

# Sales Trend Analysis Using Aggregations

**Objective:** Analyze monthly revenue and order volume.

**Tool:** MySQL.

```
mysql> create table online_sales(  
-> order_id int primary key,  
-> order_date date not null,  
-> customer_name varchar(10),  
-> country varchar(10),  
-> amount decimal(10,2) not null,  
-> product_name varchar(50),  
-> product_id int not null  
-> );  
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> INSERT INTO online_sales (order_id, order_date, customer_name, country, amount, product_name, product_id)  
-> VALUES  
-> (1, '2025-05-01', 'Alice', 'USA', 125.50, 'Laptop', 101),  
-> (2, '2025-05-01', 'Bob', 'Canada', 75.25, 'Keyboard', 102),  
-> (3, '2025-05-02', 'Charlie', 'UK', 200.00, 'Monitor', 101),  
-> (4, '2025-05-03', 'Diana', 'Aus', 50.75, 'Mouse', 103),  
-> (5, '2025-05-03', 'Eve', 'USA', 150.00, 'Laptop', 102),  
-> (6, '2025-05-04', 'Frank', 'Ger', 90.40, 'Webcam', 104),  
-> (7, '2025-05-05', 'Grace', 'Fra', 300.00, 'Gaming PC', 105),  
-> (8, '2025-05-06', 'Henry', 'Can', 60.80, 'Headphone', 103),  
-> (9, '2025-05-06', 'Ivy', 'UK', 180.50, 'Laptop', 101),  
-> (10, '2025-05-07', 'Jack', 'USA', 110.25, 'Ext. SSD', 106);  
Query OK, 10 rows affected (0.01 sec)  
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> show create table online_sales;  
+-----+-----+  
| Table | Create Table  
+-----+-----+  
| online_sales | CREATE TABLE 'online_sales' (  
  'order_id' int NOT NULL,  
  'order_date' date NOT NULL,  
  'customer_name' varchar(266) DEFAULT NULL,  
  'country' varchar(10) DEFAULT NULL,  
  'amount' decimal(10,2) NOT NULL,  
  'product_name' varchar(50) DEFAULT NULL,  
  'product_id' int NOT NULL,  
  PRIMARY KEY ('order_id')  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |  
+-----+-----+  
1 row in set (0.01 sec)
```

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     SUM(amount) AS total_revenue,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> GROUP BY
->     sales_year, sales_month
-> ORDER BY
->     sales_year, sales_month;
+-----+-----+-----+-----+
| sales_year | sales_month | total_revenue | total_orders |
+-----+-----+-----+-----+
|          2025 |          5 |        1343.45 |          10 |
+-----+-----+-----+-----+
1 row in set (0.02 sec)
```

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     SUM(amount) AS total_revenue,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> WHERE
->     EXTRACT(YEAR FROM order_date) = 2025
-> GROUP BY
->     sales_year, sales_month
-> ORDER BY
->     sales_month;
+-----+-----+-----+-----+
| sales_year | sales_month | total_revenue | total_orders |
+-----+-----+-----+-----+
|          2025 |          5 |        1343.45 |          10 |
+-----+-----+-----+-----+
1 row in set (0.01 sec)
```

```
mysql> SELECT
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     SUM(amount) AS total_revenue
-> FROM
->     online_sales
-> WHERE
->     EXTRACT(YEAR FROM order_date) = 2025
-> GROUP BY
->     sales_month
-> ORDER BY
->     sales_month;
```

sales_month	total_revenue
5	1343.45

1 row in set (0.00 sec)

```
mysql> SELECT
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> WHERE
->     EXTRACT(YEAR FROM order_date) = 2025
-> GROUP BY
->     sales_month
-> ORDER BY
->     sales_month;
```

sales_month	total_orders
5	10

1 row in set (0.00 sec)

```
mysql> SELECT
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> WHERE
->     EXTRACT(YEAR FROM order_date) = 2025
-> GROUP BY
->     sales_month
-> ORDER BY
->     sales_month;
+-----+-----+
| sales_month | total_orders |
+-----+-----+
|          5 |           10 |
+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     SUM(amount) AS total_revenue,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> WHERE
->     EXTRACT(YEAR FROM order_date) = 2025 AND EXTRACT(MONTH FROM order_date) IN (1, 2)
-> GROUP BY
->     sales_month
-> ORDER BY
->     sales_month;
Empty set (0.00 sec)
```

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     SUM(amount) AS total_revenue,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> WHERE
->     EXTRACT(MONTH FROM order_date) = 5
-> GROUP BY
->     sales_year
-> ORDER BY
->     sales_year;
+-----+-----+-----+
| sales_year | total_revenue | total_orders |
+-----+-----+-----+
|        2025 |        1343.45 |           10 |
+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     customer_name,
->     SUM(amount) AS total_revenue
-> FROM
->     online_sales
-> GROUP BY
->     sales_year, sales_month, customer_name
-> ORDER BY
->     sales_year, sales_month, total_revenue DESC;
```

sales_year	sales_month	customer_name	total_revenue
2025	5	Grace	300.00
2025	5	Charlie	200.00
2025	5	Ivy	180.50
2025	5	Eve	150.00
2025	5	Alice	125.50
2025	5	Jack	110.25
2025	5	Frank	90.40
2025	5	Bob	75.25
2025	5	Henry	60.80
2025	5	Diana	50.75

10 rows in set (0.01 sec)

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     customer_name,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> GROUP BY
->     sales_year, sales_month, customer_name
-> ORDER BY
->     sales_year, sales_month, total_orders DESC;
```

sales_year	sales_month	customer_name	total_orders
2025	5	Alice	1
2025	5	Bob	1
2025	5	Charlie	1
2025	5	Diana	1
2025	5	Eve	1
2025	5	Frank	1
2025	5	Grace	1
2025	5	Henry	1
2025	5	Ivy	1
2025	5	Jack	1

10 rows in set (0.01 sec)

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     product_name,
->     SUM(amount) AS total_revenue
-> FROM
->     online_sales
-> GROUP BY
->     sales_year, sales_month, product_name
-> ORDER BY
->     sales_year, sales_month, total_revenue DESC;
```

sales_year	sales_month	product_name	total_revenue
2025	5	Laptop	456.00
2025	5	Gaming PC	300.00
2025	5	Monitor	200.00
2025	5	Ext. SSD	110.25
2025	5	Webcam	90.40
2025	5	Keyboard	75.25
2025	5	Headphone	60.80
2025	5	Mouse	50.75

8 rows in set (0.00 sec)

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     product_name,
->     COUNT(DISTINCT order_id) AS total_orders
-> FROM
->     online_sales
-> GROUP BY
->     sales_year, sales_month, product_name
-> ORDER BY
->     sales_year, sales_month, total_orders DESC;
```

sales_year	sales_month	product_name	total_orders
2025	5	Laptop	3
2025	5	Ext. SSD	1
2025	5	Gaming PC	1
2025	5	Headphone	1
2025	5	Keyboard	1
2025	5	Monitor	1
2025	5	Mouse	1
2025	5	Webcam	1

8 rows in set (0.00 sec)

```
mysql> SELECT
->     EXTRACT(YEAR FROM order_date) AS sales_year,
->     EXTRACT(MONTH FROM order_date) AS sales_month,
->     AVG(amount) AS average_order_value
-> FROM
->     online_sales
-> GROUP BY
->     sales_year, sales_month
-> ORDER BY
->     sales_year, sales_month;
```

sales_year	sales_month	average_order_value
2025	5	134.345000

1 row in set (0.01 sec)