**PHASE 3 : Development Part 1**

* **In this part you will begin building your project by loading and preprocessing the dataset.start building the product salesanalysis IBM cognus for visualization.define the analysis objectives and collect sales data from source shared.process and clean the collected data to ensure its accuracy and reliability**

**Step 1: Define Analysis Objectives**

* Clearly define the objectives of your sales analysis. What are you trying to achieve with the data? Common objectives may include understanding sales trends, identifying top-selling products, optimizing pricing strategies, or forecasting future sales.

**Step 2: Collect Sales Data**

* Identify the sources of your sales data. This could include sources like your company's internal databases, CRM systems, e-commerce platforms, or external market data sources. Ensure you have access to the necessary data.

**Step 3: Data Collection and Cleaning**

* Extract the sales data from the identified sources.
* Check for missing or inconsistent data and handle these issues. You may need to clean the data by filling missing values or removing duplicates.
* Ensure data accuracy and reliability. Verify that the data is up-to-date and trustworthy.

**Step 4: Data Integration**

* If your sales data is scattered across multiple sources, consider integrating it into a unified dataset. This can involve merging different databases or consolidating data from different platforms.

**Step 5: Data Transformation**

* Transform the data into a format suitable for analysis. This may involve converting data types, aggregating data, or creating new variables, such as calculating revenue or profit margins.

**Step 6: Data Visualization with IBM Cognos**

* IBM Cognos is a powerful tool for data visualization and business intelligence. You can use it to create various types of charts, dashboards, and reports to visualize your sales data effectively.
* Import the cleaned and transformed data into IBM Cognos.
* Create visualizations that help address your analysis objectives. This may include line charts for sales trends, bar charts for product comparisons, and maps for geographical analysis.

**Step 7: Data Analysis and Insights**

* Analyze the visualizations to draw meaningful insights. Look for trends, patterns, and outliers in the data that can inform your decision-making.
* Use IBM Cognos to perform ad-hoc analysis, set up interactive dashboards, or create scheduled reports for stakeholders.

**Step 8: Reporting and Communication**

* Prepare reports and presentations to communicate your findings to relevant stakeholders in your organization.
* Ensure that the insights are presented in a clear and understandable manner.

**Step 9: Continuous Monitoring and Improvement**

* Sales data analysis is an ongoing process. Set up mechanisms to regularly update and monitor the data. Make improvements in your analysis as needed to adapt to changing business conditions.

**Step 10: Documentation**

* Maintain detailed documentation of your data sources, data cleaning processes, transformations, and analysis techniques used. This documentation is crucial for future reference and reproducibility.

Remember that the effectiveness of your analysis depends on the quality and relevance of the data you collect and how well you define your analysis objectives. IBM Cognos provides a range of tools for creating insightful visualizations, making it a valuable tool for your sales analysis project.

Regenerate

**PYTHON PROGRAME:**

**import pandas as pd**

**from sklearn.model\_selection import train\_test\_split**

**from sklearn.ensemble import RandomForestClassifier**

**from sklearn.metrics import classification\_report**

**analysis\_objectives = [**

**"Understand sales trends",**

**"Identify top-selling products",**

**"Optimize pricing strategies",**

**"Forecast future sales"**

**]**

**sales\_data = [**

**{"date": "2023-01-01", "product": "Product A", "sales": 100, "price": 50},**

**{"date": "2023-01-02", "product": "Product B", "sales": 150, "price": 60},**

**# Add more data here**

**]**

**for record in sales\_data:**

**record["revenue"] = record["sales"] \* record["price"]**

**print("Transformed Sales Data:")**

**for record in sales\_data:**

**print(record**

**OUTPUT:**







