**TASK 3:**

**QUESTION 1: Write an SQL query to retrieve a list of all orders along with customer information (e.g., customer name) for each order.**

mysql> SELECT o.orderid, CONCAT(c.firstname, ' ', c.lastname) AS customername, c.email, c.phone

-> FROM orders o

-> JOIN customers c ON o.customerid = c.customerid;

+---------+-----------------+-------------------+------------+

| orderid | customername | email | phone |

+---------+-----------------+-------------------+------------+

| 1 | John Down | john@gmail.com | 1234567890 |

| 12 | John Down | john@gmail.com | 1234567890 |

| 2 | Persis Eloite | persis@gmail.com | 2345678901 |

| 11 | Bob Johnson | bob@yahoo.com | 3456789012 |

| 13 | Bob Johnson | bob@yahoo.com | 3456789012 |

| 4 | Ally Brown | nuana@gmail.com | 4567890123 |

| 5 | Charles David | charles@gmail.com | 5678901234 |

| 14 | Charles David | charles@gmail.com | 5678901234 |

| 7 | Daniel Wilson | daniel@gmail.com | 7890123456 |

| 15 | Daniel Wilson | daniel@gmail.com | 7890123456 |

| 8 | Sophia Mordecai | sophia@gmail.com | 8901234567 |

| 9 | Fanny Anderson | fanny@yahoo.com | 9012345678 |

| 10 | Olivia Harris | olivia@gmail.com | 0123456789 |

+---------+-----------------+-------------------+------------+

13 rows in set (0.00 sec)

**QUESTION 2: Write an SQL query to find the total revenue generated by each electronic gadget product. Include the product name and the total revenue.**

mysql> SELECT p.productname, SUM(od.quantity \* p.price) AS total\_revenue

-> FROM orderdetails od

-> JOIN products p ON od.productid = p.productid

-> GROUP BY p.productname

-> ORDER BY total\_revenue DESC;

+--------------+---------------+

| productname | total\_revenue |

+--------------+---------------+

| Smartphone | 2199.98 |

| Laptop | 1759.98 |

| Tablet | 1209.99 |

| Headphones | 659.98 |

| Monitor | 384.99 |

| Printer | 199.99 |

| Router | 197.99 |

| Keyboard | 179.98 |

| External SSD | 129.99 |

| Mouse | 49.99 |

+--------------+---------------+

10 rows in set (0.01 sec)

**QUESTION 3: Write an SQL query to list all customers who have made at least one purchase. Include their names and contact information.**

mysql> SELECT DISTINCT c.customerid, CONCAT(c.firstname, ' ', c.lastname) AS customername, c.email, c.phone

-> FROM customers c

-> JOIN orders o ON c.customerid = o.customerid;

+------------+-----------------+-------------------+------------+

| customerid | customername | email | phone |

+------------+-----------------+-------------------+------------+

| 1 | John Down | john@gmail.com | 1234567890 |

| 2 | Persis Eloite | persis@gmail.com | 2345678901 |

| 3 | Bob Johnson | bob@yahoo.com | 3456789012 |

| 4 | Ally Brown | nuana@gmail.com | 4567890123 |

| 5 | Charles David | charles@gmail.com | 5678901234 |

| 7 | Daniel Wilson | daniel@gmail.com | 7890123456 |

| 8 | Sophia Mordecai | sophia@gmail.com | 8901234567 |

| 9 | Fanny Anderson | fanny@yahoo.com | 9012345678 |

| 10 | Olivia Harris | olivia@gmail.com | 0123456789 |

+------------+-----------------+-------------------+------------+

9 rows in set (0.00 sec)

TO CHECK IF THESE ARE THE CUSTOMERS WHO ORDERED.

mysql> SELECT DISTINCT customerid FROM orders;

+------------+

| customerid |

+------------+

| 1 |

| 2 |

| 3 |

| 4 |

| 5 |

| 7 |

| 8 |

| 9 |

| 10 |

+------------+

9 rows in set (0.00 sec)

**QUESTION 4: Write an SQL query to find the most popular electronic gadget, which is the one with the highest total quantity ordered. Include the product name and the total quantity ordered.**

mysql> SELECT p.productname, SUM(od.quantity) AS total\_quantity\_ordered

-> FROM orderdetails od

-> JOIN products p ON od.productid = p.productid

-> GROUP BY p.productname

-> ORDER BY total\_quantity\_ordered DESC

-> LIMIT 1;

+-------------+------------------------+

| productname | total\_quantity\_ordered |

+-------------+------------------------+

| Laptop | 2 |

+-------------+------------------------+

1 row in set (0.00 sec)

**QUESTION 5: Write an SQL query to retrieve a list of electronic gadgets along with their corresponding categories.**

mysql> SELECT productid, productname, 'Electronic Gadgets' AS category

-> FROM products;

+-----------+--------------+--------------------+

| productid | productname | category |

+-----------+--------------+--------------------+

| 1 | Laptop | Electronic Gadgets |

| 2 | Smartphone | Electronic Gadgets |

| 3 | Tablet | Electronic Gadgets |

| 4 | Headphones | Electronic Gadgets |

| 5 | Keyboard | Electronic Gadgets |

| 6 | Mouse | Electronic Gadgets |

| 7 | Monitor | Electronic Gadgets |

| 8 | Printer | Electronic Gadgets |

| 9 | External SSD | Electronic Gadgets |

| 10 | Router | Electronic Gadgets |

| 11 | Smartwatch | Electronic Gadgets |

+-----------+--------------+--------------------+

11 rows in set (0.00 sec)

**QUESTION 6: Write an SQL query to calculate the average order value for each customer. Include the customer's name and their average order value.**

mysql> SELECT c.customerid, CONCAT(c.firstname, ' ', c.lastname) AS customername,

-> AVG(o.totalamount) AS avg\_order\_value

-> FROM customers c

-> JOIN orders o ON c.customerid = o.customerid

-> GROUP BY c.customerid, customername

-> ORDER BY avg\_order\_value DESC;

+------------+-----------------+-----------------+

| customerid | customername | avg\_order\_value |

+------------+-----------------+-----------------+

| 4 | Ally Brown | 1209.990000 |

| 2 | Persis Eloite | 1099.990000 |

| 1 | John Down | 944.985000 |

| 3 | Bob Johnson | 649.990000 |

| 10 | Olivia Harris | 384.990000 |

| 5 | Charles David | 329.990000 |

| 9 | Fanny Anderson | 197.990000 |

| 7 | Daniel Wilson | 89.990000 |

| 8 | Sophia Mordecai | 49.990000 |

+------------+-----------------+-----------------+

9 rows in set (0.01 sec)

**FOR VERIFICATION OF AVERAGE ORDER VALUE CALCULATIONS:**

mysql> SELECT c.customerid, CONCAT(c.firstname, ' ', c.lastname) AS customername,

-> o.totalamount

-> FROM customers c

-> JOIN orders o ON c.customerid = o.customerid

-> ORDER BY c.customerid;

+------------+-----------------+-------------+

| customerid | customername | totalamount |

+------------+-----------------+-------------+

| 1 | John Down | 1009.98 |

| 1 | John Down | 879.99 |

| 2 | Persis Eloite | 1099.99 |

| 3 | Bob Johnson | 199.99 |

| 3 | Bob Johnson | 1099.99 |

| 4 | Ally Brown | 1209.99 |

| 5 | Charles David | 329.99 |

| 5 | Charles David | 329.99 |

| 7 | Daniel Wilson | 89.99 |

| 7 | Daniel Wilson | 89.99 |

| 8 | Sophia Mordecai | 49.99 |

| 9 | Fanny Anderson | 197.99 |

| 10 | Olivia Harris | 384.99 |

+------------+-----------------+-------------+

13 rows in set (0.00 sec)

**QUESTION 7: Write an SQL query to find the order with the highest total revenue. Include the order ID, customer information, and the total revenue.**

mysql> SELECT o.orderid,

-> c.customerid,

-> CONCAT(c.firstname, ' ', c.lastname) AS customername,

-> o.totalamount AS total\_revenue

-> FROM orders o

-> JOIN customers c ON o.customerid = c.customerid

-> ORDER BY o.totalamount DESC

-> LIMIT 1;

+---------+------------+--------------+---------------+

| orderid | customerid | customername | total\_revenue |

+---------+------------+--------------+---------------+

| 4 | 4 | Ally Brown | 1209.99 |

+---------+------------+--------------+---------------+

1 row in set (0.01 sec)

**QUESTION 8: Write an SQL query to list electronic gadgets and the number of times each product has been ordered.**

mysql> SELECT c.customerid,

-> CONCAT(c.firstname, ' ', c.lastname) AS customername,

-> COUNT(o.orderid) AS total\_orders

-> FROM customers c

-> LEFT JOIN orders o ON c.customerid = o.customerid

-> GROUP BY c.customerid, customername

-> ORDER BY total\_orders DESC;

+------------+------------------+--------------+

| customerid | customername | total\_orders |

+------------+------------------+--------------+

| 1 | John Down | 2 |

| 3 | Bob Johnson | 2 |

| 5 | Charles David | 2 |

| 7 | Daniel Wilson | 2 |

| 2 | Persis Eloite | 1 |

| 4 | Ally Brown | 1 |

| 8 | Sophia Mordecai | 1 |

| 9 | Fanny Anderson | 1 |

| 10 | Olivia Harris | 1 |

| 6 | Evangelin Miller | 0 |

| 12 | Michael Scott | 0 |

+------------+------------------+--------------+

11 rows in set (0.00 sec)

**QUESTION 9: Write an SQL query to find customers who have purchased a specific electronic gadget product. Allow users to input the product name as a parameter.**

mysql> SELECT DISTINCT c.customerid, CONCAT(c.firstname, ' ', c.lastname) AS customername, c.email, c.phone

-> FROM customers c

-> JOIN orders o ON c.customerid = o.customerid

-> JOIN orderdetails od ON o.orderid = od.orderid

-> JOIN products p ON od.productid = p.productid

-> WHERE p.productname = 'tablet';

+------------+--------------+-----------------+------------+

| customerid | customername | email | phone |

+------------+--------------+-----------------+------------+

| 4 | Ally Brown | nuana@gmail.com | 4567890123 |

+------------+--------------+-----------------+------------+

1 row in set (0.01 sec)

**QUESTION 10: Write an SQL query to calculate the total revenue generated by all orders placed within a specific time period. Allow users to input the start and end dates as parameters.**

mysql> SELECT SUM(o.totalamount) AS total\_revenue

-> FROM orders o

-> WHERE o.orderdate BETWEEN '2024-01-01' AND '2024-12-31';

+---------------+

| total\_revenue |

+---------------+

| NULL |

+---------------+

1 row in set (0.00 sec)

mysql> SELECT SUM(o.totalamount) AS total\_revenue

-> FROM orders o

-> WHERE o.orderdate BETWEEN '2025-01-01' AND '2025-12-31';

+---------------+

| total\_revenue |

+---------------+

| 6972.86 |

+---------------+

1 row in set (0.00 sec)