Project Deadline 5
Team 80
Vidur goel
Online Retail Store

Triggers Used:

1. order_address_check_insert_trigger

```
delimiter //
CREATE TRIGGER order_address_check_insert_trigger BEFORE INSERT
ON dealer
      FOR EACH ROW
      BEGIN
         IF NEW.address_of_operations = '' THEN
            SET NEW.address_of_operations = 'Vidur Limited';
         END IF;
      END;//
delimiter ;
```

The above trigger is applied before insertion in the dealer relation table and what it does is that if the address_of_operation column belonging to this going to be inserted row is empty then it will set “Vidur Limited” as the address_of_operations as according to the assumption all those who have their address_of_operations in our main headquarters can leave this field empty and it will automatically set it’s value.

2. cart_prod_quantity_check_insert_trigger

```
delimiter //
CREATE TRIGGER cart_prod_quantity_check_insert_trigger
BEFORE INSERT ON cart_prod
FOR EACH ROW
BEGIN
   DECLARE product_qty INT;
   SELECT Quantity INTO product_qty FROM product WHERE
product.product_id = NEW.prod_id;
   IF NEW.quantity > product_qty THEN
      SIGNAL SQLSTATE '45000'
      SET MESSAGE_TEXT = 'Cannot add product to cart: Quantity requested
exceeds available stock';
   END IF;
```

END;//
delimiter ;

The above trigger is applied before insertion in the cart_prod joining table and what it does is that it will act as a constraint which will check whether the quantity of the product we are entering in the cart is present in the inventory stock or not and if not it will show an error.

OLAP Queries:

```
SELECT p.Brand_name, COUNT(cp.prod_id) as total_products_sold
FROM orders o
JOIN cart c ON o.customer_id = c.cart_id
JOIN cart_prod cp ON c.cart_id = cp.cart_id
JOIN product p ON cp.prod_id = p.product_id
WHERE YEAR(order_placed_date) = 2022
GROUP BY p.Brand_name WITH ROLLUP;
```

1. Above OLAP query gives us the data of number of products sold of each brand for a given year here in the above case in 2022 and we have group them by Brand name WITH ROLLLUP.

```
SELECT p.product_name, COUNT(o.order_id) as total_orders, SUM(o.total_cost) as
total_sales
FROM orders o
JOIN cart c ON o.customer_id = c.cart_id
JOIN cart_prod cp ON c.cart_id = cp.cart_id
JOIN product p ON cp.prod_id = p.product_id
WHERE MONTH(order_placed_date) = 2 AND YEAR(order_placed_date) = 2022
GROUP BY p.product_name WITH ROLLUP
ORDER BY total_orders DESC;
```

2. Above OLAP query gives us the data showing product wise order and sales count for a given specific month and year and that also in the descending order of the total sales WITH ROLLLUP

```
SELECT category_name, YEAR(order_placed_date) as year, MONTH(order_placed_date) as
month, SUM(o.total_cost) as total_sales
FROM orders o
JOIN cart c ON o.customer_id = c.cart_id
JOIN cart_prod cp ON c.cart_id = cp.cart_id
JOIN product p ON cp.prod_id = p.product_id
JOIN categ_prod cg ON p.product_id = cg.prod_id
JOIN category ct ON cg.categ_id = ct.category_id
GROUP BY category_name, YEAR(order_placed_date), MONTH(order_placed_date) WITH
ROLLUP
ORDER BY category_name, year, month;
```

3. Above OLAP query gives us the data showing total sales by product, category and month WITH ROLLUP.

```
SELECT c.customer_name, c.email_id, SUM(total_cost) as total_order_value
FROM orders o
JOIN customer c ON o.customer_id = c.customer_id
GROUP BY c.customer_name, c.email_id
ORDER BY total_order_value DESC
LIMIT 10;
```

4. Above OLAP query gives us the data showing top 10 customers by the total order value

Embedded Queries:

```
import mysql.connector
from mysql.connector import Error

try:
    connection = mysql.connector.connect(host='localhost',
                                         database='Online_Retail_Store',
                                         user='root',
                                         password='Vidurg@1102')
    cursor = connection.cursor()
    def start_query():

        print("There are currently given queries runnable in the system :")
        print("1. Displaying customer id,customer name,order id of the customers
who have placed order having total cost>= the given cost")
        print("2. Displaying delivery boy id,date at which order placed,order
status,delivery boy name,average rating of the delivery boy in all those orders in
which toal cost>= the given cost")
        print("3. Displaying number of products sold by each brand for a given
year.")
        print("4. Displaying product-wise order and sales count for a given month
and year.")
        print("5. Displaying total Sales by the product category and month.")
        print("6. Top given number of customers by total order value.")

        num=int(input("Now choose which query do you want to see: "))
        if(num==1):
            cost=input("Enter the cost:")
            mySql_sql_select_Query ="""
            SELECT c.customer_id, c.customer_name,o.order_id
            FROM Online_Retail_Store.customer as c
            LEFT JOIN Online_Retail_Store.orders as o ON c.customer_id =
o.customer_id
            WHERE o.total_cost>="""
```

```
            mySql_sql_select_Query=mySql_sql_select_Query+cost
            mySql_sql_select_Query=mySql_sql_select_Query+"""ORDER BY c.customer_id
"""



            cursor.execute(mySql_sql_select_Query)
            result = cursor.fetchall()

            print(f'Total number of tuples fetched for the above query:
{cursor.rowcount}')
            print()

            for row in result:
                print(f'customer_id: {row[0]}', end ="    ")
                print(f'customer_name: {row[1]}', end ="    ")
                print(f'order_id: {row[2]}')

            print()
            print("Query_1_activated_successfully")

        elif(num==2):
            cost=input("Enter the cost:")
            mySql_sql_select_Query ="""
            select
Online_Retail_Store.orders.delivery_boy_id,Online_Retail_Store.orders.order_placed_
date,Online_Retail_Store.orders.order_status,Online_Retail_Store.delivery_boy.deliv
ery_boy_name,Online_Retail_Store.delivery_boy.delivery_boy_average_rating
            from Online_Retail_Store.orders
            left join Online_Retail_Store.delivery_boy
            on Online_Retail_Store.orders.delivery_boy_id =
Online_Retail_Store.delivery_boy.delivery_boy_id
            where Online_Retail_Store.orders.total_cost>="""
            mySql_sql_select_Query=mySql_sql_select_Query+cost
            mySql_sql_select_Query=mySql_sql_select_Query+""" ORDER BY
Online_Retail_Store.delivery_boy.delivery_boy_id"""



            cursor.execute(mySql_sql_select_Query)
            result = cursor.fetchall()

            print(f'Total number of tuples fetched for the query:
{cursor.rowcount}')
            print()

            for row in result:
                print(f'->  ', end="  ")
                print(f'Delivery Boy Id: {row[0]}', end ="    ")
                print(f'Order placed Date: {row[1]}', end ="    ")
                print(f'Status of Order: {row[2]}', end ="    ")
                print(f'Delivery Boy Name: {row[3]}', end ="    ")
                print(f'Average rating: {row[4]}')
```

```
            print()
            print("Query_2_activated_successfully")

        elif(num==3):
            year=input("Enter the year:")
            mySql_sql_select_Query ="""
            SELECT p.Brand_name, COUNT(cp.prod_id) as total_products_sold
            FROM orders o
            JOIN cart c ON o.customer_id = c.cart_id
            JOIN cart_prod cp ON c.cart_id = cp.cart_id
            JOIN product p ON cp.prod_id = p.product_id
            WHERE YEAR(order_placed_date) = """
            mySql_sql_select_Query=mySql_sql_select_Query+year
            mySql_sql_select_Query=mySql_sql_select_Query+""" GROUP BY p.Brand_name
WITH ROLLUP"""

            cursor.execute(mySql_sql_select_Query)
            result = cursor.fetchall()

            print(f'Total number of tuples fetched for the query:
{cursor.rowcount}')
            print()

            for row in result:
                print(f'->  ', end="  ")
                print(f'Brand name: {row[0]}', end ="    ")
                print(f'Total Products sold: {row[1]}')

            print()
            print("Query_3_activated_successfully")

        elif(num==4):
            year=input("Enter the year:")
            month=input("Enter the month number:")
            mySql_sql_select_Query ="""
            SELECT p.product_name, COUNT(o.order_id) as total_orders,
SUM(o.total_cost) as total_sales
            FROM orders o
            JOIN cart c ON o.customer_id = c.cart_id
            JOIN cart_prod cp ON c.cart_id = cp.cart_id
            JOIN product p ON cp.prod_id = p.product_id
            WHERE MONTH(order_placed_date) = """
            mySql_sql_select_Query=mySql_sql_select_Query+month
            mySql_sql_select_Query=mySql_sql_select_Query+""" AND
YEAR(order_placed_date) = """
            mySql_sql_select_Query=mySql_sql_select_Query+year
            mySql_sql_select_Query=mySql_sql_select_Query+""" GROUP BY
p.product_name WITH ROLLUP
            ORDER BY total_orders DESC"""
```

```
            cursor.execute(mySql_sql_select_Query)
            result = cursor.fetchall()

            print(f'Total number of tuples fetched for the query:
{cursor.rowcount}')
            print()

            np=0
            for row in result:
                if(np==0):
                    print(f'->  ', end="  ")
                    print(f'Total orders in all total: {row[1]}', end ="    ")
                    print(f'Total sales of all orders: {row[2]}')
                    print()
                    np+=1
                else:
                    print(f'->  ', end="  ")
                    print(f'Product name: {row[0]}', end ="    ")
                    print(f'Total orders: {row[1]}',end="    ")
                    print(f'Total sales: {row[2]}')

            print()
            print("Query_4_activated_successfully")

        elif(num==5):
            mySql_sql_select_Query ="""
            SELECT category_name, YEAR(order_placed_date) as year,
MONTH(order_placed_date) as month, SUM(o.total_cost) as total_sales
            FROM orders o
            JOIN cart c ON o.customer_id = c.cart_id
            JOIN cart_prod cp ON c.cart_id = cp.cart_id
            JOIN product p ON cp.prod_id = p.product_id
            JOIN categ_prod cg ON p.product_id = cg.prod_id
            JOIN category ct ON cg.categ_id = ct.category_id
            GROUP BY category_name, YEAR(order_placed_date),
MONTH(order_placed_date) WITH ROLLUP
            ORDER BY category_name, year, month"""

            cursor.execute(mySql_sql_select_Query)
            result = cursor.fetchall()

            print(f'Total number of tuples fetched for the query:
{cursor.rowcount}')
            print()

            for row in result:
                print(f'->  ', end="  ")
                print(f'Category name: {row[0]}', end ="    ")
                print(f'Year: {row[1]}',end="    ")
                print(f'Month: {row[2]}',end="    ")
                print(f'Total sales: {row[3]}')
```

```
            print()
            print("Query_5_activated_successfully")

        elif(num==6):
            number=input("Enter the number: ")
            mySql_sql_select_Query ="""
            SELECT c.customer_name, c.email_id, SUM(total_cost) as
total_order_value
            FROM orders o
            JOIN customer c ON o.customer_id = c.customer_id
            GROUP BY c.customer_name, c.email_id
            ORDER BY total_order_value DESC
            LIMIT """
            mySql_sql_select_Query =mySql_sql_select_Query + number

            cursor.execute(mySql_sql_select_Query)
            result = cursor.fetchall()

            print(f'Total number of tuples fetched for the query:
{cursor.rowcount}')
            print()

            for row in result:
                print(f'->  ', end="  ")
                print(f'Customer name: {row[0]}', end ="    ")
                print(f'Email Id: {row[1]}',end="    ")
                print(f'Total Order Value: {row[2]}')

            print()
            print("Query_6_activated_successfully")
        start_query()
    start_query()

except mysql.connector.Error as error:
    print("Failed to read: {}".format(error))
finally:
    if connection.is_connected():
        cursor.close()
        connection.close()
        print("MySQL connection is closed")
```

Above is the implementation of the 6 embedded queries in python.

```
1. Displaying customer id,customer name,order id of the customers who have placed
order having total cost>= the given cost
2. Displaying delivery boy id,date at which order placed,order status,delivery boy
name,average rating of the delivery boy in all those orders in which toal cost>=
the given cost
3. Displaying number of products sold by each brand for a given year.
4. Displaying product-wise order and sales count for a given month and year.
```

```
5. Displaying total Sales by the product category and month.
6. Top given number of customers by total order value.
```