

TASK - 3

SQL for Data Analysis

Creating database and table

- Displaying data using select

```
mysql> use customer;
Database changed
mysql> show tables;
+-----+
| Tables_in_customer |
+-----+
| customer            |
| max_product         |
| max_sold_product_tb |
| top_product_sold    |
+-----+
4 rows in set (0.00 sec)

mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field      | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| CustomerID | int  | YES  |     | NULL    |       |
| CustomerName | text | YES  |     | NULL    |       |
| City        | text | YES  |     | NULL    |       |
| Product     | text | YES  |     | NULL    |       |
| Quantity    | int  | YES  |     | NULL    |       |
| Price       | int  | YES  |     | NULL    |       |
| TotalAmount | int  | YES  |     | NULL    |       |
| OrderDate   | text | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from customer limit 5;
+-----+-----+-----+-----+-----+-----+-----+-----+
| CustomerID | CustomerName | City      | Product | Quantity | Price | TotalAmount | OrderDate |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1          | Rati Thakkar | Mumbai   | Smartphone | 5        | 42949 | 214745      | 2024-12-10 |
| 2          | Miraan Dewan | Mumbai   | Camera     | 3        | 15247 | 45741       | 2024-06-15 |
| 3          | Elakshi Sampath | Bangalore | Headphones | 4        | 34454 | 137816      | 2025-01-23 |
| 4          | Vivaan Kara  | Hyderabad | Headphones | 4        | 21190 | 84760       | 2024-07-13 |
| 5          | Anahita Bhavsar | Mumbai   | Headphones | 3        | 64732 | 194196      | 2024-09-09 |
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

- Using ALTER to add primary key

```
mysql> alter table customer add constraint primary key(CustomerID);
Query OK, 0 rows affected (0.12 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field      | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| CustomerID | int  | NO   | PRI | NULL    |       |
| CustomerName | text | YES  |     | NULL    |       |
| City        | text | YES  |     | NULL    |       |
| Product     | text | YES  |     | NULL    |       |
| Quantity    | int  | YES  |     | NULL    |       |
| Price       | int  | YES  |     | NULL    |       |
| TotalAmount | int  | YES  |     | NULL    |       |
| OrderDate   | text | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

- Displaying the customer whose quantity is > and = to 5 using select and where

```
mysql> select * from customer where Quantity > 5;
Empty set (0.00 sec)

mysql> select * from customer where Quantity >= 5;
+-----+-----+-----+-----+-----+-----+-----+-----+
| CustomerID | CustomerName | City | Product | Quantity | Price | TotalAmount | OrderDate |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Rati Thakkar | Mumbai | Smartphone | 5 | 42949 | 214745 | 2024-12-10 |
| 8 | Gatik Kalla | Ahmedabad | Headphones | 5 | 41566 | 207830 | 2024-10-22 |
| 11 | Anay Char | Ahmedabad | Smartwatch | 5 | 23557 | 117785 | 2025-01-05 |
| 24 | Mamooty Gera | Pune | Headphones | 5 | 45310 | 226550 | 2024-06-27 |
| 26 | Jiya Jayaraman | Kolkata | Smartwatch | 5 | 34294 | 171470 | 2024-06-27 |
| 32 | Samaira Kale | Kolkata | Laptop | 5 | 54798 | 273990 | 2025-01-09 |
| 33 | Anaya Buch | Ahmedabad | Headphones | 5 | 37453 | 187265 | 2025-03-25 |
| 41 | Miraya Talwar | Chennai | Camera | 5 | 47430 | 237150 | 2025-02-18 |
| 43 | Veer Seth | Ahmedabad | Laptop | 5 | 14832 | 74160 | 2024-09-16 |
| 44 | Aradhya Deep | Hyderabad | Laptop | 5 | 17739 | 88695 | 2025-03-29 |
| 45 | Jayan Subramanian | Bangalore | Smartwatch | 5 | 9249 | 46245 | 2024-04-28 |
| 47 | Rania Varughese | Kolkata | Smartphone | 5 | 55970 | 279850 | 2024-10-19 |
| 48 | Gokul Bhandari | Pune | Headphones | 5 | 36513 | 182565 | 2024-11-18 |
| 49 | Darshit Yadav | Kolkata | Smartwatch | 5 | 23473 | 117365 | 2024-10-27 |
| 51 | Zara Rama | Bangalore | Smartphone | 5 | 39185 | 195925 | 2024-09-19 |
| 53 | Divij Lata | Chennai | Camera | 5 | 40780 | 203900 | 2025-03-27 |
| 54 | Nakul Dey | Pune | Headphones | 5 | 51459 | 257295 | 2024-11-28 |
| 56 | Pihu Vora | Chennai | Tablet | 5 | 27362 | 136810 | 2025-01-05 |
| 58 | Manjari Wagle | Kolkata | Laptop | 5 | 63761 | 318805 | 2024-09-11 |
| 66 | Mohanlal Borde | Chennai | Laptop | 5 | 69023 | 345115 | 2025-03-05 |
| 67 | Mohanlal Warrior | Bangalore | Tablet | 5 | 50855 | 254275 | 2024-10-31 |
| 70 | Dhanuk Arya | Bangalore | Tablet | 5 | 44827 | 224135 | 2024-11-29 |
| 76 | Jhanvi Goyal | Ahmedabad | Tablet | 5 | 60283 | 301415 | 2024-12-02 |
| 79 | Aaryahi Kaul | Chennai | Smartwatch | 5 | 28791 | 143955 | 2024-11-25 |
| 81 | Divit Ravi | Hyderabad | Smartwatch | 5 | 5765 | 28825 | 2025-02-18 |
| 90 | Priyansh Khare | Bangalore | Smartwatch | 5 | 62768 | 313840 | 2025-02-21 |
| 99 | Amira Suri | Bangalore | Laptop | 5 | 31706 | 158530 | 2025-01-13 |
+-----+-----+-----+-----+-----+-----+-----+-----+
27 rows in set (0.00 sec)

mysql> select count(*) from customer where city = 'Bangalore';
```

- Using count()

```
mysql> select city ,count(*) as Total_Customer from customer group by city order by Total_Customer;
+-----+-----+
| city      | Total_Customer |
+-----+-----+
| Hyderabad | 8              |
| Delhi     | 9              |
| Ahmedabad | 11             |
| Pune      | 12             |
| Kolkata   | 13             |
| Bangalore | 14             |
| Chennai   | 15             |
| Mumbai    | 18             |
+-----+-----+
8 rows in set (0.00 sec)
```

- Description of product details table using desc

```
mysql> desc product_details;
+-----+-----+-----+-----+-----+-----+
| Field          | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Category       | text | YES  |     | NULL    |       |
| Brand          | text | YES  |     | NULL    |       |
| WarrantyPeriod | text | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from product_details limit 5;
+-----+-----+-----+
| Category | Brand | WarrantyPeriod |
+-----+-----+-----+
| Electronics | Realme | 1 Year |
| Electronics | Canon | 2 Years |
| Accessories | JBL | 1 Year |
| Accessories | JBL | 1 Year |
| Accessories | JBL | 1 Year |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

- Using joins

```
mysql> select c.customerid, c.customername, c.product , c.quantity, c.totalamount , p.category ,p.brand from customer c join product_details p on c.product = p.product order by c.totalamount desc limit 5;
+-----+-----+-----+-----+-----+-----+
| customerid | customername | product | quantity | totalamount | category | brand |
+-----+-----+-----+-----+-----+-----+
| 66         | Mohanlal Borde | Laptop | 5         | 345115      | Electronics | HP |
| 66         | Mohanlal Borde | Laptop | 5         | 345115      | Electronics | HP |
| 66         | Mohanlal Borde | Laptop | 5         | 345115      | Electronics | HP |
| 66         | Mohanlal Borde | Laptop | 5         | 345115      | Electronics | HP |
| 66         | Mohanlal Borde | Laptop | 5         | 345115      | Electronics | HP |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)
```

- Using inner join

```
mysql> select * from customer c inner join product_details p on c.product=p.product limit 5;
```

CustomerID	CustomerName	City	Product	Quantity	Price	TotalAmount	OrderDate	Category	Brand	WarrantyPeriod	Product
95	Pranay Swaminathan	Kolkata	Smartphone	2	36035	72070	2025-03-18	Electronics	Realme	1 Year	Smartphone
93	Manikya Varma	Mumbai	Smartphone	4	19616	78464	2024-09-04	Electronics	Realme	1 Year	Smartphone
89	Azad Gade	Delhi	Smartphone	4	40330	161320	2024-07-19	Electronics	Realme	1 Year	Smartphone
88	Vaibhav Borah	Bangalore	Smartphone	2	39517	79034	2025-03-23	Electronics	Realme	1 Year	Smartphone
86	Hridaan Issac	Delhi	Smartphone	1	58422	58422	2024-06-09	Electronics	Realme	1 Year	Smartphone

5 rows in set (0.00 sec)

- Using left join

```
mysql> select c.customername , p.product, c.product, c.quantity from customer c left join product_details p on c.product=p.product limit 5;
```

customername	product	product	quantity
Rati Thakkar	Smartphone	Smartphone	5
Rati Thakkar	Smartphone	Smartphone	5
Rati Thakkar	Smartphone	Smartphone	5
Rati Thakkar	Smartphone	Smartphone	5
Rati Thakkar	Smartphone	Smartphone	5

5 rows in set (0.00 sec)

- Using max() and min()

```
mysql> select max(totalamount) as Maximum_Amount , min(totalamount) as Minimum_Amount from customer limit 5;
```

Maximum_Amount	Minimum_Amount
345115	9801

1 row in set (0.00 sec)

- Using avg()

```
mysql> select avg(totalamount) as ToatalAmount from customer limit 5;
```

ToatalAmount
115017.1800

1 row in set (0.00 sec)

- Using view

```
mysql> CREATE VIEW Customer_Analysis AS select c.customerid, c.customername, c.product , c.quantity, c.totalamount , p.category , p.brand from customer c join product_details p on c.product = p.product order by c.totalamount desc limit 5;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> show tables;
```

Tables_in_customer
customer
customer_analysis
max_product
max_sold_product_tb
product_details
top_product_sold

6 rows in set (0.00 sec)

```
mysql> select * from customer_analysis;
```

customerid	customername	product	quantity	totalamount	category	brand
66	Mohanlal Borde	Laptop	5	345115	Electronics	HP
66	Mohanlal Borde	Laptop	5	345115	Electronics	HP
66	Mohanlal Borde	Laptop	5	345115	Electronics	HP
66	Mohanlal Borde	Laptop	5	345115	Electronics	HP
66	Mohanlal Borde	Laptop	5	345115	Electronics	HP

5 rows in set (0.01 sec)

```
mysql> select customername , totalamount from customer order by totalamount desc limit 5;
```

customername	totalamount
Mohanlal Borde	345115
Manjari Wagle	318805
Priyansh Khare	313840
Jhanvi Goyal	301415
Rania Varughese	279850

```
5 rows in set (0.00 sec)
```

```
mysql> create view Top_Revenue as select customername , totalamount from customer order by totalamount desc limit 10;  
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> select * from Top_Revenue;
```

customername	totalamount
Mohanlal Borde	345115
Manjari Wagle	318805
Priyansh Khare	313840
Jhanvi Goyal	301415
Rania Varughese	279850
Samaira Kale	273990
Jayan Goel	266948
Nakul Dey	257295
Mohanlal Warrior	254275
Miraya Talwar	237150

```
10 rows in set (0.00 sec)
```

```
mysql> select * from max_sold_product_tb;
```

month	product	amount
1	Laptop	432520
2	Smartwatch	342665
3	Laptop	583446
4	Camera	158106
5	Camera	172024
6	Smartwatch	504192
7	Smartphone	161320
8	Laptop	219695
9	Smartphone	507843
10	Smartphone	445447
11	Headphones	541420
12	Tablet	301415

```
12 rows in set (0.02 sec)
```