Practical No.2

Aim: Implement DDL and DML queries with different clauses.

Theory: Retrieving Specific Data: Extracting specific columns (customer_no and name) from the customer table to list customer numbers and names.

Filtering and Retrieving Records: Using conditions to retrieve details of products, depots, and customers that meet specified criteria.

Text Pattern Matching: Exploring the use of pattern matching to find records with names or city names that match particular patterns.

Aggregation: Performing aggregate calculations, such as finding the total number of items in stock or ordered.

Sorting Data: Sorting product descriptions in reverse alphabetic order for effective data presentation.

Queries: 1. List the customer numbers (customer_no) and names (name) of all customers.

```
Database changed
MariaDB [Kishan]> SELECT CUSTOMER_NO, NAME
    -> FROM CUSTOMER;
+-------------+--------------+
| CUSTOMER_NO | NAME         |
+-------------+--------------+
|          10 | GARRY SMITH  |
|          20 | PATEL        |
|          30 | DRAKE        |
|          40 | BOB SMITH    |
|          50 | JAMES        |
|          60 | NORTON       |
|          70 | JOHN MICHAEL |
+-------------+--------------+
7 rows in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:2)List all details of the product with a product number (product_no) of 121 and 136.

```
MariaDB [Kishan]> SELECT */*EN No 202203103510497*/
    -> FROM PRODUCT
    -> WHERE PRODUCT_NO IN (121, 136);
+------------+-------------+---------+-------------+------------------+-----------------+
| PRODUCT_NO | DESCRIPTION | PRICE   | SUPPLIER_NO | MARKETING_REP_NO | SUPPLY_DEPOT_NO |
+------------+-------------+---------+-------------+------------------+-----------------+
|        121 | PLATE       | 1500.00 |        1004 |                3 |               1 |
|        136 | SIZE WIDGET | 1000.00 |        1001 |                1 |               5 |
+------------+-------------+---------+-------------+------------------+-----------------+
2 rows in set (0.001 sec)
```

Queries:3. List all details of depots with rep 5 as their rep(rep_no).

```
MariaDB [Kishan]> SELECT *
    -> FROM DEPOT
    -> WHERE REP_NO = 5;
+----------+----------+---------+--------+
| DEPOT_NO | LOCATION | ADDRESS | REP_NO |
+----------+----------+---------+--------+
|        5 | WALES    | UK      |      5 |
+----------+----------+---------+--------+
1 row in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:4. List the product number (product_no) and description only of all products from supplier number 1005 (supplier_no).

```
MariaDB [Kishan]> SELECT PRODUCT_NO, DESCRIPTION
    -> FROM PRODUCT
    -> WHERE SUPPLIER_NO = 1005;
+------------+----------------+
| PRODUCT_NO | DESCRIPTION    |
+------------+----------------+
|        120 | REDUCER        |
|        124 | WIDGET REMOVER |
+------------+----------------+
2 rows in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:5. List all details for all customers with names (name) starting from sm followed by 1 character followed by t followed by anything.)

```
MariaDB [Kishan]> SELECT *
    -> FROM CUSTOMER
    -> WHERE NAME LIKE 'sm_t%';
Empty set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:6. List all details for all orders with date_placed from 1-jan-2023 to 31-jan-12023).

```
MariaDB [Kishan]> SELECT *
    -> FROM CORDER
    -> WHERE DATE_PLACED BETWEEN '2023-01-01' AND '2023-01-31';
Empty set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:7. List the sales rep number (rep_no), depot number and address for depots located at NORTH and address is UK.

```
MariaDB [Kishan]> SELECT REP_NO, DEPOT_NO, ADDRESS
    -> FROM DEPOT
    -> WHERE LOCATION = 'NORTH' AND ADDRESS = 'UK';
+--------+----------+---------+
| REP_NO | DEPOT_NO | ADDRESS |
+--------+----------+---------+
|      1 |        1 | UK      |
+--------+----------+---------+
1 row in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:8. Give the total number of items (quantity) in stock in all depots.

```
MariaDB [Kishan]> SELECT SUM(QUANTITY) AS TotalItemsInStock
    -> FROM STOCK;
+-------------------+
| TotalItemsInStock |
+-------------------+
|               540 |
+-------------------+
1 row in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:9. Give the total number of items (order line quantity) which have been ordered with corder_no 200.

```
MariaDB [Kishan]> SELECT SUM(QUANTITY) AS TotalOrderedItems
    -> FROM ONLINE
    -> WHERE CORDER_NO = 200;
+-------------------+
| TotalOrderedItems |
+-------------------+
|                 5 |
+-------------------+
1 row in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:10. List product descriptions in reverse alphabetic order.

```
MariaDB [Kishan]> SELECT DESCRIPTION
    -> FROM PRODUCT
    -> ORDER BY DESCRIPTION DESC;
+----------------+
| DESCRIPTION    |
+----------------+
| WIDGET REMOVER |
| SIZE WIDGET    |
| SIZE WIDGET    |
| REDUCER        |
| PLATE          |
| HANDLE         |
+----------------+
6 rows in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:11. List the customer details with name ends with N.

```
MariaDB [Kishan]> SELECT *
    -> FROM CUSTOMER
    -> WHERE NAME LIKE '%N';
+-------------+--------+---------------+----------+--------------+
| CUSTOMER_NO | NAME   | ADDRESS       | DEPOT_NO | CREDIT_LIMIT |
+-------------+--------+---------------+----------+--------------+
|          60 | NORTON | SAN FRANCISCO |        5 |        17000 |
+-------------+--------+---------------+----------+--------------+
1 row in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:12. List the customers details with a CustomerName that have "r" in the second position:

```
MariaDB [Kishan]> SELECT *
    -> FROM CUSTOMER
    -> WHERE SUBSTRING(NAME, 2, 1) = 'r';
+-------------+-------+---------+----------+--------------+
| CUSTOMER_NO | NAME  | ADDRESS | DEPOT_NO | CREDIT_LIMIT |
+-------------+-------+---------+----------+--------------+
|          30 | DRAKE | BRIXTON |        4 |         7000 |
+-------------+-------+---------+----------+--------------+
1 row in set (0.001 sec)

MariaDB [Kishan]>  /*EN No 202203103510497*/
```

Queries:13. List the customers with a CustomerName that starts with "N" and are at least 4 characters in length.

```
MariaDB [Kishan]> SELECT *
    -> FROM CUSTOMER
    -> WHERE NAME LIKE 'N%' AND LENGTH(NAME) >= 4;
+-------------+--------+---------------+----------+--------------+
| CUSTOMER_NO | NAME   | ADDRESS       | DEPOT_NO | CREDIT_LIMIT |
+-------------+--------+---------------+----------+--------------+
|          60 | NORTON | SAN FRANCISCO |        5 |        17000 |
+-------------+--------+---------------+----------+--------------+
1 row in set (0.001 sec)

MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:14. Find all suppliers with a City containing the pattern “ny”

```
MariaDB [Kishan]> SELECT *
    -> FROM SUPPLIER
    -> WHERE CITY LIKE '%ny%';
ERROR 1054 (42S22): Unknown column 'CITY' in 'where clause'
MariaDB [Kishan]> /*EN No 202203103510497*/
```

Queries:15. selects all customers with a City starting with "L", followed by any character, followed by "n", followed by any character, followed by "n":

```
MariaDB [Kishan]> SELECT *
    -> FROM CUSTOMER
    -> WHERE CITY LIKE 'L_n_n%';
ERROR 1054 (42S22): Unknown column 'CITY' in 'where clause'
MariaDB [Kishan]>  /*EN No 202203103510497*/
```

CONCLUSION:

In this practical, we learned fundamental MySQL database operations including table creation, data insertion, and querying. We created tables such as "CUSTOMER," "PRODUCT," "CORDER," "ONLINE," "STOCK," "DEPOT," and "SALESREP" to represent various aspects of a business scenario. We successfully inserted data into these tables and executed a variety of SQL queries to retrieve specific information, including customer details, product data, order records, and more.