Create a prediction model:

For Part 4 of your analysis, where you'll focus on predicting the future price of stocks using machine learning models, I suggest following these steps:

1. **Data Split:** Divide your data into a training set and a test set. Make sure this division is done in chronological order to maintain the temporal sequence.
2. **Feature Selection:** Decide which features (independent variables) you'll use to predict the price. This could include Open, High, Low, Vol., Change%, etc.
3. **Data Preprocessing:** Performs any necessary preprocessing, such as scaling data or handling missing values.
4. **Choosing the Model:** For a first attempt, you can use a linear model such as Linear Regression. For more advanced models, you might consider Decision Trees, Random Forests, or even Gradient Boosting-based models like XGBoost.
5. **Model Training:** Train the selected model with your training set.
6. **Model Evaluation:** Evaluates the performance of the model using the test suite. You can use metrics such as mean square error (MSE) or coefficient of determination (R²).
7. **Interpretation of Results:** Interpret the results to understand how well the model is predicting stock prices.