Stock Market Prediction Project Planning

Stage 1: Project Setup

1. Define Objectives: Determine specific stocks or indices to predict.

2. Select Tools and Environment: Install Python, Jupyter Notebook, and necessary libraries.

Stage 2: Data Collection

3. Identify Data Sources: Choose sources like Yahoo Finance, Alpha Vantage, Kaggle.

4. Data Retrieval: Use APIs or web scraping to collect historical stock data.

Stage 3: Data Preprocessing

5. Data Cleaning: Handle missing values and detect outliers.

6. Feature Engineering: Create relevant features like Moving Average, RSI.

Stage 4: Exploratory Data Analysis (EDA)

7. Visualize Data: Use visualization tools to understand trends and patterns.

8. Analyze Relationships: Analyze correlations and relationships between features.

Stage 5: Model Development

9. Split Data: Divide data into training and testing sets (80/20 split).

10. Select Model: Choose machine learning algorithms (Linear Regression, LSTM).

11. Train Model: Fit the model to the training data.

Stage 6: Model Evaluation

12. Make Predictions: Generate predictions on the testing data.

13. Evaluate Model Performance: Calculate performance metrics (MAE, RMSE).

Stage 7: Deployment

14. Create User Interface: Develop a web application using Flask or Streamlit.

15. Deploy Model: Make the application available for users to view predictions.

Stage 8: Documentation and Presentation

16. Document Project: Detail every step and create a README file.

17. Prepare Presentation: Create slides to share your results and learning.

Stage 9: Final Review

18. Review and Optimize: Review the project and make any necessary improvements.

19. Share Project: Upload the project to GitHub and share it on your network.