Exploratory Data Analysis (EDA):

Checked the first few rows of the dataset.

Checked the shape of the dataset.

Reviewed summary statistics.

Checked for missing values.

Examined data types.

Explored the general trend in the prices of natural gas, crude oil, and gold over time.

Investigated the trading volumes for Bitcoin and Ethereum.

Analyzed the distribution of stock prices for technology companies like Apple, Microsoft, and Nvidia.

Explored how the S&P 500 index price changes over time.

Examined the relationship between the prices of gold and silver.

Tesla Price Prediction:

Imported necessary libraries for data exploration and linear regression.

Loaded the dataset.

Performed data preprocessing by selecting relevant features for prediction.

Split the dataset into features (X) and the target variable (y).

Split the data into training and testing sets.

Initialized and trained the linear regression model.

Made predictions on the test set.

Evaluated the model's performance using mean squared error (MSE).

Compared the predicted values with the actual values and visualized the comparison.

To further enhance your work and documentation, you might consider:

Documentation:

Provide clear documentation for each step, including what you're doing and why.

Add comments to your code explaining complex or important parts.

Describe the dataset, its features, and what each feature represents.

Clarify any assumptions made during analysis or modeling.

Model Evaluation:

Besides MSE, you can explore other evaluation metrics such as R-squared, MAE, etc.

Visualize the residuals to check for any patterns or anomalies.

Model Improvement:

Experiment with different features or combinations of features.

Try more sophisticated models such as Random Forest, Gradient Boosting, or Neural Networks.

Perform hyperparameter tuning to optimize model performance.

Consider feature engineering to create new features that might improve predictions