**Best Buy Retail Sales**

**Database Design**

**Brett Gugel-5/7/23**

**Design Considerations**

* A user of this database would only be given stored procedures to insert data, direct INSERT statements cannot be given to an end user.
* A customer must be associated with a Best rewards account so a customer’s purchases can earn them points, A Customer can be created without an associated payment, but they would need to create one before they can open or close a sale.
* A customer can have multiple payment methods, payment cards that are expired cannot be added to the database, and when a card expires, it will be disabled in the database when a customer tries to close a purchase.
* A **BSALES** must be created before a customer can add items to **BITEMS**
* A Sale can remain open as long as a customer would like, but they cannot open a new sale until they close their current one.
* When Items are added to a sale, the total, tax and subtotal values change in the associated **BSALES**
* When a sale is closed, points are assigned to the customers **BESTREWARDS** account.
* A customer must pay with ONE of their **BPAYMENT** options.

**Table Design:**

**BESTREWARDS**( RewardsID, Points, CreateDate)

**BCUSTOMER**( CustomerID, RewardsID, FirstName, LastName, Phone, Email, CreateDate)

**BPAYMENT**( PaymentID, CustomerID, PaymentType, Ccnum, CCExpMonth, CCExpYear, CCSecNum, Status, CreateDate)

**BPRODUCT\_CAT**( ProductCategoryID, CategoryName)

**BPRODUCT**( ProductID, ProductCategoryID, Product Name, Price Description, DiscountPercent, DiscountFlat)

**BEMPLOYEES**( EmployeeID, EfirstName, ElastName, Position, JoinDate)

**BSALES**( SalesID, CustomerID, EmployeeID, SubTotal, Taxes, Total, SalesDate, Status)

**BITEMS**( ItemsID, SalesID, ProductID, Quantity, TotalPrice)

Assume that RewardsID in BESTREWARDS, CustomerID in BCUSTOMER, PaymentID in BPAYMENT, ProductCategoryID in BPRODUCT\_CAT, ProductID in BPRODUCT, EmployeeID in BEMPLOYEES, SalesID IN BSALES, ItemsID in BITEMS are surrogate keys with values as follows.

RewardsID Starts at 1 Increment by 1

CustomerID Starts at 1 Increment by 1

PaymentID Starts at 1 Increment by 1

ProductCategoryID Starts at 1 Increment by 1

ProductID Starts at 1 Increment by 1

EmployeeID Starts at 1 Increment by 1

SalesID Starts at 1 Increment by 1

**BESTREWARDS**

|  |  |  |  |
| --- | --- | --- | --- |
| RewardsID | INT | NOT NULL | PK |
| Points | BIGINT | NOT NULL | Default to 0 |
| JoinDate | DATETIME | NOT NULL | Default to today |

**BCUSTOMER**

|  |  |  |  |
| --- | --- | --- | --- |
| **CustomerID** | INT | NOT NULL | PK |
| RewardsID | INT | NOT NULL |  |
| FirstName | VARCHAR(60) | NOT NULL |  |
| LastName | VARCHAR(60) | NOT NULL |  |
| Phone | VARCHAR(25) | NOT NULL |  |
| Email | VARCHAR(100) | NOT NULL |  |
| CreateDate | DATETIME | NOT NULL | Default to today |

**BPAYMENT**

|  |  |  |  |
| --- | --- | --- | --- |
| PaymentID | INT | NOT NULL | PK |
| CustomerId | INT | NOT NULL | FK |
| PaymentType | VARCHAR(10) | NOT NULL |  |
| CCnum | BIGINT | NOT NULL |  |
| CCExpMonth | INT | NOT NULL |  |
| CCExpYear INT, | INT | NOT NULL |  |
| CCSecNum INT, | INT | NOT NULL |  |
| Status | CHAR(2) | NOT NULL |  |
| CreateDate | DATETIME | NOT NULL | Default to today |

**BPRODUCT\_CAT**

|  |  |  |  |
| --- | --- | --- | --- |
| ProductCategoryID | INT | NOT NULL | PK |
| CategoryName | VARCHAR(60) | NOT NULL |  |

**BPRODUCT**

|  |  |  |  |
| --- | --- | --- | --- |
| ProductID | INT | NOT NULL | PK |
| ProductSubCategoryID | INT | NOT NULL | FK |
| ProductName | VARCHAR(60) | NOT NULL |  |
| Price | MONEY | NOT NULL |  |
| Description | VARCHAR(60) | NOT NULL |  |
| DiscountPercent | INT | NOT NULL |  |
| DiscountFlat | MONEY | NOT NULL |  |

**BEMPLOYEES**

|  |  |  |  |
| --- | --- | --- | --- |
| EmployeeID | INT | NOT NULL | PK |
| EfirstName | INT | NOT NULL | FK |
| ElastName, | INT | NOT NULL | FK |
| Position | VARCHAR(60) | NOT NULL |  |
| JoinDate | DATETIME | NOT NULL | Default to today |

**BSALES**

|  |  |  |  |
| --- | --- | --- | --- |
| SalesID | INT | NOT NULL | PK |
| CustomerID | INT | NOT NULL | FK |
| EmployeeID | INT | NOT NULL | FK |
| SubTotal | MONEY |  |  |
| Taxes | MONEY |  |  |
| Total | MONEY |  |  |
| SalesDate | DATETIME | NOT NULL |  |
| Status | VARCHAR(1) | NOT NULL |  |

**BITEMS**

|  |  |  |  |
| --- | --- | --- | --- |
| ItemsID | INT | NOT NULL | PK |
| SalesID | INT | NOT NULL | FK |
| ProductID | INT | NOT NULL | FK |
| Quantity | INT | NOT NULL |  |
| TotalPrice | MONEY |  |  |