SQL Documentation: inventory_forecasting

Table: inventory_forecasting

Description: Stores daily inventory, sales, and demand data per product per store.

Columns:

- date (DATE): Transaction date.
- store_id (VARCHAR): Unique store identifier.
- product_id (VARCHAR): Unique product identifier.
- category (VARCHAR): Product category.
- region (VARCHAR): Store's geographic region.
- inventory_level (INT): Ending inventory units.
- units_sold (INT): Units sold on the date.
- units_ordered (INT): Units restocked on the date.
- demand_forecast (FLOAT): Predicted demand.
- price (FLOAT): Unit price.
- discount (FLOAT): Discount applied.
- weather_condition (VARCHAR): Weather description.
- holiday_promotion (BOOLEAN): Holiday or promotion flag.
- competitor_pricing (FLOAT): Competitor pricing info.
- seasonality (VARCHAR): Seasonal tag.

Primary Key: (date, store_id, product_id)

Indexes:

- product_id, date
- store_id, date
- category, region

Sample Queries:

1. Daily Sales Summary

```
SELECT date, SUM(units_sold) AS total_units_sold
FROM inventory_forecasting
```

```
GROUP BY date;
```

2. Forecast Accuracy by Product

```
SELECT product_id, AVG(ABS(units_sold - demand_forecast)) AS avg_error
FROM inventory_forecasting
GROUP BY product_id;
```

3. Promotion Impact on Sales

```
SELECT holiday_promotion, AVG(units_sold), AVG(discount)
FROM inventory_forecasting
GROUP BY holiday_promotion;
```

4. Stockout Instances

```
SELECT * FROM inventory_forecasting
WHERE inventory_level = 0 AND units_sold > 0;
```

5. Region-wise Sales Performance

```
SELECT region, SUM(units_sold) AS total_sales
FROM inventory_forecasting
GROUP BY region ORDER BY total_sales DESC;
```