Intro:
This project aims to compare the prediction power of different machine learning techniques on stock closing prices. Three different Machine Learning Models were tested including Auto ARIMA, LSTMs and GRUs, and then compared.

Sections:
- Loading in the data
- Exploratory Data Analysis
- Feature Selection
- The ARIMA Model
- The LSTM Model
- The GRU Model

Methodology:
The three models are trained based on current industry practices. They are tested on the same 5 securities, which have the highest index weight for each of the five largest GICS Sectors featured in our dataset. The results are then compared using their Root Mean Squared Error, Mean Absolute Percentage Error, and price prediction visualization.

Additional Information:
It is important to run the code from start to finish in sequential order. This is so that the appropriate feature transformation and engineering steps can be conducted before training the model.

Install the auto - arima package if not already in your environment: pip install pmdarima

Insert your own “file path” into dataset_path = “insert your own file path here” in the Loading In The Data Section.