BUSINESS INTELLIGENCE ASSIGNMENT

1. How does the integration of business intelligence tools enhance decision-making processes within an organization, and what specific metrics or data points are typically prioritized in these tools to drive strategic insights?
2. Can you outline the key steps involved in implementing a successful business intelligence strategy within a company, including considerations for data collection, analysis, visualization, and dissemination of insights to relevant stakeholders?
3. In what ways does the utilization of predictive analytics and machine learning algorithms contribute to the effectiveness of business intelligence systems, and what challenges might organizations encounter when implementing these advanced analytical techniques?
4. Write a Python program that reads a CSV file containing sales data, calculates the total sales revenue for each product category, and then generates a bar chart to visualize the distribution of sales across different categories. Additionally, include functionality to identify the top-selling product category and its corresponding revenue amount.
5. Create a Python script that connects to a SQL database containing customer transaction data. Write a query to extract the total revenue generated by each customer over the past month. Then, use pandas to manipulate the data and generate descriptive statistics such as average revenue per customer and total revenue for the month. Finally, visualize the top 10 customers with the highest revenue using a bar chart.