**Physical Design of Bank Database Management System**

1. Customer table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Cust\_ID | Lname | Fname | Street | City | State | Zipcode | Tele\_No |

Fields definition:

|  |  |  |  |
| --- | --- | --- | --- |
| Fields | Data Type | Range of value | Constrains |
| Cust\_ID | varchar | 8 | Primary key,Not null, |
| Lname | Varchar | 25 | Not null |
| Fname | Varchar | 25 | Not null |
| Street | Varchar | 30 |  |
| City | Varchar | 20 |  |
| State | Varchar | 2 |  |
| Zipcode | Varchar | 10 |  |
| Tele\_No | Varchar | 14 |  |

1. HasAccount table:

|  |  |  |
| --- | --- | --- |
| Cust\_No | Acct\_No | Open\_Date |

Fields definition:

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Data Type | Range | Constrains |
| Cust\_ID | Varchar | 8 | Primary Key, not null, reference to CUSTOMER(Cust\_ID) |
| Acct\_no | Varchar | 8 | Primary Key, not null, reference to ACCOUNT(Acct\_NO) |
| Open\_Date | Date |  | Default value: current date |

1. Account table:

|  |  |  |  |
| --- | --- | --- | --- |
| Acct\_No | Balance | Branch\_ID | Acct\_Type |

Fields definition:

|  |  |  |  |
| --- | --- | --- | --- |
| Fields | Data Type | Range | Constraints |
| Acct\_No | Varchar | 8 | Primary Key, not null |
| Balance | Numeric | 10 with 2 decimal digit | Default value:0.00 |
| Branch\_ID | Varchar | 5 | Foreign Key, reference to Table Branch(Branch\_ID) |
| Acct\_Type | Varchar | 2 | Not null, check in {‘C’,’S’,’L’} |

1. BankBranch table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Branch\_ID | Name | Street | City | State | Zipcode |

Fields definition

|  |  |  |  |
| --- | --- | --- | --- |
| Fields | Data Type | Range | Constraints |
| Branch\_ID | Varchar | 5 | Primary Key, not null |
| Name | Varchar | 25 | Not null |
| Street | Varchar | 30 |  |
| City | Varchar | 20 |  |
| State | Varchar | 2 |  |
| Zipcode | Varchar | 14 |  |

1. CheckingAccount table:

|  |  |
| --- | --- |
| Acct\_No | Check\_Limit |

Fields Definition:

|  |  |  |  |
| --- | --- | --- | --- |
| Fields | Data Type | Range | Constraints |
| Acct\_No | Varchar | 8 | Primary Key, not null |
| Check\_Limit | Numeric | 10 with 2decimal digits | Default value:0.00 |

1. SavingAccount table:

|  |  |  |
| --- | --- | --- |
| Acct\_No | Interest\_Rate | Trans\_Limit |

Fields definition:

|  |  |  |  |
| --- | --- | --- | --- |
| Fields | Data Type | Range | Constraints |
| Acct\_No | Varchar | 8 | Primary Key, not null, foreign key, refere to table Account(Acct\_No) |
| Insterest\_Rate | Numeric | 6 with 2decimal digits | Default value:0.00% |
| Trans\_Limit | Int | 2 | Default value: 0 |

1. LoanAccount table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Acct\_No | Loan\_Amt | Interest\_Rate | Term | Loan\_Description |

Fields definition:

|  |  |  |  |
| --- | --- | --- | --- |
| Fields | Data Type | Range | Constraints |
| Acct\_No | Varchar | 8 | Primary Key, not null |
| Loan\_Amt | Numeric | 15 with 2 decimal digits | Default value: 0.00 |
| Term | Numeric | 5 with 1 decimal digits | Default value:0.0 |
| Interest\_Rate | Numeric | 6 with 2 decimal digits | Default value:0.00 |
| Loan\_description | Varchar | 40 |  |

1. Transaction table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Trans\_ID | Acct\_No | Trans\_Date | Trans\_Type | Trans\_Amnt | Trans\_Comts |

Fields definition:

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Data Type | Range | Constraints |
| Trans\_ID | Varchar | 10 | Primary key, not null |
| Acct\_No | Varchar | 8 | Foreign key, reference table Aaccount(Acct\_No), not null |
| Trans\_Date | Date |  | Default value: current date |
| Trans\_Type | Varchar | 10 | Check in{‘Transfer’, ‘Deposit’,’Withdraw’} |
| Trans\_Amnt | Numberic | 8 with 2 decimal digits | Defualt value:0.00 |
| Trans\_Comts | Varchar | 40 |  |