Phase 3

Toronto Metropolitan University

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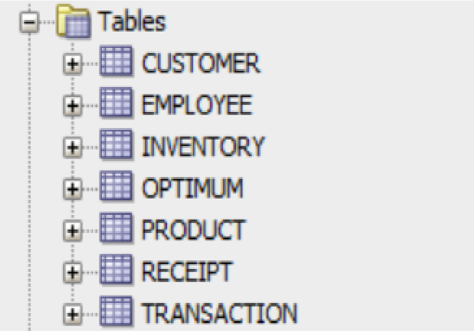
Dylan Ha (501056670),
Enes Polat (501061594)

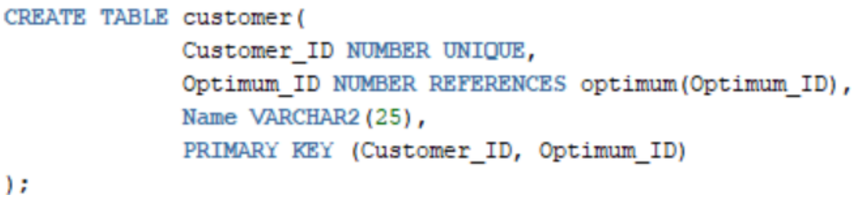
CPS510 - Database Systems

Point of Sale System for Shopper Drug Marts

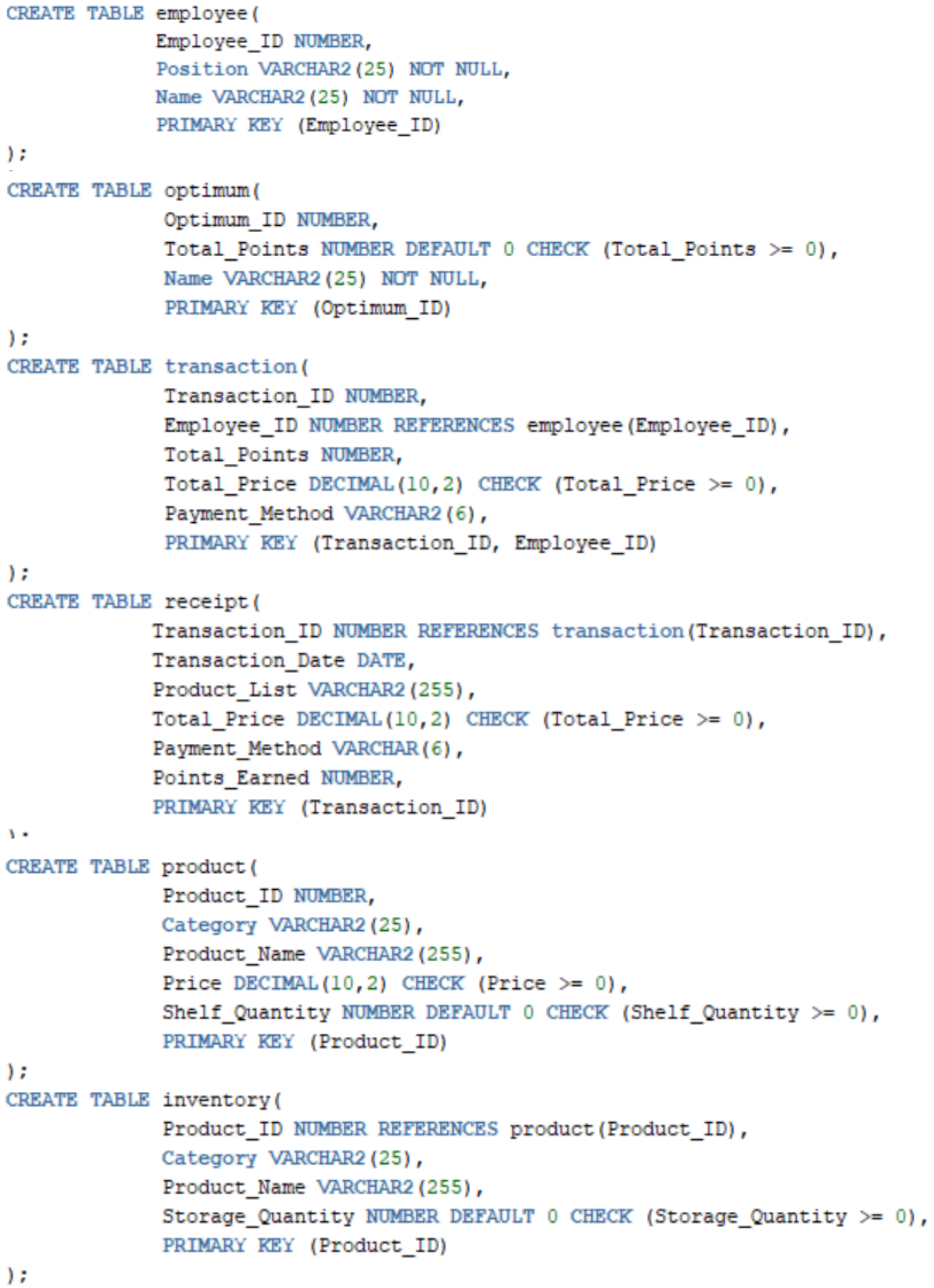


Tables
CUSTOMER
EMPLOYEE
INVENTORY
OPTIMUM
PRODUCT
RECEIPT
TRANSACTION

1. Creating the Tables



```
CREATE TABLE customer(
                Customer_ID NUMBER UNIQUE,
                Optimum_ID NUMBER REFERENCES optimum(Optimum_ID),
                Name VARCHAR2(25),
                PRIMARY KEY (Customer_ID, Optimum_ID)
);
```



```
CREATE TABLE employee(
                Employee_ID NUMBER,
                Position VARCHAR2(25) NOT NULL,
                Name VARCHAR2(25) NOT NULL,
                PRIMARY KEY (Employee_ID)
);
CREATE TABLE optimum(
                Optimum_ID NUMBER,
                Total_Points NUMBER DEFAULT 0 CHECK (Total_Points >= 0),
                Name VARCHAR2(25) NOT NULL,
                PRIMARY KEY (Optimum_ID)
);
CREATE TABLE transaction(
                Transaction_ID NUMBER,
                Employee_ID NUMBER REFERENCES employee(Employee_ID),
                Total_Points NUMBER,
                Total_Price DECIMAL(10,2) CHECK (Total_Price >= 0),
                Payment_Method VARCHAR2(6),
                PRIMARY KEY (Transaction_ID, Employee_ID)
);
CREATE TABLE receipt(
                Transaction_ID NUMBER REFERENCES transaction(Transaction_ID),
                Transaction_Date DATE,
                Product_List VARCHAR2(255),
                Total_Price DECIMAL(10,2) CHECK (Total_Price >= 0),
                Payment_Method VARCHAR(6),
                Points_Earned NUMBER,
                PRIMARY KEY (Transaction_ID)
);
CREATE TABLE product(
                Product_ID NUMBER,
                Category VARCHAR2(25),
                Product_Name VARCHAR2(255),
                Price DECIMAL(10,2) CHECK (Price >= 0),
                Shelf_Quantity NUMBER DEFAULT 0 CHECK (Shelf_Quantity >= 0),
                PRIMARY KEY (Product_ID)
);
CREATE TABLE inventory(
                Product_ID NUMBER REFERENCES product(Product_ID),
                Category VARCHAR2(25),
                Product_Name VARCHAR2(255),
                Storage_Quantity NUMBER DEFAULT 0 CHECK (Storage_Quantity >= 0),
                PRIMARY KEY (Product_ID)
);
```

Source Code for creating tables:

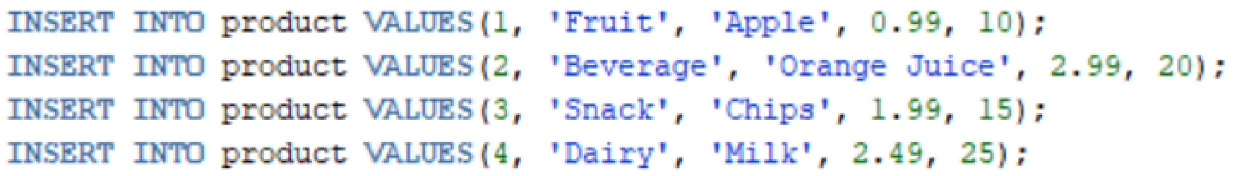
```
CREATE TABLE optimum(
        Optimum_ID NUMBER PRIMARY KEY,
        Total_Points NUMBER DEFAULT 0 CHECK (Total_Points >= 0),
        Name VARCHAR2(25) NOT NULL
);
CREATE TABLE customer(
        Customer_ID NUMBER UNIQUE,
        Optimum_ID NUMBER REFERENCES optimum(Optimum_ID),
        Name VARCHAR2(25),
        PRIMARY KEY (Customer_ID, Optimum_ID)
);
CREATE TABLE employee(
        Employee_ID NUMBER PRIMARY KEY,
        Position VARCHAR2(25) NOT NULL,
        Name VARCHAR2(25) NOT NULL
);
CREATE TABLE product(
        Product_ID NUMBER PRIMARY KEY,
        Category VARCHAR2(25),
        Product_Name VARCHAR2(255),
        Price DECIMAL(10,2) CHECK (Price >= 0),
        Shelf_Quantity NUMBER DEFAULT 0 CHECK (Shelf_Quantity >= 0)
);

CREATE TABLE transaction(
        Transaction_ID NUMBER UNIQUE,
        Employee_ID NUMBER REFERENCES employee(Employee_ID),
        Total_Points NUMBER,
        Total_Price DECIMAL(10,2) CHECK (Total_Price >= 0),
        Payment_Method VARCHAR2(6),
        Transaction_Date DATE,
        PRIMARY KEY (Transaction_ID, Employee_ID)
);

CREATE TABLE receipt(
   Transaction_ID NUMBER,
   Product_List VARCHAR2(255),
   Points_Earned NUMBER,
   Total_Price DECIMAL(10,2) CHECK (Total_Price >= 0),
   Payment_Method VARCHAR(6),
   Transaction_Date DATE
);
```

```
CREATE TABLE inventory(
	Product_ID NUMBER REFERENCES product(Product_ID),
	Category VARCHAR2(25),
	Product_Name VARCHAR2(255),
	Storage_Quantity NUMBER DEFAULT 0 CHECK (Storage_Quantity >= 0),
	PRIMARY KEY (Product_ID));
```

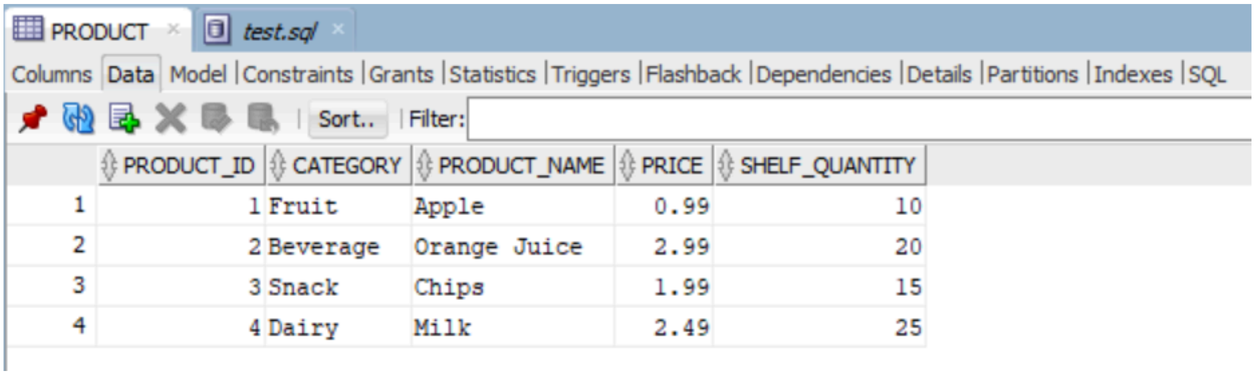
Source code for populating tables

```
INSERT INTO product VALUES(1, 'Fruit', 'Apple', 0.99, 10);
INSERT INTO product VALUES(2, 'Beverage', 'Orange Juice', 2.99, 20);
INSERT INTO product VALUES(3, 'Snack', 'Chips', 1.99, 15);
INSERT INTO product VALUES(4, 'Dairy', 'Milk', 2.49, 25);
INSERT INTO product VALUES(5, 'Vegetable', 'Potato', 1, 20);
INSERT INTO product VALUES(6, 'Technology', 'AirPods Pro', 199.99, 10);
INSERT INTO product VALUES(7, 'Dairy', 'Cheese', 8.99, 50);

INSERT INTO inventory VALUES(1, 'Fruit', 'Apple',  50);
INSERT INTO inventory VALUES(2, 'Beverage', 'Orange Juice',  50);
INSERT INTO inventory VALUES(3, 'Snack', 'Chips',  50);
INSERT INTO inventory VALUES(4, 'Dairy', 'Milk', 50);

INSERT INTO optimum VALUES(501103322, 0, 'Simon Lin');
INSERT INTO optimum VALUES(501056670, 0, 'Dylan Ha');
INSERT INTO optimum VALUES(501061594, 0, 'Enes Polat');

INSERT INTO customer VALUES(1, 501103322, 'Simon Lin');
INSERT INTO customer VALUES(2, 501056670, 'Dylan Ha');
INSERT INTO customer VALUES(3, 501061594, 'Enes Polat');

INSERT INTO employee VALUES(3, 'Cashier', 'Ski Betty');
INSERT INTO employee VALUES(2, 'Manager', 'Hawk T. Ooah');
INSERT INTO employee VALUES(1, 'Owner', 'Hugh Mungus');

INSERT INTO transaction VALUES(1, 3, 500, 23.59, 'Cash', CURRENT_DATE);
INSERT INTO transaction VALUES(2, 2, 300, 20, 'Debit', CURRENT_DATE);
INSERT INTO transaction VALUES(3, 3, 600, 60, 'Credit', CURRENT_DATE);
INSERT INTO transaction VALUES(4, 1, 100, 20.23, 'Credit', CURRENT_DATE);
INSERT INTO transaction VALUES(5, 3, 200, 2, 'Debit', CURRENT_DATE);
INSERT INTO transaction VALUES(6, 2, 200, 50, 'Cash', CURRENT_DATE);
INSERT INTO transaction VALUES(7, 1, 300, 20, 'Cash', CURRENT_DATE);
INSERT INTO transaction VALUES(8, 1, 300, 50, 'Cash', CURRENT_DATE);
INSERT INTO receipt VALUES(1, '22 Apples', 500, 23.59, 'Cash', CURRENT_DATE);
INSERT INTO receipt VALUES(2, '10 Chips', 300, 20.00, 'Debit', CURRENT_DATE);
INSERT INTO receipt VALUES(3, '15 Apples', 600, 60.00, 'Credit', CURRENT_DATE);
INSERT INTO receipt VALUES(4, '8 Milk', 100, 20.23, 'Credit', CURRENT_DATE);
INSERT INTO receipt VALUES(5, '2 Potatoes', 200, 2.00, 'Debit', CURRENT_DATE);
INSERT INTO receipt VALUES(6, '16 Orange Juice', 200, 50.00, 'Cash', CURRENT_DATE);
INSERT INTO receipt VALUES(7, '20 Apples', 300, 20.00, 'Cash', CURRENT_DATE);
INSERT INTO receipt VALUES(8, '50 Apples', 300, 50.00, 'Cash', CURRENT_DATE);
```

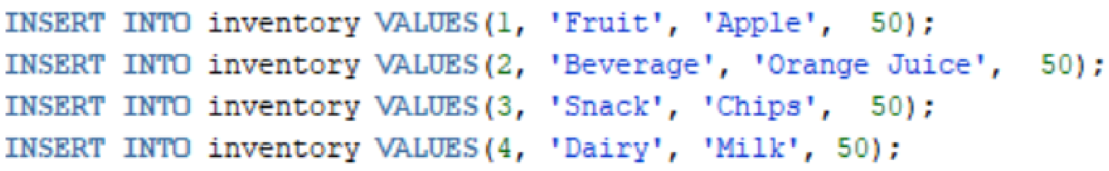
2. Populating the Tables - Products & Inventory



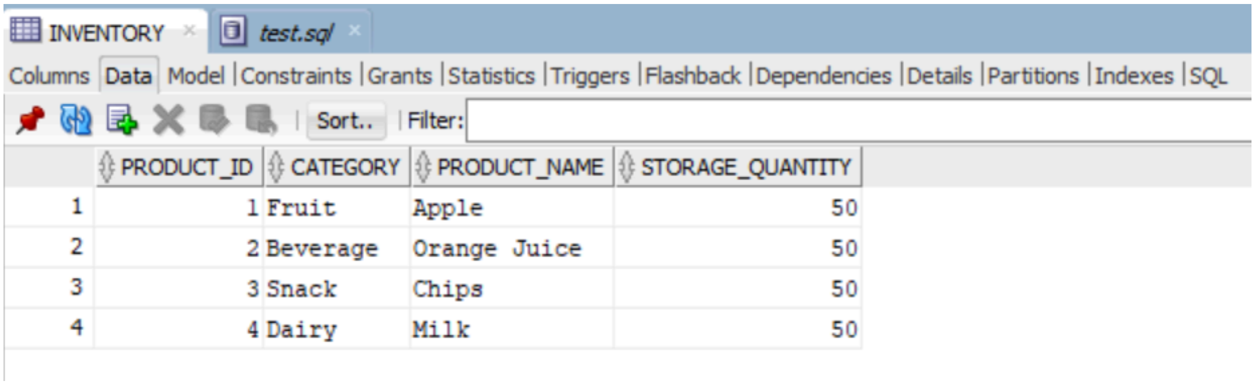
```sql
INSERT INTO product VALUES(1, 'Fruit', 'Apple', 0.99, 10);
INSERT INTO product VALUES(2, 'Beverage', 'Orange Juice', 2.99, 20);
INSERT INTO product VALUES(3, 'Snack', 'Chips', 1.99, 15);
INSERT INTO product VALUES(4, 'Dairy', 'Milk', 2.49, 25);
```



	PRODUCT_ID	CATEGORY	PRODUCT_NAME	PRICE	SHELF_QUANTITY
1	1	Fruit	Apple	0.99	10
2	2	Beverage	Orange Juice	2.99	20
3	3	Snack	Chips	1.99	15
4	4	Dairy	Milk	2.49	25

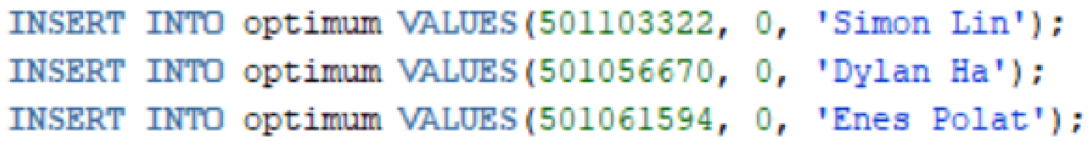


```sql
INSERT INTO inventory VALUES(1, 'Fruit', 'Apple',  50);
INSERT INTO inventory VALUES(2, 'Beverage', 'Orange Juice',  50);
INSERT INTO inventory VALUES(3, 'Snack', 'Chips',  50);
INSERT INTO inventory VALUES(4, 'Dairy', 'Milk', 50);
```

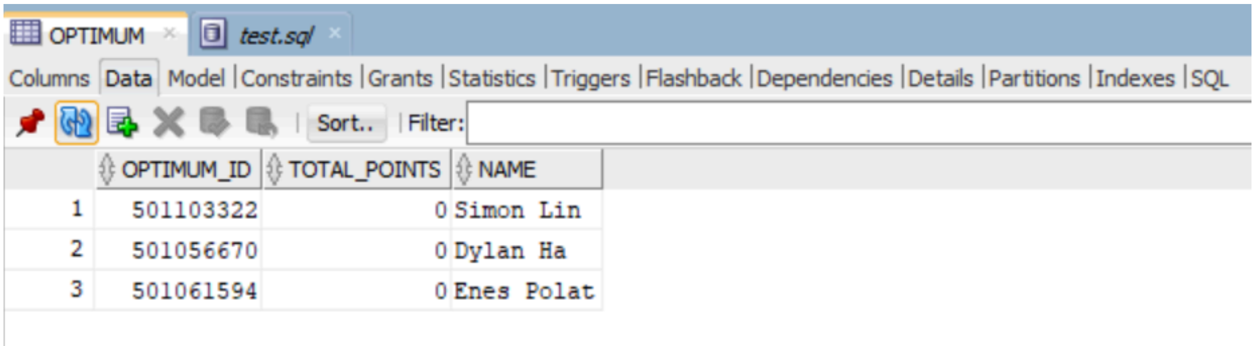


	PRODUCT_ID	CATEGORY	PRODUCT_NAME	STORAGE_QUANTITY
1	1	Fruit	Apple	50
2	2	Beverage	Orange Juice	50
3	3	Snack	Chips	50
4	4	Dairy	Milk	50

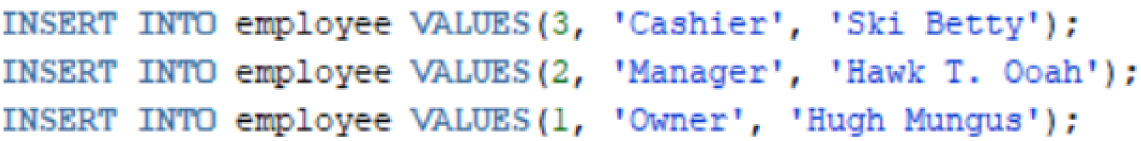
2.1 Populating the Tables - Customers, Optimum & Employees



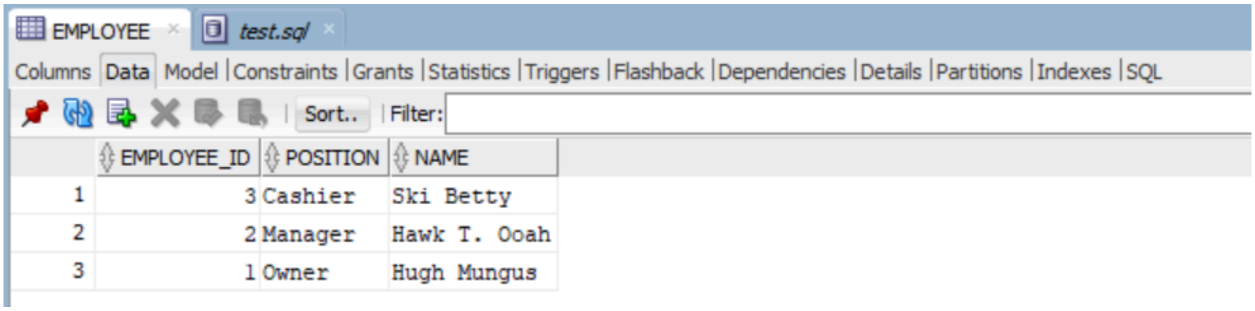
```
INSERT INTO optimum VALUES(501103322, 0, 'Simon Lin');
INSERT INTO optimum VALUES(501056670, 0, 'Dylan Ha');
INSERT INTO optimum VALUES(501061594, 0, 'Enes Polat');
```



	OPTIMUM_ID	TOTAL_POINTS	NAME
1	501103322	0	Simon Lin
2	501056670	0	Dylan Ha
3	501061594	0	Enes Polat



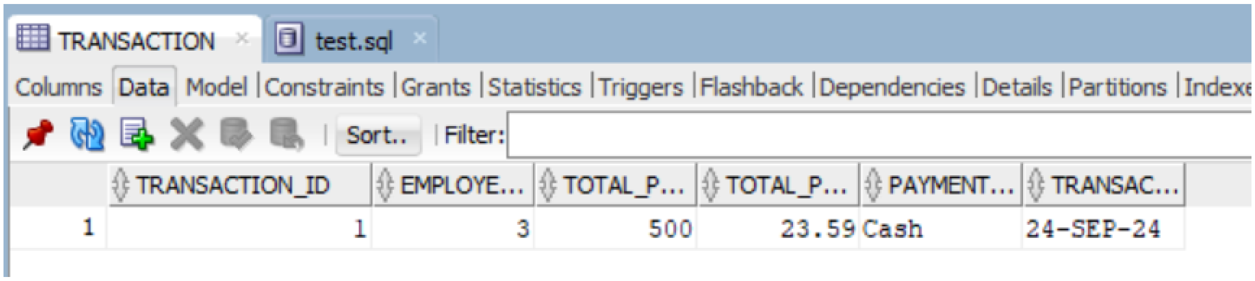
```
INSERT INTO employee VALUES(3, 'Cashier', 'Ski Betty');
INSERT INTO employee VALUES(2, 'Manager', 'Hawk T. Ooah');
INSERT INTO employee VALUES(1, 'Owner', 'Hugh Mungus');
```



	EMPLOYEE_ID	POSITION	NAME
1	3	Cashier	Ski Betty
2	2	Manager	Hawk T. Ooah
3	1	Owner	Hugh Mungus

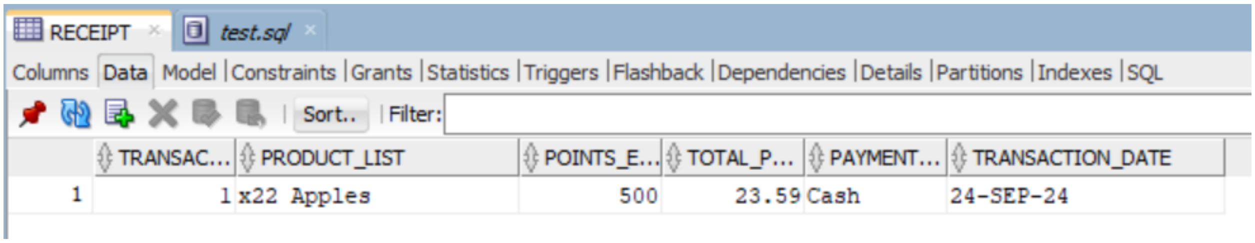
2.2 Populating the Tables - Transactions and Receipts

```sql
INSERT INTO transaction VALUES(1, 3, 500, 23.59, 'Cash', CURRENT_DATE);
```



	TRANSACTION_ID	EMPLOYE...	TOTAL_P...	TOTAL_P...	PAYMENT...	TRANSAC...
1	1	3	500	23.59	Cash	24-SEP-24

```sql
INSERT INTO receipt VALUES(1,'x22 Apples', 500, 23.59, 'Cash', CURRENT_DATE);
```



	TRANSAC...	PRODUCT_LIST	POINTS_E...	TOTAL_P...	PAYMENT...	TRANSACTION_DATE
1	1	x22 Apples	500	23.59	Cash	24-SEP-24