Assignment Title: Sales Performance Analysis and Visualization

Objective:
To analyze the sales data of XYZ Corporation for the fiscal year 2023-24 to identify trends, perform root cause analysis on any issues identified, and provide actionable business insights. You will be required to write SQL queries to extract data, analyze the data to find root causes for sales performance, visualize your findings, and create a dashboard that presents these insights in an intuitive manner.

Data:
You are provided with access to a database containing the following tables:
1. Sales (SaleID, SaleDate, ProductID, QuantitySold, SaleAmount, StoreID)
2. Products (ProductID, ProductName, ProductCategory, Price)
3. Stores (StoreID, StoreName, Location, Region)
4. Employees (EmployeeID, FirstName, LastName, StoreID, Position, HireDate)

Tasks:

1. SQL Queries:
   - Write a SQL query to calculate the total sales amount by product category for the year.
   - Write a SQL query to find the top 3 performing stores in terms of sales amount.
   - Identify the employee with the highest sales in each store.

2. Data Analysis & RCA:
   - Analyze the monthly sales data to identify any declining trends in any product category or store.
   - Perform a root cause analysis to determine possible reasons for the decline. Consider factors such as employee turnover, product availability, regional economic factors, etc.
   - Provide at least two actionable insights based on your analysis.

3. Data Visualization:
   - Create a time series plot showing the monthly sales amount for the fiscal year.
   - Develop a bar chart comparing sales performance across different regions.
   - Visualize the sales performance of the top 3 products in a pie chart.

4. Dashboard Creation:
   - Using a tool of your choice (e.g., Power BI, Tableau, Google Data Studio), create a dashboard that includes the visualizations mentioned above.
   - The dashboard should also include filters for regions, stores, and product categories to allow interactive exploration of the data.

Deliverables:
1. A document containing all SQL queries written and their outputs.

2. A brief report outlining your findings from the data analysis and root cause analysis, including actionable business insights.
3. Links to the visualizations and the final dashboard, along with a brief explanation of each.

Evaluation Criteria:
- Accuracy and efficiency of SQL queries.
- Depth and relevance of analysis and root cause identification.
- Creativity and clarity in data visualization.
- Usability and aesthetic of the created dashboard.
- Quality of insights and recommendations provided.

Submission Guidelines:
- Submit all deliverables in a single ZIP file
- Ensure your SQL queries are commented to explain their purpose.
- Your report should be in PDF format, and visualizations should be accessible through shared links.
- Include any assumptions or external data sources you have used in your analysis.

This assignment is designed to mimic a real-world scenario and assesses not just technical skills but also your ability to derive meaningful insights from data and present them effectively. Good luck!