

| product_id | product_name       | category    | price | rating | stock | brand      | sold_quantity |
|------------|--------------------|-------------|-------|--------|-------|------------|---------------|
| 1          | Echo Dot           | Electronics | 3499  | 4.6    | 120   | Amazon     | 500           |
| 2          | Kindle Paperwhite  | Electronics | 9999  | 4.8    | 80    | Amazon     | 300           |
| 3          | Fire TV Stick      | Electronics | 3999  | 4.5    | 50    | Amazon     | 450           |
| 4          | Instant Pot Duo    | Kitchen     | 7999  | 4.7    | 30    | InstantPot | 200           |
| 5          | Air Fryer          | Kitchen     | 5999  | 4.6    | 40    | Philips    | 150           |
| 6          | Samsung Galaxy S23 | Mobiles     | 69999 | 4.8    | 25    | Samsung    | 100           |
| 7          | OnePlus 11         | Mobiles     | 49999 | 4.7    | 20    | OnePlus    | 90            |
| 8          | Bose Headphones    | Electronics | 19999 | 4.5    | 15    | Bose       | 80            |
| 9          | Logitech Mouse     | Electronics | 1299  | 4.4    | 200   | Logitech   | 600           |
| 10         | Amazon Basics Bag  | Accessories | 999   | 4.3    | 300   | Amazon     | 400           |

```

CREATE TABLE products (
    product_id INT PRIMARY KEY,
    product_name VARCHAR(50),
    category VARCHAR(30),
    price INT,
    rating DECIMAL(2,1),
    stock INT,
    brand VARCHAR(30),
    sold_quantity INT
);

```

```

INSERT INTO products (product_id, product_name, category, price, rating, stock, brand, sold_quantity)
VALUES
(1, 'Echo Dot', 'Electronics', 3499, 4.6, 120, 'Amazon', 500),
(2, 'Kindle Paperwhite', 'Electronics', 9999, 4.8, 80, 'Amazon', 300),
(3, 'Fire TV Stick', 'Electronics', 3999, 4.5, 50, 'Amazon', 450),

```

(4, 'Instant Pot Duo', 'Kitchen', 7999, 4.7, 30, 'InstantPot', 200),  
 (5, 'Air Fryer', 'Kitchen', 5999, 4.6, 40, 'Philips', 150),  
 (6, 'Samsung Galaxy S23', 'Mobiles', 69999, 4.8, 25, 'Samsung', 100),  
 (7, 'OnePlus 11', 'Mobiles', 49999, 4.7, 20, 'OnePlus', 90),  
 (8, 'Bose Headphones', 'Electronics', 19999, 4.5, 15, 'Bose', 80),  
 (9, 'Logitech Mouse', 'Electronics', 1299, 4.4, 200, 'Logitech', 600),  
 (10, 'Amazon Basics Bag', 'Accessories', 999, 4.3, 300, 'Amazon', 400);

#### Questions on GROUP BY

- Find the total sold\_quantity of products for each category.

```

SELECT category,
SUM(sold_quantity) AS total_sold_quantity
FROM
products
GROUP BY category;
  
```

|   | category    | total_sold_quantity |
|---|-------------|---------------------|
|   | Mobiles     | 190                 |
| ▶ | Kitchen     | 350                 |
|   | Electronics | 1930                |
|   | Accessories | 400                 |

- Find the average price of products for each brand.

```

SELECT brand,
AVG(price) AS avg_price
FROM products
GROUP BY brand;
  
```

|   | brand      | avg_price  |
|---|------------|------------|
| ▶ | Amazon     | 4624.0000  |
|   | InstantPot | 7999.0000  |
|   | Philips    | 5999.0000  |
|   | Samsung    | 69999.0000 |
|   | OnePlus    | 49999.0000 |
|   | Bose       | 19999.0000 |
|   | Logitech   | 1299.0000  |

- Count how many products are available in each category.

```

SELECT category,
COUNT(product_id) AS total_products
FROM products
GROUP BY category;
  
```

| category    | total_products |
|-------------|----------------|
| Electronics | 5              |
| Kitchen     | 2              |
| Mobiles     | 2              |
| Accessories | 1              |

4. Find the maximum rating of products for each category.

```
SELECT category,
MAX(rating) AS max_rating
FROM
products
GROUP BY category;
```

| category    | max_rating |
|-------------|------------|
| Electronics | 4.8        |
| Kitchen     | 4.7        |
| Mobiles     | 4.8        |
| Accessories | 4.3        |

5. Find the minimum price of products for each brand.

```
SELECT brand,
MIN(price) AS min_price
FROM products
GROUP BY brand;
```

| brand      | min_price |
|------------|-----------|
| Amazon     | 999       |
| InstantPot | 7999      |
| Philips    | 5999      |
| Samsung    | 69999     |
| OnePlus    | 49999     |
| Bose       | 19999     |
| Logitech   | 1299      |

## Questions on HAVING

1. Find all categories where the total sold\_quantity is greater than 1000.

```
SELECT category, SUM(sold_quantity) AS total_sold
FROM products
GROUP BY category
HAVING SUM(sold_quantity) > 1000;
```

| category    | total_sold |
|-------------|------------|
| Electronics | 1930       |

2. Find brands where the average price of products is more than 10000.

```
SELECT brand, AVG(price) AS avg_price
FROM products
GROUP BY brand
HAVING AVG(price) > 10000;
```

|   | brand   | avg_price  |
|---|---------|------------|
| ▶ | Samsung | 69999.0000 |
|   | OnePlus | 49999.0000 |
|   | Bose    | 19999.0000 |

3. Find categories where the maximum rating is greater than 4.7.

```
SELECT category, MAX(rating) AS max_rating
FROM products
GROUP BY category
HAVING MAX(rating) > 4.7;
```

|   | category    | max_rating |
|---|-------------|------------|
| ▶ | Electronics | 4.8        |
|   | Mobiles     | 4.8        |

4. Find brands where the count of products is more than 2.

```
SELECT brand, COUNT(product_id) AS product_count
FROM products
GROUP BY brand
HAVING COUNT(product_id) > 2;
```

|   | brand  | product_count |
|---|--------|---------------|
| ▶ | Amazon | 4             |

5. Find categories where the sum of stock is less than 200.

```
SELECT category, SUM(stock) AS total_stock
FROM products
GROUP BY category
HAVING SUM(stock) < 200;
```

|  | category | total_stock |
|--|----------|-------------|
|  | Kitchen  | 70          |
|  | Mobiles  | 45          |

Questions on ORDER BY

1. List all products ordered by price ascending.

```
select product_name,price from products order by price asc;
```

|   | product_name       | price |
|---|--------------------|-------|
| ▶ | Amazon Basics Bag  | 999   |
|   | Logitech Mouse     | 1299  |
|   | Echo Dot           | 3499  |
|   | Fire TV Stick      | 3999  |
|   | Air Fryer          | 5999  |
|   | Instant Pot Duo    | 7999  |
|   | Kindle Paperwhite  | 9999  |
|   | Bose Headphones    | 19999 |
|   | OnePlus 11         | 49999 |
|   | Samsung Galaxy S23 | 69999 |

2. Show all products ordered by sold\_quantity descending.

```
select product_name,sold_quantity from products order by sold_quantity desc;
```

|   | product_name       | sold_quantity |
|---|--------------------|---------------|
| ▶ | Logitech Mouse     | 600           |
|   | Echo Dot           | 500           |
|   | Fire TV Stick      | 450           |
|   | Amazon Basics Bag  | 400           |
|   | Kindle Paperwhite  | 300           |
|   | Instant Pot Duo    | 200           |
|   | Air Fryer          | 150           |
|   | Samsung Galaxy S23 | 100           |
|   | OnePlus 11         | 90            |
|   | Bose Headphones    | 80            |

3. Display products ordered by rating descending and then price ascending.

```
select product_name,rating,price from products order by rating desc,price asc;
```

|   | product_name       | rating | price |
|---|--------------------|--------|-------|
| ▶ | Kindle Paperwhite  | 4.8    | 9999  |
|   | Samsung Galaxy S23 | 4.8    | 69999 |
|   | Instant Pot Duo    | 4.7    | 7999  |
|   | OnePlus 11         | 4.7    | 49999 |
|   | Echo Dot           | 4.6    | 3499  |
|   | Air Fryer          | 4.6    | 5999  |
|   | Fire TV Stick      | 4.5    | 3999  |
|   | Bose Headphones    | 4.5    | 19999 |
|   | Logitech Mouse     | 4.4    | 1299  |
|   | Amazon Basics Bag  | 4.3    | 999   |

4. List all products ordered by category ascending and sold\_quantity descending.

```
select product_name,category,sold_quantity from products order by category asc,sold_quantity desc;
```

|   | product_name       | category    | sold_quantity |
|---|--------------------|-------------|---------------|
| ▶ | Amazon Basics Bag  | Accessories | 400           |
|   | Logitech Mouse     | Electronics | 600           |
|   | Echo Dot           | Electronics | 500           |
|   | Fire TV Stick      | Electronics | 450           |
|   | Kindle Paperwhite  | Electronics | 300           |
|   | Bose Headphones    | Electronics | 80            |
|   | Instant Pot Duo    | Kitchen     | 200           |
|   | Air Fryer          | Kitchen     | 150           |
|   | Samsung Galaxy S23 | Mobiles     | 100           |
|   | OnePlus 11         | Mobiles     | 90            |

5. Show all products ordered by brand alphabetically.

select product\_name ,brand from products order by brand;

|   | product_name       | brand      |
|---|--------------------|------------|
| ▶ | Echo Dot           | Amazon     |
|   | Kindle Paperwhite  | Amazon     |
|   | Fire TV Stick      | Amazon     |
|   | Amazon Basics Bag  | Amazon     |
|   | Bose Headphones    | Bose       |
|   | Instant Pot Duo    | InstantPot |
|   | Logitech Mouse     | Logitech   |
|   | OnePlus 11         | OnePlus    |
|   | Air Fryer          | Philips    |
|   | Samsung Galaxy S23 | Samsung    |

## Questions on LIMIT

1. Show the first 5 products in the table.

select \* from products limit 5;

|   | product_id | product_name      | category    | price | rating | stock | brand      | sold_quantity |
|---|------------|-------------------|-------------|-------|--------|-------|------------|---------------|
| ▶ | 1          | Echo Dot          | Electronics | 3499  | 4.6    | 120   | Amazon     | 500           |
|   | 2          | Kindle Paperwhite | Electronics | 9999  | 4.8    | 80    | Amazon     | 300           |
|   | 3          | Fire TV Stick     | Electronics | 3999  | 4.5    | 50    | Amazon     | 450           |
|   | 4          | Instant Pot Duo   | Kitchen     | 7999  | 4.7    | 30    | InstantPot | 200           |
|   | 5          | Air Fryer         | Kitchen     | 5999  | 4.6    | 40    | Philips    | 150           |
| * | NULL       | NULL              | NULL        | NULL  | NULL   | NULL  | NULL       | NULL          |

2. Show the top 3 highest-priced products.

select \* from products order by price limit 3;

|   | product_id | product_name      | category    | price | rating | stock | brand    | sold_quantity |
|---|------------|-------------------|-------------|-------|--------|-------|----------|---------------|
| ▶ | 10         | Amazon Basics Bag | Accessories | 999   | 4.3    | 300   | Amazon   | 400           |
|   | 9          | Logitech Mouse    | Electronics | 1299  | 4.4    | 200   | Logitech | 600           |
|   | 1          | Echo Dot          | Electronics | 3499  | 4.6    | 120   | Amazon   | 500           |
| * | NULL       | NULL              | NULL        | NULL  | NULL   | NULL  | NULL     | NULL          |

3. Show the first 5 products when ordered by rating descending.

SELECT \*

```

FROM products
ORDER BY rating DESC
LIMIT 5;

```

|   | product_id | product_name       | category    | price | rating | stock | brand      | sold_quantity |
|---|------------|--------------------|-------------|-------|--------|-------|------------|---------------|
| ▶ | 2          | Kindle Paperwhite  | Electronics | 9999  | 4.8    | 80    | Amazon     | 300           |
|   | 6          | Samsung Galaxy S23 | Mobiles     | 69999 | 4.8    | 25    | Samsung    | 100           |
|   | 4          | Instant Pot Duo    | Kitchen     | 7999  | 4.7    | 30    | InstantPot | 200           |
|   | 7          | OnePlus 11         | Mobiles     | 49999 | 4.7    | 20    | OnePlus    | 90            |
| * | 1          | Echo Dot           | Electronics | 3499  | 4.6    | 120   | Amazon     | 500           |
| * | HULL       | HULL               | HULL        | HULL  | HULL   | HULL  | HULL       | HULL          |

4. Show 2 products after skipping the first 5 rows.

```
select * from products limit 2 offset 5;
```

|   | product_id | product_name       | category | price | rating | stock | brand   | sold_quantity |
|---|------------|--------------------|----------|-------|--------|-------|---------|---------------|
| ▶ | 6          | Samsung Galaxy S23 | Mobiles  | 69999 | 4.8    | 25    | Samsung | 100           |
|   | 7          | OnePlus 11         | Mobiles  | 49999 | 4.7    | 20    | OnePlus | 90            |
| * | HULL       | HULL               | HULL     | HULL  | HULL   | HULL  | HULL    | HULL          |

5. Display the top 10 products with highest sold\_quantity.

```
select * from products order by sold_quantity desc limit 10;
```

|   | product_id | product_name       | category    | price | rating | stock | brand      | sold_quantity |
|---|------------|--------------------|-------------|-------|--------|-------|------------|---------------|
| ▶ | 9          | Logitech Mouse     | Electronics | 1299  | 4.4    | 200   | Logitech   | 600           |
|   | 1          | Echo Dot           | Electronics | 3499  | 4.6    | 120   | Amazon     | 500           |
|   | 3          | Fire TV Stick      | Electronics | 3999  | 4.5    | 50    | Amazon     | 450           |
|   | 10         | Amazon Basics Bag  | Accessories | 999   | 4.3    | 300   | Amazon     | 400           |
|   | 2          | Kindle Paperwhite  | Electronics | 9999  | 4.8    | 80    | Amazon     | 300           |
|   | 4          | Instant Pot Duo    | Kitchen     | 7999  | 4.7    | 30    | InstantPot | 200           |
|   | 5          | Air Fryer          | Kitchen     | 5999  | 4.6    | 40    | Philips    | 150           |
|   | 6          | Samsung Galaxy S23 | Mobiles     | 69999 | 4.8    | 25    | Samsung    | 100           |
|   | 7          | OnePlus 11         | Mobiles     | 49999 | 4.7    | 20    | OnePlus    | 90            |
| * | 8          | Bose Headphones    | Electronics | 19999 | 4.5    | 15    | Bose       | 80            |
| * | HULL       | HULL               | HULL        | HULL  | HULL   | HULL  | HULL       | HULL          |

### Questions on ASC / DESC

1. Show all products sorted by price ascending.

```
select product_name,price from products order by price asc;
```

| product_name       | price |
|--------------------|-------|
| Amazon Basics Bag  | 999   |
| Logitech Mouse     | 1299  |
| Echo Dot           | 3499  |
| Fire TV Stick      | 3999  |
| Air Fryer          | 5999  |
| Instant Pot Duo    | 7999  |
| Kindle Paperwhite  | 9999  |
| Bose Headphones    | 19999 |
| OnePlus 11         | 49999 |
| Samsung Galaxy S23 | 69999 |

2. Show all products sorted by rating descending.

```
select product_name,rating from products order by rating desc;
```

| product_name       | rating |
|--------------------|--------|
| Kindle Paperwhite  | 4.8    |
| Samsung Galaxy S23 | 4.8    |
| Instant Pot Duo    | 4.7    |
| OnePlus 11         | 4.7    |
| Echo Dot           | 4.6    |
| Air Fryer          | 4.6    |
| Fire TV Stick      | 4.5    |
| Bose Headphones    | 4.5    |
| Logitech Mouse     | 4.4    |
| Amazon Basics Bag  | 4.3    |

3. Display products sorted by sold\_quantity descending, then price ascending.

```
select product_name,sold_quantity,price from products order by sold_quantity desc,price asc;
```

| product_name       | sold_quantity | price |
|--------------------|---------------|-------|
| Logitech Mouse     | 600           | 1299  |
| Echo Dot           | 500           | 3499  |
| Fire TV Stick      | 450           | 3999  |
| Amazon Basics Bag  | 400           | 999   |
| Kindle Paperwhite  | 300           | 9999  |
| Instant Pot Duo    | 200           | 7999  |
| Air Fryer          | 150           | 5999  |
| Samsung Galaxy S23 | 100           | 69999 |
| OnePlus 11         | 90            | 49999 |
| Bose Headphones    | 80            | 19999 |

4. List products sorted by category ascending, then sold\_quantity descending.

```
select product_name,category,sold_quantity from products order by category asc,sold_quantity desc;
```

|   | product_name       | category    | sold_quantity |
|---|--------------------|-------------|---------------|
| ▶ | Amazon Basics Bag  | Accessories | 400           |
|   | Logitech Mouse     | Electronics | 600           |
|   | Echo Dot           | Electronics | 500           |
|   | Fire TV Stick      | Electronics | 450           |
|   | Kindle Paperwhite  | Electronics | 300           |
|   | Bose Headphones    | Electronics | 80            |
|   | Instant Pot Duo    | Kitchen     | 200           |
|   | Air Fryer          | Kitchen     | 150           |
|   | Samsung Galaxy S23 | Mobiles     | 100           |
|   | OnePlus 11         | Mobiles     | 90            |

5. Show all products sorted by brand descending.

select product\_name,brand from products order by brand desc;

|   | product_name       | brand      |
|---|--------------------|------------|
| ▶ | Samsung Galaxy S23 | Samsung    |
|   | Air Fryer          | Philips    |
|   | OnePlus 11         | OnePlus    |
|   | Logitech Mouse     | Logitech   |
|   | Instant Pot Duo    | InstantPot |
|   | Bose Headphones    | Bose       |
|   | Echo Dot           | Amazon     |
|   | Kindle Paperwhite  | Amazon     |
|   | Fire TV Stick      | Amazon     |
|   | Amazon Basics Bag  | Amazon     |