DATA SCIENCE BOOTCAMP

Take-Home Problems

QUESTION

Use the following tables to work on the following prompts

TABLE INFO :

SALES – Date, Order_id, Item_id, Customer_id, Quantity, Revenue
ITEMS – Item_id, Item_name, price, department
CUSTOMERS- customer_id, first_name,last_name,Address

1.Pull total number of orders that were completed on 18th March 2023.
2.Pull total number of orders that were completed on 18th March 2023 with the first name 'John' and last name Doe'.
3.Pull total number of customers that purchased in January 2023 and the average amount spend per customer.
4.Pull the departments that generated less than $600 in 2022.
5.What is the most and least revenue we have generated by an order.
6.What were the orders that were purchased in our most lucrative order.

SOLUTION

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

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

2. Total number of orders by John Doe on 18th March 2023:

```
SELECT COUNT(*)
FROM SALES s
INNER JOIN CUSTOMERS c ON s.Customer_id = c.customer_id
WHERE 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.

```
WITH JanuaryOrders AS (
  SELECT Customer_id
```

```
  FROM SALES
  WHERE Date >= '2023-01-01' AND Date <= '2023-01-31'
)
SELECT COUNT(DISTINCT Customer_id), AVG(SUM(s.Quantity * i.price)) AS
avg_spend
FROM JanuaryOrders jo
INNER JOIN SALES s ON jo.Customer_id = s.Customer_id
INNER JOIN ITEMS i ON s.Item_id = i.Item_id;
```

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

```
SELECT DISTINCT d.department
FROM SALES s
INNER JOIN ITEMS i ON s.Item_id = i.Item_id
INNER JOIN DEPARTMENTS d ON i.department = d.department
WHERE YEAR(Date) = 2022
GROUP BY d.department
HAVING SUM(s.Quantity * i.price) < 600;
```

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

```
SELECT MAX(s.Quantity * i.price) AS most_revenue, MIN(s.Quantity * i.price) AS
least_revenue
FROM SALES s
INNER JOIN ITEMS i ON s.Item_id = i.Item_id;
```

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

```
WITH MostLucrative AS (
  SELECT Order_id, SUM(s.Quantity * i.price) AS revenue
  FROM SALES s
  INNER JOIN ITEMS i ON s.Item_id = i.Item_id
  GROUP BY Order_id
  ORDER BY revenue DESC
  LIMIT 1
)
SELECT *
FROM SALES s
INNER JOIN MostLucrative m ON s.Order_id = m.Order_id;
```