Data Science Bootcamp Assignment - 4

Creation of Tables:

```
-- Creating SALES table
CREATE TABLE SALES (
    Date DATE,
    Order_id INT PRIMARY KEY,
    Item_id INT,
    Customer_id INT,
    Quantity INT,
    Revenue DECIMAL(10, 2)
);


-- Creating ITEMS table
CREATE TABLE ITEMS (
    Item_id INT PRIMARY KEY,
    Item_name VARCHAR(50),
    Price DECIMAL(10, 2),
    Department VARCHAR(50)
);


-- Creating CUSTOMERS table
CREATE TABLE CUSTOMERS (
    Customer_id INT PRIMARY KEY,
    First_name VARCHAR(50),
    Last_name VARCHAR(50),
    Address VARCHAR(100)
);
```

Insertion of data values into the tables:

```
-- Inserting data into ITEMS table
INSERT INTO ITEMS (Item_id, Item_name, Price, Department)
VALUES
(1, 'Laptop', 1000.00, 'Electronics'),
(2, 'Headphones', 200.00, 'Electronics'),
(3, 'Shoes', 50.00, 'Apparel'),
(4, 'T-shirt', 20.00, 'Apparel'),
(5, 'Book', 15.00, 'Books');


-- Inserting data into CUSTOMERS table
INSERT INTO CUSTOMERS (Customer_id, First_name, Last_name, Address)
VALUES
(101, 'John', 'Doe', '123 Elm St'),
(102, 'Jane', 'Smith', '456 Oak St'),
(103, 'Alice', 'Johnson', '789 Pine St'),
(104, 'Bob', 'Brown', '321 Maple St');


-- Inserting data into SALES table
INSERT INTO SALES (Date, Order_id, Item_id, Customer_id, Quantity, Revenue)
VALUES
('2023-03-18', 1, 1, 101, 1, 1000.00),
('2023-03-18', 2, 2, 101, 2, 400.00),
('2023-01-15', 3, 3, 102, 1, 50.00),
('2023-01-20', 4, 4, 103, 3, 60.00),
('2022-12-25', 5, 5, 104, 4, 60.00),
('2022-11-10', 6, 1, 102, 1, 1000.00);
```

SQL queries for answering the questions:

1. **Pull total number of orders that were completed on 18th March 2023**

```
SELECT COUNT(*) AS Total_Orders
FROM SALES
WHERE Date = '2023-03-18';
```

2. **Pull total number of orders that were completed on 18th March 2023 with the first name ‘John’ and last name Doe’**

```
SELECT COUNT(*) AS Total_Orders_By_John_Doe
FROM SALES S
JOIN CUSTOMERS C ON S.Customer_id = C.Customer_id
WHERE S.Date = '2023-03-18' AND C.First_name = 'John' AND C.Last_name = 'Doe';
```

3. **Pull total number of customers that purchased in January 2023 and the average amount spend per customer**

```
SELECT COUNT(DISTINCT Customer_id) AS Total_Customers,
    AVG(Revenue) AS Avg_Spending_Per_Customer
FROM SALES
WHERE Date BETWEEN '2023-01-01' AND '2023-01-31';
```

4. **Pull the departments that generated less than $600 in 2022**

```
SELECT I.Department, SUM(S.Revenue) AS Total_Revenue
FROM SALES S
JOIN ITEMS I ON S.Item_id = I.Item_id
WHERE S.Date >= '2022-01-01' AND S.Date < '2023-01-01'
GROUP BY I.Department
HAVING SUM(S.Revenue) < 600;
```

5. **What is the most and least revenue we have generated by an order**

```
-- Most revenue
SELECT MAX(Revenue) AS Max_Revenue
FROM SALES;

-- Least revenue
SELECT MIN(Revenue) AS Min_Revenue
FROM SALES;
```

6. **What were the orders that were purchased in our most lucrative order**

```
SELECT Order_id, Revenue
FROM SALES
WHERE Revenue = (SELECT MAX(Revenue) FROM SALES);
```