### **Create a Sales Dashboard**

**Objective**: Build an insightful dashboard to analyze sales data, track key performance indicators (KPIs), and provide actionable insights for sales improvements.

### **Requirements:**

#### **1. Advanced Metrics & Calculations**

* **Sales Growth Rate**: Calculate month-over-month (MoM) and year-over-year (YoY) sales growth rates.
* **Average Order Size**: Compute the average order size (Total Sales/Quantity Sold).
* **Profit Calculation**: Add a column for Profit
* **Sales by Time of Day**: Analyze sales trends by time (morning, afternoon, evening, night) based on the Time column.

#### **2. Dashboard Elements**

* **KPIs Summary Section**: Include the following metrics as KPIs:
  + Total Sales
  + Total Quantity Sold
  + Total Profit
  + Average Order Size
  + Sales Growth Rate
  + Return Rate
* **Top Products, Regions, and Customers**:
  + Top 2 products by total sales
  + Top 2 regions by total sales
  + Top 2 customers by total sales
* **Time-Based Sales Analysis**:
  + Sales by day of the week (to determine peak days)
  + Sales by time of day (morning, afternoon, evening, night)
* **Sales Rep Performance**: Ranked list or chart showing sales reps by their total sales and quantity sold.

#### **3. Interactive Filtering & Slicers**

* **Slicers**: Add slicers for:
  + Product Category
  + Region
  + Sales Rep
  + Date (Year/Month)
  + Time of Day (Morning, Afternoon, Evening, Night)
* **Dynamic Filtering**: Allow the dashboard to update dynamically when filtered by any slicer.

#### **4. Data Visualization**

* **Monthly and Yearly Sales Trends**: Line or area chart showing monthly and yearly sales trends.
* **Hourly Sales Distribution**: A heatmap or line chart showing sales distribution by hour of day.
* **Sales by Product Category**: Pie or donut chart displaying the share of total sales for each product category.
* **Sales vs. Returns**: A bar chart comparing total sales and returns across regions.
* **Profit Margin Analysis**: A line chart showing profit margins over time.

#### **5. Dashboard Insights & Analysis**

* **Actionable Insights**: Write 3 observations based on the data, like identifying peak sales hours, best-performing products, or sales spikes by day.
* **Recommendations**: Provide 2 recommendations for sales improvement, such as increasing marketing during peak hours, focusing on high-profit products, or targeting specific customer segments.