Design Credits
(Fine-grained Stock Price Prediction using Deep Learning)

Group Members: Sagnik Goswami (B21AI034) and Ashutosh (B21AI007)

Work completed for the project overall:

1) Used LSTM to predict the next day's closing stock prices of all the nifty 50 companies.
2) Used GRU to predict the next day's closing stock prices of all the nifty 50 companies.
3) Comparing the results given by both LSTM and GRU(GRU turned out to be better).
4) Till now the model got only one company's data as per the user's input and then used that data to predict stock prices of the same company ie. We have 1 model for each company. Now, we train a single model for all the nifty 50 companies and then fine tune the model using the last 100 days of data of the company of the user's interest.
5) The model also works very well for the companies which are not in nifty 50.
6) Now, we modified the results, now the model gave a range of predicted opening stock prices for the company given as an input by the user.

Individual Contributions:

1) The data collection and cleaning part, how to extract the data in the best possible manner, thinking and developing the mathematical logics of the model was done by Ashutosh in all the different models we trained.
2) Application of the logic in the code itself was done by Sagnik Goswami.
3) Hyperparameter tuning using Keras Tuner was done by Ashutosh in the case of LSTM and by Sagnik in the case of GRU.
4) The Model training and debugging of the errors, were done by both Ashutosh and Sagnik in a collective manner.