**Task 4**

Develop the queries to retrieve information from the OLAP operations performed and to gain a deeper understanding of the sales data through different dimensions, aggregations, and filters.

**Project: OLAP Operations (using PostgreSQL)**

Objective: Perform OLAP operations (Drill Down, Rollup, Cube, Slice, and Dice) on the “sales\_sample” table to analyze sales data. The project will include the following tasks:

1. **Database Creation:**

Create a database to store the sales data

Create a table named “sales\_sample” with specified columns:

Product\_Id (Integer)

Region (varcgar (50) – like East, West etc

Date (Date)

Sales\_Amount (int/numeric)

1. **Data Creation:**

Insert 10 sample records into the “sales\_sample” table, representing sales data.

1. **Perform OLAP Operations**
2. Drill Down – Analyze the sales data at a more detailed level. Write a query to perform drill from region to product level to understand sales performance.
3. Rollup- To summarize sales data at different levels of granularity. Write a query to perform roll up from product to region level to view total sales by region
4. Cube- To analyze sales data from multiple dimensions simultaneously. Write a query to explore sales data from different perspectives, such as product, region, and date.
5. Slice- To extract a subset of data based on specific criteria. Write a query to view sales for specific combinations of product, region, and date,
6. Dice – To extract data based on multiple criteria. Write a query to view sales for specific combinations of product, region, and date.