Brown | (931) 615-5404 | 93 Whitemarsh Drive Minneapolis, MN 55406 | 93 Shaw Drive,  GLENLOGIE, Vic, 3469, AU | M | Business account |
| C1091 | Null | Null | (484) 571-3896 | 93 Warren St. Cumming, GA 30040 | 69 Porana Place, DALWALLINU, WA, 6609 | F | Null |
| C1103 | Alfie | Rodriguez | (757) 572-7852 | 65 Academy Lane Lake Worth, FL 33460 | 81 Link Road, EDDYSTONE, TAS, 7264, AU | M | Medium performance saving |

# Modification Anomalies

If the customer “Alfie Rodriguez” needs to change his CustomerNo, then all the information/entries related to him need to be modified accordingly.

Solution: Ensure that the system copies changes through tables.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CustomerNo | fName | lName | TelNo | PostalAddress | HomeAddress | Gender | *AccountType* |
| C1055 | Oliver | Williams | (521) 574-6748 | 77 Glenwood Street Morganton, NC 28655 | 71 Daly Terrace, INGLEWOOD, WA, 6052, AU | M | Fixed term saving |
| C1065 | Leyla | Smith | (573) 824-1764 | 368 S. Boston Lane Commack, NY 11725 | 60 Quayside Vista,  LYONS, ACT, 2606, AU | F | High-performance saving |
| C1077 | Barry | Allen | (752) 978-9282 | 311 Manhattan Lane Natchez, MS 39120 | 46 Bayview Road,  YANTANABIE, SA, 5661, AU | M | Fixed-term saving |
| C1085 | Samuel | Brown | (931) 615-5404 | 93 Whitemarsh Drive Minneapolis, MN 55406 | 93 Shaw Drive,  GLENLOGIE, Vic, 3469, AU | M | Business account |
| C1091 | Null | Null | (484) 571-3896 | 93 Warren St. Cumming, GA 30040 | 69 Porana Place, DALWALLINU, WA, 6609 | F | Null |
| C1103 | Alfie | Rodriguez | (757) 572-7852 | 65 Academy Lane Lake Worth, FL 33460 | 81 Link Road, EDDYSTONE, TAS, 7264, AU | M | Medium performance saving |