**Sql project 2(online compiler)**

**-- Create table for Customers**

**CREATE TABLE Customers (**

**CustomerID INT PRIMARY KEY,**

**FirstName VARCHAR(50),**

**LastName VARCHAR(50),**

**Email VARCHAR(100),**

**Gender VARCHAR(10),**

**Age INT**

**);**

**-- Create table for Products**

**CREATE TABLE Products (**

**ProductID INT PRIMARY KEY,**

**ProductName VARCHAR(100),**

**Category VARCHAR(50),**

**Price DECIMAL(10, 2)**

**);**

**-- Create table for Transactions**

**CREATE TABLE Transactions (**

**TransactionID INT PRIMARY KEY,**

**CustomerID INT,**

**ProductID INT,**

**PurchaseDate DATE,**

**Quantity INT,**

**TotalAmount DECIMAL(10, 2),**

**FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID),**

**FOREIGN KEY (ProductID) REFERENCES Products(ProductID)**

**);**

**-- Create table for Segments (for future use in customer segmentation)**

**CREATE TABLE Segments (**

**SegmentID INT PRIMARY KEY,**

**SegmentName VARCHAR(50),**

**Description VARCHAR(255)**

**);**

**-- Insert data into Customers**

**INSERT INTO Customers (CustomerID, FirstName, LastName, Email, Gender, Age)**

**VALUES**

**(1, 'John', 'Doe', 'john.doe@example.com', 'Male', 34),**

**(2, 'Jane', 'Smith', 'jane.smith@example.com', 'Female', 28),**

**(3, 'Alice', 'Johnson', 'alice.johnson@example.com', 'Female', 45),**

**(4, 'Bob', 'Brown', 'bob.brown@example.com', 'Male', 52),**

**(5, 'Charlie', 'Davis', 'charlie.davis@example.com', 'Male', 29);**

**-- Insert data into Products**

**INSERT INTO Products (ProductID, ProductName, Category, Price)**

**VALUES**

**(1, 'Laptop', 'Electronics', 1200.00),**

**(2, 'Smartphone', 'Electronics', 800.00),**

**(3, 'Headphones', 'Accessories', 150.00),**

**(4, 'Tablet', 'Electronics', 500.00),**

**(5, 'Keyboard', 'Accessories', 50.00);**

**-- Insert data into Transactions**

**INSERT INTO Transactions (TransactionID, CustomerID, ProductID, PurchaseDate, Quantity, TotalAmount)**

**VALUES**

**(1, 1, 1, '2024-08-01', 1, 1200.00),**

**(2, 2, 2, '2024-08-05', 1, 800.00),**

**(3, 1, 3, '2024-08-07', 2, 300.00),**

**(4, 3, 4, '2024-08-08', 1, 500.00),**

**(5, 4, 1, '2024-08-10', 1, 1200.00),**

**(6, 5, 2, '2024-08-12', 1, 800.00),**

**(7, 2, 5, '2024-08-15', 3, 150.00),**

**(8, 1, 4, '2024-08-17', 1, 500.00);**

**-- Calculate total spending for each customer**

**SELECT**

**C.CustomerID,**

**C.FirstName,**

**C.LastName,**

**SUM(T.TotalAmount) AS TotalSpending**

**FROM**

**Customers C**

**JOIN**

**Transactions T ON C.CustomerID = T.CustomerID**

**GROUP BY**

**C.CustomerID, C.FirstName, C.LastName**

**ORDER BY**

**TotalSpending DESC;**

**-- Count the number of transactions for each customer**

**SELECT**

**C.CustomerID,**

**C.FirstName,**

**C.LastName,**

**COUNT(T.TransactionID) AS PurchaseFrequency**

**FROM**

**Customers C**

**JOIN**

**Transactions T ON C.CustomerID = T.CustomerID**

**GROUP BY**

**C.CustomerID, C.FirstName, C.LastName**

**ORDER BY**

**PurchaseFrequency DESC;**

**-- Identify customers who have spent more than $1000**

**SELECT**

**C.CustomerID,**

**C.FirstName,**

**C.LastName,**

**SUM(T.TotalAmount) AS TotalSpending**

**FROM**

**Customers C**

**JOIN**

**Transactions T ON C.CustomerID = T.CustomerID**

**GROUP BY**

**C.CustomerID, C.FirstName, C.LastName**

**HAVING**

**SUM(T.TotalAmount) > 1000**

**ORDER BY**

**TotalSpending DESC;**

**-- Count the number of customers in each age group**

**SELECT**

**CASE**

**WHEN Age < 30 THEN 'Under 30'**

**WHEN Age BETWEEN 30 AND 45 THEN '30-45'**

**ELSE 'Above 45'**

**END AS AgeGroup,**

**COUNT(\*) AS NumberOfCustomers**

**FROM**

**Customers**

**GROUP BY**

**AgeGroup;**