**Solution Sheet**

1. Which model have you used for stock price prediction? Explain your model.

I have used CatBoost Regressor model to predict stock price with an accuracy of 99.9 %(k fold cross validation) with two most important features P/E Ratio and Net Asset Value(per share).Learning rate of 0.01 and early stopping round of 100 were used for avoiding ovefitting.

The NA values of P/E ratio and NAV of train set were imputed using xgboost regressor model trained on 80% of non na values of each column.

1. Which model have you used for Put-Call ratio Time series prediction? Explain your model.

Stacked LSTM(Long Short Term Memory) model is used for time series modelling of Put-Call Ratio Time,has an rmse(Root mean squared error) of 0.01 on 25% of test data and r2 score 99.995.

The dataset is formed as timesteps of 5 put call ratio (10th to 14th august) and target is put call ratio of 15th august.The model predicts for 16th august using put call ratio of 11th to 15th august.

The predicted put call ratio of 16th aug is feeded in original test dataset and Stock Price is predicted.