1.

Name: Adding a new product into the system

Steps:

|  |  |
| --- | --- |
| Actor | System |
| 1. Choose command “Add Product” | 2. Displays “Add Product” screen  “Add Product screen” |
| 1. Input data then click “Add” button   “Add Product” screen with data | 1. Hide “Add Product” screen and display “Add product successfully” screen   “Add product successfully” screen: |
| 5. Click on “OK” button and display “Go back to the main menu” screen  “Go back to the main menu” screen: | 1. Click on “OK” button and display “Main” screen   “Main” screen: |

Name: Adding a new customer into the system

Steps:

|  |  |
| --- | --- |
| 1. Choose command “Add Product” | 1. Displays “Add Customer” screen   “Add Customer screen” |
| 3. Input data then click “Add” button  “Add Customer” screen with data | 4. Hide “Add Product” screen and display “Add Customer successfully” screen  “Add product successfully” screen: |
| 5. Click on “OK” button and display “Go back to the main menu” screen  “Go back to the main menu” screen: | 1. Click on “OK” button and display “Main” screen   “Main” screen: |

Name: Record a purchase from a customer into the system

Steps:

|  |  |
| --- | --- |
| 1. Choose command “Add Purchase” | 1. Displays “Add Purchase” screen   “Add Purchase screen” |
| 3. Input data then click “Add” button  “Add Purchase” screen with data | 4. Hide “Add Purchase” screen and display “Add Purchase successfully” screen  “Add product successfully” screen: |
| 5. Click on “OK” button and display “Go back to the main menu” screen  “Go back to the main menu” screen: | 1. Click on “OK” button and display “Main” screen   “Main” screen: |

2.

Buy

Customers

Products

Generate

Generate

Purchase

3.

**Logical Design:**

Products (Productid, Name, Price, Quantity)

Customers (Customerid, Name, Address, Phone)

Purchase (Purchaseid, Productid, Customerid, Date, Price, Tax, Total cost)

Products

|  |  |  |  |
| --- | --- | --- | --- |
| Productid | Name | Price | Quantity |
| 1 | Apple | 1.99 | 10 |
| 2 | Orange | 2.99 | 20 |
| 3 | Banana | 3.99 | 30 |
| 4 | Watermelon | 4.99 | 40 |
| 5 | Melon | 5.99 | 50 |

Customers

|  |  |  |
| --- | --- | --- |
| Customerid | Name | Phone |
| 1 | Jonathan Joestar | 123456 |
| 2 | Joseph Joestar | 654321 |
| 3 | Johnny Joestar | 114514 |
| 4 | Mark | 191919 |
| 5 | Dio Brando | 810810 |

Purchase

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Purchaseid | Productid | Customerid | Price | Quantity | Cost | Tax | Total | DATE |
| 1 | 1 | 1 | 1.99 | 1 | 1.99 | 0.1791 | 2.1691 | Wed Oct 16 19:52:51 CDT 2019 |
| 2 | 2 | 2 | 2.99 | 2 | 5.98 | 0.5382 | 6.5182 | Wed Oct 16 19:52:51 CDT 2019 |
| 3 | 3 | 3 | 3.99 | 3 | 11.97 | 1.0773 | 13.0473 | Wed Oct 16 19:52:51 CDT 2019 |
| 4 | 4 | 4 | 4.99 | 4 | 19.96 | 1.7964 | 21.7564 | Wed Oct 16 19:52:51 CDT 2019 |
| 5 | 5 | 5 | 5.99 | 5 | 29.95 | 2.6955 | 32.6455 | Wed Oct 16 19:52:51 CDT 2019 |
| 6 | 1 | 2 | 2.99 | 6 | 17.94 | 1.6146 | 19.5546 | Wed Oct 16 19:52:51 CDT 2019 |
| 7 | 2 | 3 | 3.99 | 7 | 27.93 | 2.5137 | 30.4437 | Wed Oct 16 19:52:51 CDT 2019 |
| 8 | 3 | 4 | 4.99 | 8 | 39.92 | 3.5928 | 43.5128 | Wed Oct 16 19:52:51 CDT 2019 |
| 9 | 4 | 5 | 5.99 | 9 | 53.91 | 4.8519 | 58.7619 | Wed Oct 16 19:52:51 CDT 2019 |
| 10 | 5 | 1 | 1.99 | 10 | 19.9 | 1.791 | 21.691 | Wed Oct 16 19:52:51 CDT 2019 |

4.

**SQL code:**

Table:

CREATE TABLE "Products" (

"Productid" INTEGER NOT NULL,

"Name" TEXT,

"ExpirationDate" TEXT,

"Price" REAL,

"Quantity" INTEGER,

"ManufacturedDate" TEXT,

PRIMARY KEY("Productid")

);

CREATE TABLE "Customers" (

"Customerid" INTEGER NOT NULL,

"Name" TEXT,

"Address" TEXT,

"Phone" INTEGER,

"Payment info" TEXT,

PRIMARY KEY("Customerid")

);

CREATE TABLE "Purchases" (

"PurchaseID" INTEGER NOT NULL,

"ProductID" INTEGER,

"CustomerID" INTEGER,

"Price" REAL,

"Quantity" INTEGER,

"Cost" REAL,

"Tax" REAL,

"Total" REAL,

"Date" TEXT,

PRIMARY KEY("PurchaseID")

);

Input:

INSERT INTO Products

VALUES

(1, "Apple", 1.99, 10),

(2, "Orange", 2.99, 20),

(3, "Banana", 3.99, 30),

(4, "Watermelon", 4.99, 40),

(5, "Melon", 5.99, 50);

INSERT INTO Customers

VALUES

(1, "Jonathan Joestar", 123456),

(2, "Joseph Joestar", 654321),

(3, "Johnny Joestar",114514),

(4, "Mark",191919),

(5, "Dio Brando", 810810,);

INSERT INTO Purchase

VALUES

(1, 1, 1, 1.99, 1, 1.99, 0.1791, 2.1691, “Wed Oct 16 19:52:51 CDT 2019”),

(2, 2, 2, 2.99, 2, 5.98, 0.5382, 6.5182, “Wed Oct 16 19:52:51 CDT 2019”),

(3, 3, 3, 3.99, 3, 11.97, 1.0773, 13.047, “Wed Oct 16 19:52:51 CDT 2019”),

(4, 4, 4, 4.99, 4, 19.96, 1.7964, 21.7564, “Wed Oct 16 19:52:51 CDT 2019”),

(5, 5, 5, 5.99, 5, 29.95, 2.6955, 32.6455, “Wed Oct 16 19:52:51 CDT 2019”),

(6, 1, 2, 2.99, 6, 17.94, 1.6146, 19.5546, “Wed Oct 16 19:52:51 CDT 2019”),

(7, 2, 3, 3.99, 7, 27.93, 2.5137, 30.4437, “Wed Oct 16 19:52:51 CDT 2019”),

(8, 3, 4, 4.99, 8, 39.92, 3.5928, 43.5128, “Wed Oct 16 19:52:51 CDT 2019”),

(9, 4, 5, 5.99, 9, 53.91, 4.8519, 58.7619, “Wed Oct 16 19:52:51 CDT 2019”),

(10, 5, 1, 1.99, 10, 19.9, 1.791, 21.691, “Wed Oct 16 19:52:51 CDT 2019”);