**EXPERIMENT NO: 7**

**IMPLEMENTATION OF ORDER BY, GROUP BY & HAVING CLAUSE**

**AIM:**

**To understand and implement Order By, Group By&Having clause in SQL**

**Amazon is one of the largest online stores operating in the United States of America. They are maintaining four tables in their database. The Items table,Customers table, Orders table and Delivery table. Each of these tables contains the following attributes:**

**Items: - itemid (primary key)**

**Itemname(type=varchar(50))**

**Category**

**Price**

**Instock (type=int, greater than or equal to zero)**

**Customer:- custid(primary key)**

**Custname**

**Address**

**Orders:- ordered(primary key)**

**Custid**

**Itemid(refers to item id of items table)**

**Quantity(type=int)**

**Orderdate(type=date)**

**Delivery:- deliveryid(primary key)**

**Custid (refers to custid in customer table)**

**Orderid(refers to ordered in order table)**

**Create the above tables and populate them with appropriate data.**

**Questions:**

1.Find the details of all customers grouped by state

2. Display the details of all items grouped by category and having a price greater than average price of all items.

CREATE TABLE Items22 ( itemid INT PRIMARY KEY, itemname VARCHAR(50), category VARCHAR(50), price DECIMAL(10, 2), instock INT CHECK (instock >= 0) );

CREATE TABLE Customers22 ( custid INT PRIMARY KEY, custname VARCHAR(50), address VARCHAR(100), state VARCHAR(50) );

CREATE TABLE Orders22 ( ordered INT PRIMARY KEY, custid INT, itemid INT, quantity INT, orderdate DATE, FOREIGN KEY (custid) REFERENCES Customers22(custid), FOREIGN KEY (itemid) REFERENCES Items22(itemid) );

CREATE TABLE Delivery22 ( deliveryid INT PRIMARY KEY, custid INT, orderid INT, FOREIGN KEY (custid) REFERENCES Customers22(custid), FOREIGN KEY (orderid) REFERENCES Orders22(ordered) );

INSERT INTO Items22 VALUES (1, 'Laptop', 'Electronics', 1000.00, 50);

INSERT INTO Items22 VALUES (2, 'Headphones', 'Electronics', 100.00, 150);

INSERT INTO Items22 VALUES (3, 'Office Chair', 'Furniture', 200.00, 20);

INSERT INTO Items22 VALUES (4, 'Pen', 'Stationery', 2.00, 500);

INSERT INTO Items22 VALUES (6, 'Headphones', 'Electronics', 1000.00, 150);

INSERT INTO Items22 VALUES (7, 'Office Chair', 'Furniture', 2000.00, 20);

INSERT INTO Items22 VALUES (8, 'Pen', 'Stationery', 2.00, 500);

INSERT INTO Customers22 VALUES (1, 'John Doe', '123 Elm St', 'California');

INSERT INTO Customers22 VALUES (2, 'Jane Smith', '456 Oak St', 'New York');

INSERT INTO Customers22 VALUES (3, 'Emily Davis', '789 Pine St', 'California');

ALTER SESSION SET NLS\_DATE\_FORMAT = 'YYYY-MM-DD';

INSERT INTO Orders22 VALUES (1, 1, 1, 2, '2024-08-01');

INSERT INTO Orders22 VALUES (2, 2, 2, 1, '2024-08-02');

INSERT INTO Orders22 VALUES (3, 3, 3, 5, '2024-08-03');

INSERT INTO Delivery22 VALUES (1, 1, 1);

INSERT INTO Delivery22 VALUES (2, 2, 2);

INSERT INTO Delivery22 VALUES (3, 3, 3);

Answers:

SELECT state, COUNT(custid) FROM Customers22 GROUP BY state;

SELECT category, itemname, price FROM Items22 ORDER BY category, itemid, itemname, price HAVING price > (SELECT AVG(price) FROM Items22);

SELECT \* FROM items22 where price > (SELECT AVG(price) FROM Items22) order by category;