

# Assignment- ML Role

## PART A.

**Train a Classifier to classify stress companies vs non-stress companies.**

1. Use Yahoo Finance to collect Financial data for Indian companies (min 100 companies).
2. Convert financial variables into features based on the following ratios.
  - a. Current ratio
  - b. Debt to equity ratio
  - c. ROI (Return on investment)
  - d. ROA (Return on assets)
  - e. Inventory turnover ratio.
  - f. Net profit margin
3. Perform EDA(*exploratory data analysis*) on features.
4. Label the data using the logic given below:
  - a. A company is called in stress when its revenue to expenses ratio is less than 1.
5. Train a machine learning classifier(Logistic regression, support vector machine, naive bays, decision tree ) to predict the classes and get the correlation of coefficients (weights) with respect to the degree of stress.
6. Use the ensemble model to predict the final degree of stress.
7. Evaluate the model on test data with evaluation matrices.

## PART B.

**Forecast Cashflow for any five companies till the next 4 data points and plot the forecasted line graph with historical data also please explain your forecasted result using prescriptive analytics.**

***Note: For each part write a python code with comments in each section. Prepare a pdf document to justify each step with the model used and its configurations.***