Task 6: Sales Trend Analysis Using Aggregations

Objective:

Analyze monthly revenue and order volume using SQL aggregation functions on the 'online_sales' dataset.

Tools Used:

- PostgreSQL

- SQL functions (SUM, COUNT, GROUP BY, EXTRACT)

SQL Query:

```
SELECT
  EXTRACT(YEAR FROM order_date) AS year,
  EXTRACT(MONTH FROM order_date) AS month,
  SUM(amount) AS total_revenue,
  COUNT(DISTINCT order_id) AS total_orders
FROM
  online_sales
GROUP BY
  year, month
ORDER BY
  year, month;
```

Sample Output Table:

Year	Month	Total Revenue	Total Orders
2023	01	$12,450	98
2023	02	$15,200	110
2023	03	$13,880	105

Analysis Summary:

The SQL query successfully groups sales data by year and month, calculating both total revenue and the number of unique orders. The results indicate a peak in February, suggesting a seasonal pattern or a promotional effect. This type of analysis helps businesses identify sales trends, forecast demand, and strategize better.