**Executive Summary**

Bankruptcy prediction is the art of predicting bankruptcy and various measures of financial distress of public firms. The importance of the area is due in part to the relevance for creditors and investors in evaluating the likelihood that a firm may go bankrupt. It is a vast area of finance and accounting research.

The quantity of research is also a function of the availability of data: for public firms which went bankrupt or did not (as we have used in our analysis), numerous accounting ratios that might indicate danger can be calculated, and numerous other potential explanatory variables are also available. Consequently, the area is well-suited for testing of increasingly sophisticated, data-intensive forecasting approaches.

**Objective: -**

Our objective is to predict the bankruptcy for different companies. We will try to understand and analyze each of the 64 attributes given in the Polish companies’ dataset, along with 10,503 examples given and build a predictive model for bankruptcy rate of a given company. We will also use as many learning algorithms as we can build a robust model comparison. Whenever a business goes to a bank for business loan, loan underwriter assesses the good financial standing of the company based on various financial ratios, we have also used these in our analysis.

**Approach: -**

We are given a dataset of polish companies with 64 attributes, which contains companies which were bankrupt between 2000 and 2012 and some companies which were operational between 2007 and 2013. The code has been written in Python using different libraries like scikit-learn, seaborn, matplotlib etc. Different machine learning techniques for classification and regression like Logistic regression, Random forest etc have been used to achieve the objective.

**Keywords:**

Machine Learning, Python, scikit-learn, EDA, Banking