SQL ASSIGNMENT 3

Dataset: Sales Information

You have been given a dataset containing information about sales transactions. The dataset includes the following columns:

- order_id (integer): Unique identifier for each order.
- customer_id (integer): Unique identifier for each customer.
- product_id (integer): Unique identifier for each product.
- product_name (string): Name of the product.
- quantity (integer): The quantity of the product sold.
- unit_price (decimal): The unit price of the product.
- order_date (date): The date when the order was placed.

Table Structure:

Create a table named sales with the following structure:

```
CREATE OR REPLACE TABLE SALES
  (
      ORDER_ID INT PRIMARY KEY,
      CUSTOMER_ID INT,
      PRODUCT_ID INT,
      PRODUCT_NAME VARCHAR(50),
      QUANTITY INT,
      UNIT_PRICE DECIMAL(10, 2),
      ORDER_DATE DATE
  );
```

Insert Data:

Insert the following sample data into the sales table:

```
INSERT INTO SALES (ORDER_ID, CUSTOMER_ID, PRODUCT_ID, PRODUCT_NAME, QUANTITY, UNIT_PRICE, ORDER_DATE)
VALUES
    (1, 101, 1, 'Widget A', 5, 10.00, '2023-01-15'),
    (2, 102, 2, 'Widget B', 2, 12.50, '2023-01-16'),
    (3, 103, 1, 'Widget A', 3, 10.00, '2023-01-16'),
```

(4, 104, 3, 'Widget C', 1, 15.75, '2023-01-17'),

(5, 105, 2, 'Widget B', 4, 12.50, '2023-01-17'),

(6, 106, 1, 'Widget A', 2, 10.00, '2023-01-18'),

(7, 107, 4, 'Widget D', 3, 20.00, '2023-01-18'),

(8, 108, 2, 'Widget B', 5, 12.50, '2023-01-19'),

(9, 109, 1, 'Widget A', 1, 10.00, '2023-01-19'),

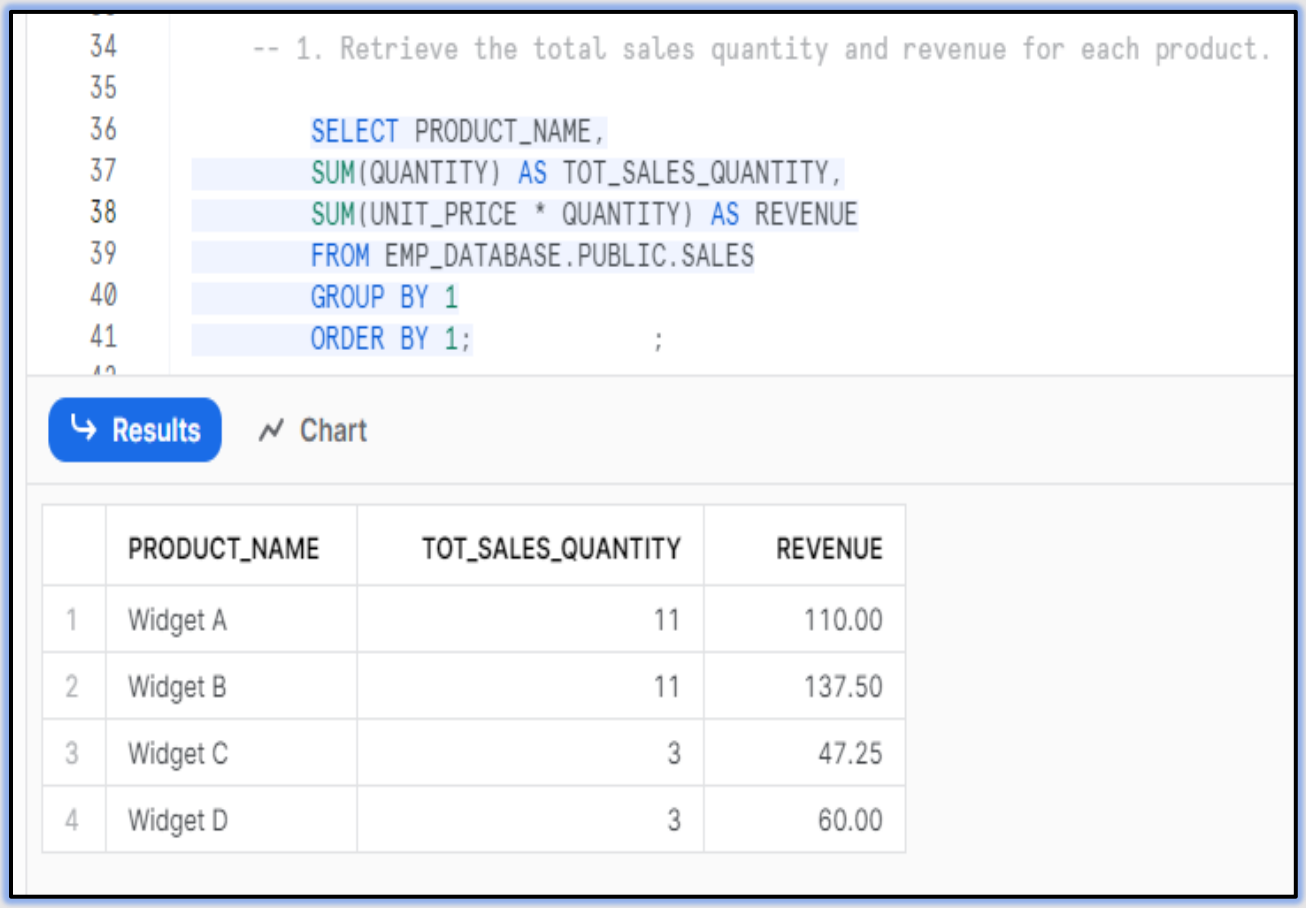
(10, 101, 3, 'Widget C', 2, 15.75, '2023-01-20');

Instructions:

Write SQL queries to answer the following questions using the sales table:

1. **Retrieve the total sales quantity and revenue for each product.**

```
SELECT PRODUCT_NAME,
SUM(QUANTITY) AS TOT_SALES_QUANTITY,
SUM(UNIT_PRICE * QUANTITY) AS REVENUE
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1
ORDER BY 1;
```



	PRODUCT_NAME	TOT_SALES_QUANTITY	REVENUE
1	Widget A	11	110.00
2	Widget B	11	137.50
3	Widget C	3	47.25
4	Widget D	3	60.00

2. **Find the total revenue for each customer.**

```
SELECT CUSTOMER_ID,
SUM(UNIT_PRICE * QUANTITY) AS REVENUE
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1
ORDER BY 1;
```

```
-- 2. Find the total revenue for each customer.

SELECT CUSTOMER_ID,
SUM(UNIT_PRICE * QUANTITY) AS REVENUE
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1
ORDER BY 1;
```

Results | Chart

	CUSTOMER_ID	REVENUE
1	101	81.50
2	102	25.00
3	103	30.00
4	104	15.75
5	105	50.00
6	106	20.00
7	107	60.00
8	108	62.50
9	109	10.00

3. **Get the products with more than 10 units sold in a single order.**

```
SELECT PRODUCT_NAME, ORDER_ID,
SUM(QUANTITY) AS SOLD_QTY
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1,2
HAVING SOLD_QTY > 10;
```

So there is none such a record.

```
-- 3. Get the products with more than 10 units sold in a single order.

SELECT PRODUCT_NAME, ORDER_ID,
SUM(QUANTITY) AS SOLD_QTY
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1,2
HAVING SOLD_QTY > 10;
```

Results | Chart

PRODUCT_NAME	ORDER_ID	SOLD_QTY
Query produced no results		

4. **List the customers who have placed orders on at least three different dates.**

```
SELECT CUSTOMER_ID, ORDER_ID,
COUNT(DISTINCT ORDER_DATE) AS TOT_DIFF_DATE_ORDERS
FROM EMP_DATABASE.PUBLIC.SALES
GROUP  BY 1,2
HAVING TOT_DIFF_DATE_ORDERS >= 3;
```

So there is none such a record.

```
-- 4. List the customers who have placed orders on at least three different dates.

    SELECT CUSTOMER_ID, ORDER_ID,
    COUNT(DISTINCT ORDER_DATE) AS TOT_DIFF_DATE_ORDERS
    FROM EMP_DATABASE.PUBLIC.SALES
    GROUP  BY 1,2
    HAVING TOT_DIFF_DATE_ORDERS >= 3;
```

Results | Chart

CUSTOMER_ID	ORDER_ID	TOT_DIFF_DATE_ORDERS

Query produced no results

5. **Calculate the average unit price of products.**

```
SELECT PRODUCT_NAME,
AVG(UNIT_PRICE) AS AVG_UNIT_PRICE
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1
ORDER BY 1;
```

```
-- 5. Calculate the average unit price of products.

    SELECT PRODUCT_NAME,
    AVG(UNIT_PRICE) AS AVG_UNIT_PRICE
    FROM EMP_DATABASE.PUBLIC.SALES
    GROUP BY 1
    ORDER BY 1;
```

Results | Chart

	PRODUCT_NAME	AVG_UNIT_PRICE
1	Widget A	10.00000000
2	Widget B	12.50000000
3	Widget C	15.75000000
4	Widget D	20.00000000

6. **Find the products with an average unit price greater than $12.00.**

```
SELECT PRODUCT_NAME,
AVG(UNIT_PRICE) AS AVG_UNIT_PRICE
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1
HAVING AVG_UNIT_PRICE > 12.00
ORDER BY 1;
```

```
-- 6. Find the products with an average unit price greater than $12.00.

    SELECT PRODUCT_NAME,
    AVG(UNIT_PRICE) AS AVG_UNIT_PRICE
    FROM EMP_DATABASE.PUBLIC.SALES
    GROUP BY 1
    HAVING AVG_UNIT_PRICE > 12.00
    ORDER BY 1;
```

Results | Chart

	PRODUCT_NAME	AVG_UNIT_PRICE
1	Widget B	12.50000000
2	Widget C	15.75000000
3	Widget D	20.00000000

7. **Retrieve the customers who have spent more than $100.00 in total.**

```
SELECT CUSTOMER_ID,
SUM(QUANTITY * UNIT_PRICE) AS TOT_MONEY_SPENT
FROM EMP_DATABASE.PUBLIC.SALES
GROUP BY 1
HAVING TOT_MONEY_SPENT > 100.00
ORDER BY 1;
```

So there is none such a record.

```
-- 7. Retrieve the customers who have spent more than $100.00 in total.

    SELECT CUSTOMER_ID,
    SUM(QUANTITY * UNIT_PRICE) AS TOT_MONEY_SPENT
    FROM EMP_DATABASE.PUBLIC.SALES
    GROUP BY 1
    HAVING TOT_MONEY_SPENT > 100.00
    ORDER BY 1;
```

Results | Chart

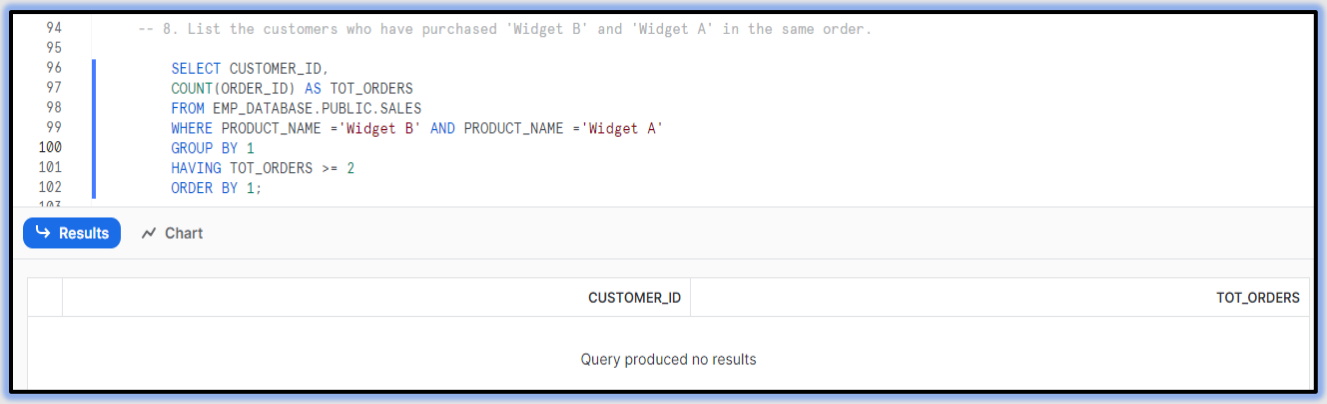
CUSTOMER_ID	TOT_MONEY_SPENT

Query produced no results

8. **List the customers who have purchased 'Widget B' and 'Widget A' in the same order.**

```
SELECT CUSTOMER_ID,
COUNT(ORDER_ID) AS TOT_ORDERS
FROM EMP_DATABASE.PUBLIC.SALES
WHERE PRODUCT_NAME ='Widget B' AND PRODUCT_NAME ='Widget A'
GROUP BY 1
HAVING TOT_ORDERS >= 2
ORDER BY 1;
```

So there is none such a record.



********** **THANK YOU** **********