Project Requirements and Steps:

1. Data Acquisition and Preprocessing:
   - Load the dataset into a Pandas DataFrame.
   - Explore the dataset to understand its structure and features.
   - Handle missing values and perform data cleaning where necessary.
   - Use Dask to handle large data efficiently and compare the performance with Pandas for certain operations.
2. Data Analysis:
   - Perform basic statistical analysis using Numpy to summarize the data.
     - Calculate the mean, median, and standard deviation of relevant numeric columns.
     - Identify the most frequent values in categorical columns.
   - Use Pandas to:
     - Group data by various categories (e.g., year, region, attack type) and calculate aggregate statistics.
     - Identify trends over time (e.g., number of attacks per year).
     - Determine the most affected regions and countries.
     - Identify the most common attack types and targets.
3. Data Visualization:
   - Use Matplotlib and Seaborn to create visualizations:
     - Line plot showing the trend of terrorist attacks over the years.
     - Bar plot of the number of attacks by region and by country.
     - Heatmap to visualize the correlation between different features.
     - Scatter plot showing the relationship between the number of casualties and the type of attack.
   - Create interactive visualizations using Plotly (optional for advanced students):
     - Interactive map to show the geographic distribution of attacks.
     - Time series animation showing the spread of terrorism over the years.
4. Performance Comparison with Dask:
   - Demonstrate how to use Dask to perform similar operations as above with large datasets.
   - Compare the performance and memory usage of Dask operations with Pandas.
5. Reporting:
   - Prepare a comprehensive report detailing the findings from the analysis.
   - Include visualizations with clear explanations.
   - Discuss the insights derived from the data and any limitations or challenges faced during the analysis.

Deliverables:

1. Cleaned dataset and code used for data preprocessing.
2. Jupyter notebooks with the code for data analysis and visualization.
3. Report (PDF or Word) summarizing the findings.

Evaluation Criteria:

- **Data Preprocessing (20%):** Completeness and accuracy of data cleaning and handling missing values.
- **Data Analysis (30%):** Depth of analysis and insights derived from the data.
- **Visualization (30%):** Quality, clarity, and variety of visualizations.
- **Use of Tools (10%):** Effective use of Pandas, Numpy, Dask, and visualization libraries.
- **Reporting and Presentation (10%):** Clarity, structure, and comprehensiveness of the report and presentation.

Important Note:

There is no single correct way to complete this project. Each student is expected to use their own creativity and analytical skills to derive insights from the data. The focus is on the process and effort, rather than finding a model answer. Be thorough in your exploration and make sure to document your steps and thought process. This project is meant to challenge you and help you apply what you have learned in a real-world context.