

```

1  -- Create the table
2  CREATE TABLE sales (
3      sale_id INT PRIMARY KEY,
4      sale_date DATE,
5      product_id INT,
6      customer_id INT,
7      quantity INT,
8      unit_price DECIMAL(10,2),
9      total_amount DECIMAL(10,2)
10 );
11
12 -- Insert sample data
13 INSERT INTO sales (sale_id, sale_date, product_id, customer_id, quantity, unit_price, total_amount)
14 VALUES
15 (1, '2024-01-05', 101, 1, 2, 10.00, 20.00),
16 (2, '2024-01-15', 102, 2, 1, 15.00, 15.00),
17 (3, '2024-02-03', 101, 3, 3, 10.00, 30.00),
18 (4, '2024-02-20', 103, 4, 5, 8.00, 40.00),
19 (5, '2024-03-12', 101, 1, 1, 10.00, 10.00),
20 (6, '2024-03-22', 104, 2, 2, 12.00, 24.00),
21 (7, '2024-04-02', 102, 3, 4, 15.00, 60.00),
22 (8, '2024-04-18', 103, 4, 2, 8.00, 16.00);
23
24 -- Query to retrieve data
25 SELECT * FROM sales;
26

```

STDIN

Input for the program (Optional)

Output;

sale_id	sale_date	product_id	customer_id	quantity	unit_price
1	2024-01-05	101	1	2	10.00
2	2024-01-15	102	2	1	15.00
3	2024-02-03	101	3	3	10.00
4	2024-02-20	103	4	5	8.00
5	2024-03-12	101	1	1	10.00
6	2024-03-22	104	2	2	12.00
7	2024-04-02	102	3	4	15.00
8	2024-04-18	103	4	2	8.00

```
11
12 -- Insert sample data
13 INSERT INTO sales (sale_id, sale_date, product_id,
14 customer_id, quantity, unit_price, total_amount)
15 VALUES
16 (1, '2024-01-05', 101, 1, 2, 10.00, 20.00),
17 (2, '2024-01-15', 102, 2, 1, 15.00, 15.00),
18 (3, '2024-02-03', 101, 3, 3, 10.00, 30.00),
19 (4, '2024-02-20', 103, 4, 5, 8.00, 40.00),
20 (5, '2024-03-12', 101, 1, 1, 10.00, 10.00),
21 (6, '2024-03-22', 104, 2, 2, 12.00, 24.00),
22 (7, '2024-04-02', 102, 3, 4, 15.00, 60.00),
23 (8, '2024-04-18', 103, 4, 2, 8.00, 16.00);
24
25 -- Query to retrieve data
26 SELECT * FROM sales;
27
28 SELECT
29     FORMAT(sale_date, 'yyyy-MM') AS sale_month,
30     SUM(total_amount) AS total_sales
31 FROM sales
32 GROUP BY FORMAT(sale_date, 'yyyy-MM')
33 ORDER BY sale_month;
34
35 WITH monthly_data AS (
36     SELECT
37         FORMAT(sale_date, 'yyyy-MM') AS sale_month,
38         SUM(total_amount) AS total_sales
39     FROM sales
40     GROUP BY FORMAT(sale_date, 'yyyy-MM')
41 )
42 SELECT
43     sale_month,
44     total_sales,
45     LAG(total_sales) OVER (ORDER BY sale_month) AS prev_month_sales,
46     ROUND(
47         (total_sales - LAG(total_sales) OVER (ORDER BY sale_month)) * 100.0 /
48         NULLIF(LAG(total_sales) OVER (ORDER BY sale_month), 0), 2
49     ) AS percent_change
50 FROM monthly_data;
```

STDIN

Input for the program (Optional)

Output:

sale_id	sale_date	product_id	customer_id	quantity	unit_price	total_amount
1	2024-01-05	101	1	2	10.00	20.00
2	2024-01-15	102	2	1	15.00	15.00
3	2024-02-03	101	3	3	10.00	30.00
4	2024-02-20	103	4	5	8.00	40.00
5	2024-03-12	101	1	1	10.00	10.00
6	2024-03-22	104	2	2	12.00	24.00
7	2024-04-02	102	3	4	15.00	60.00
8	2024-04-18	103	4	2	8.00	16.00

sale_month

2024-01

2024-02

2024-03

2024-04

sale_month

2024-01

2024-02

2024-03

2024-04