1) Select * from customers;

orderid	customer_name	product	category	quantity	Price	order_date	city
1	Jhanvi	Laptop	Electronics	1	50000.00	2023-01-01	Delhi
2	Rohan	Mobile	Electronics	2	15000.00	2023-01-02	Mumbai
3	Ram	Tablet	Electronics	1	20000.00	2023-01-03	Pune
4	Kunal	Headphone	Electronics	3	3000.00	2023-01-04	Chennai
5	Priya	Mouse	Accessorie	2	800.00	2023-01-05	Kolkata
6	Aman	Keyboard	Accessorie	1	1200.00	2023-01-06	Delhi
7	Neha	Monitor	Electronics	2	10000.00	2023-01-07	Mumbai
8	Vikas	Printer	Electronics	1	8000.00	2023-01-08	Pune
9	Isha	Camera	Electronics	4	25000.00	2023-01-09	Chennai
10	Raj	Smartwatch	Electronics	1	7000.00	2023-01-10	Kolkata
11	Simran	Laptop	Electronics	2	52000.00	2023-01-11	Delhi
12	Arjun	Mobile	Electronics	1	14000.00	2023-01-12	Mumbai
13	Meera	Tablet	Electronics	3	21000.00	2023-01-13	Pune
14	Kabir	Headphone	Electronics	3	3200.00	2023-01-14	Chennai
15	Tina	Mouse	Accessorie	1	900.00	2023-01-15	Kolkata
16	Sahil	Keyboard	Accessorie	2	1100.00	2023-01-01	Delhi
17	Pooja	Monitor	Electronics	1	10500.00	2023-01-01	Mumbai
18	Manish	Printer	Electronics	4	8200.00	2023-01-18	Pune
19	Naina	Camera	Electronics	1	26000.00	2023-01-19	Chennai
20	Dev	Smartwatch	Electronics	3	7500.00	2023-01-20	Kolkata

2) select orderid,customer_name,product,Price

from customers;

orderid	customer_name	product	Price
1	Jhanvi	Laptop	50000.00
2	Rohan	Mobile	15000.00
3	Ram	Tablet	20000.00
4	Kunal	Headphone	3000.00
5	Priya	Mouse	800.00
6	Aman	Keyboard	1200.00
7	Neha	Monitor	10000.00
8	Vikas	Printer	8000.00
9	Isha	Camera	25000.00
10	Raj	Smartwatch	7000.00
11	Simran	Laptop	52000.00
12	Arjun	Mobile	14000.00
13	Meera	Tablet	21000.00
14	Kabir	Headphone	3200.00
15	Tina	Mouse	900.00
16	Sahil	Keyboard	1100.00
17	Pooja	Monitor	10500.00
18	Manish	Printer	8200.00
19	Naina	Camera	26000.00
20	Dev	Smartwatch	7500.00

20 rows in set (0.00 sec)

3) select orderid,customer_name,product,Price

from customers

WHERE Price>20000;

orderid	customer_name	product	Price
1	Jhanvi	Laptop	50000.00
9	Isha	Camera	25000.00
11	Simran	Laptop	52000.00
13	Meera	Tablet	21000.00
19	Naina	Camera	26000.00

5 rows in set (0.00 sec)

4) select orderid,customer_name,product,quantity,city

from customers

WHERE quantity>=2;

orderid	customer_name	product	quantity	city
2	Rohan	Mobile	2	Mumbai
4	Kunal	Headphone	3	Chennai
5	Priya	Mouse	2	Kolkata
7	Neha	Monitor	2	Mumbai
9	Isha	Camera	4	Chennai
11	Simran	Laptop	2	Delhi
13	Meera	Tablet	3	Pune
14	Kabir	Headphone	3	Chennai
16	Sahil	Keyboard	2	Delhi
18	Manish	Printer	4	Pune
20	Dev	Smartwatch	3	Kolkata

11 rows in set (0.00 sec)

5) select orderid,customer_name,product,quantity,city

from customers

WHERE quantity>2 ORDER BY quantity ;

```
+---------+---------------+------------+----------+---------+
| orderid | customer_name | product    | quantity | city    |
+---------+---------------+------------+----------+---------+
|       4 | Kunal         | Headphone  |        3 | Chennai |
|      13 | Meera         | Tablet     |        3 | Pune    |
|      14 | Kabir         | Headphone  |        3 | Chennai |
|      20 | Dev           | Smartwatch |        3 | Kolkata |
|       9 | Isha          | Camera     |        4 | Chennai |
|      18 | Manish        | Printer    |        4 | Pune    |
+---------+---------------+------------+----------+---------+
6 rows in set (0.00 sec)
```

6) select customer_name,SUM(Price)

from customers

GROUP BY customer_name;

```
+---------------+------------+
| customer_name | SUM(Price) |
+---------------+------------+
| Jhanvi        |   50000.00 |
| Rohan         |   15000.00 |
| Ram           |   20000.00 |
| Kunal         |    3000.00 |
| Priya         |     800.00 |
| Aman          |    1200.00 |
| Neha          |   10000.00 |
| Vikas         |    8000.00 |
| Isha          |   25000.00 |
| Raj           |    7000.00 |
| Simran        |   52000.00 |
| Arjun         |   14000.00 |
| Meera         |   21000.00 |
| Kabir         |    3200.00 |
| Tina          |     900.00 |
| Sahil         |    1100.00 |
| Pooja         |   10500.00 |
| Manish        |    8200.00 |
| Naina         |   26000.00 |
| Dev           |    7500.00 |
+---------------+------------+
20 rows in set (0.01 sec)
```

7) SELECT orders.order_id, customer.customer_name, customer.City, orders.Product, orders.Price

FROM orders

INNER JOIN customer

ON orders.customer_id = customer.customer_id;

```
+----------+---------------+---------+------------+----------+
| order_id | customer_name | City    | Product    | Price    |
+----------+---------------+---------+------------+----------+
|        1 | Jhanvi        | Delhi   | Laptop     | 50000.00 |
|        2 | Rohan         | Mumbai  | Mobile     | 15000.00 |
|        3 | Ram           | Pune    | Tablet     | 20000.00 |
|        4 | Kunal         | Chennai | Headphone  |  3000.00 |
|        5 | Priya         | Kolkata | Mouse      |   800.00 |
|        6 | Aman          | Delhi   | Keyboard   |  1200.00 |
|        7 | Neha          | Mumbai  | Monitor    | 10000.00 |
|        8 | Vikas         | Pune    | Printer    |  8000.00 |
|        9 | Isha          | Chennai | Camera     | 25000.00 |
|       10 | Raj           | kolkata | Smartwatch |  7000.00 |
|       11 | Simran        | Delhi   | Laptop     | 52000.00 |
|       12 | Arjun         | Mumbai  | Mobile     | 14000.00 |
|       13 | Meera         | Pune    | Tablet     | 21000.00 |
|       14 | Kabir         | Chennai | Headphone  |  3200.00 |
|       15 | Tina          | Kolkata | Mouse      |   900.00 |
|       16 | Sahil         | Delhi   | Keyboard   |  1100.00 |
|       17 | Pooja         | Mumbai  | Monitor    | 10500.00 |
|       18 | Manish        | Pune    | Printer    |  8200.00 |
|       19 | Naina         | Chennai | Camera     | 26000.00 |
|       20 | Dev           | Kolkata | Smartwatch |  7500.00 |
+----------+---------------+---------+------------+----------+
20 rows in set (0.00 sec)
```

8) SELECT orders.order_id, customer.customer_name, customer.City, orders.Product, orders.Price

FROM orders

LEFT JOIN customer

ON orders.customer_id = customer.customer_id;

```
+----------+---------------+---------+------------+----------+
| order_id | customer_name | City    | Product    | Price    |
+----------+---------------+---------+------------+----------+
|        1 | Jhanvi        | Delhi   | Laptop     | 50000.00 |
|        2 | Rohan         | Mumbai  | Mobile     | 15000.00 |
|        3 | Ram           | Pune    | Tablet     | 20000.00 |
|        4 | Kunal         | Chennai | Headphone  |  3000.00 |
|        5 | Priya         | Kolkata | Mouse      |   800.00 |
|        6 | Aman          | Delhi   | Keyboard   |  1200.00 |
|        7 | Neha          | Mumbai  | Monitor    | 10000.00 |
|        8 | Vikas         | Pune    | Printer    |  8000.00 |
|        9 | Isha          | Chennai | Camera     | 25000.00 |
|       10 | Raj           | kolkata | Smartwatch |  7000.00 |
|       11 | Simran        | Delhi   | Laptop     | 52000.00 |
|       12 | Arjun         | Mumbai  | Mobile     | 14000.00 |
|       13 | Meera         | Pune    | Tablet     | 21000.00 |
|       14 | Kabir         | Chennai | Headphone  |  3200.00 |
|       15 | Tina          | Kolkata | Mouse      |   900.00 |
|       16 | Sahil         | Delhi   | Keyboard   |  1100.00 |
|       17 | Pooja         | Mumbai  | Monitor    | 10500.00 |
|       18 | Manish        | Pune    | Printer    |  8200.00 |
|       19 | Naina         | Chennai | Camera     | 26000.00 |
|       20 | Dev           | Kolkata | Smartwatch |  7500.00 |
+----------+---------------+---------+------------+----------+
20 rows in set (0.00 sec)
```

9) SELECT orders.order_id, customer.customer_name, customer.City, orders.Product, orders.Price

FROM customer

RIGHT JOIN orders

ON orders.customer_id = customer.customer_id;

```
+----------+---------------+---------+------------+-----------+
| order_id | customer_name | City    | Product    | Price     |
+----------+---------------+---------+------------+-----------+
|        1 | Jhanvi        | Delhi   | Laptop     | 50000.00  |
|        2 | Rohan         | Mumbai  | Mobile     | 15000.00  |
|        3 | Ram           | Pune    | Tablet     | 20000.00  |
|        4 | Kunal         | Chennai | Headphone  |  3000.00  |
|        5 | Priya         | Kolkata | Mouse      |   800.00  |
|        6 | Aman          | Delhi   | Keyboard   |  1200.00  |
|        7 | Neha          | Mumbai  | Monitor    | 10000.00  |
|        8 | Vikas         | Pune    | Printer    |  8000.00  |
|        9 | Isha          | Chennai | Camera     | 25000.00  |
|       10 | Raj           | kolkata | Smartwatch |  7000.00  |
|       11 | Simran        | Delhi   | Laptop     | 52000.00  |
|       12 | Arjun         | Mumbai  | Mobile     | 14000.00  |
|       13 | Meera         | Pune    | Tablet     | 21000.00  |
|       14 | Kabir         | Chennai | Headphone  |  3200.00  |
|       15 | Tina          | Kolkata | Mouse      |   900.00  |
|       16 | Sahil         | Delhi   | Keyboard   |  1100.00  |
|       17 | Pooja         | Mumbai  | Monitor    | 10500.00  |
|       18 | Manish        | Pune    | Printer    |  8200.00  |
|       19 | Naina         | Chennai | Camera     | 26000.00  |
|       20 | Dev           | Kolkata | Smartwatch |  7500.00  |
+----------+---------------+---------+------------+-----------+
20 rows in set (0.00 sec)
```

10) SELECT customer_id, product, price

    FROM orders

    WHERE price > (SELECT AVG(price) FROM orders);

```
+-------------+----------+------------+
| customer_id | product  | price      |
+-------------+----------+------------+
|           1 | Laptop   | 50000.00   |
|           2 | Mobile   | 15000.00   |
|           3 | Tablet   | 20000.00   |
|           9 | Camera   | 25000.00   |
|          11 | Laptop   | 52000.00   |
|          13 | Tablet   | 21000.00   |
|          19 | Camera   | 26000.00   |
+-------------+----------+------------+
7 rows in set (0.01 sec)
```

11) SELECT customer_id, AVG(price) AS avg_spent

    FROM orders

    GROUP BY customer_id

    HAVING AVG(price) > (

    SELECT AVG(price) FROM orders);

```
+-------------+----------------+
| customer_id | avg_spent      |
+-------------+----------------+
|           1 | 50000.000000   |
|           2 | 15000.000000   |
|           3 | 20000.000000   |
|           9 | 25000.000000   |
|          11 | 52000.000000   |
|          13 | 21000.000000   |
|          19 | 26000.000000   |
+-------------+----------------+
7 rows in set (0.01 sec)
```

12) CREATE VIEW customer_total_spent AS

  -> SELECT

   ->   customer.customer_id,

   ->   customer.customer_name,

   ->   SUM(orders.Price * orders.quantity) AS total_spent

  -> FROM customer

  -> JOIN orders ON customer.customer_id = orders.customer_id

  -> GROUP BY customer.customer_id, customer.customer_name;

SELECT * FROM customer_total_spent;

```
+-------------+---------------+------------+
| customer_id | customer_name | total_spent |
+-------------+---------------+------------+
|           1 | Jhanvi        |    50000.00 |
|           2 | Rohan         |    30000.00 |
|           3 | Ram           |    20000.00 |
|           4 | Kunal         |     9000.00 |
|           5 | Priya         |     1600.00 |
|           6 | Aman          |     1200.00 |
|           7 | Neha          |    20000.00 |
|           8 | Vikas         |     8000.00 |
|           9 | Isha          |   100000.00 |
|          10 | Raj           |     7000.00 |
|          11 | Simran        |   104000.00 |
|          12 | Arjun         |    14000.00 |
|          13 | Meera         |    63000.00 |
|          14 | Kabir         |     6400.00 |
|          15 | Tina          |      900.00 |
|          16 | Sahil         |     2200.00 |
|          17 | Pooja         |    10500.00 |
|          18 | Manish        |    32800.00 |
|          19 | Naina         |    26000.00 |
|          20 | Dev           |    22500.00 |
+-------------+---------------+------------+
20 rows in set (0.00 sec)
```

13)

```
mysql> -- Customer table pe index
mysql> CREATE INDEX idx_customer_id ON customer(customer_id);
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> CREATE INDEX idx_customer_name ON customer(customer_name);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>
mysql> -- Orders table pe index
mysql> CREATE INDEX idx_orders_customer_id ON orders(customer_id);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> CREATE INDEX idx_orders_order_date ON orders(order_date);
Query OK, 0 rows affected (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> CREATE INDEX idx_orders_category ON orders(category);
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0
```