Project: Bankruptcy Prevention

**Business Objective:**

This is a classification project, since the variable to predict is binary (bankruptcy or non-bankruptcy). The goal here is to model the probability that a business goes bankrupt from different features.

The data file contains 7 features about 250 companies

The data set includes the following variables:

1. industrial\_risk: 0=low risk, 0.5=medium risk, 1=high risk.
2. management\_risk: 0=low risk, 0.5=medium risk, 1=high risk.
3. financial flexibility: 0=low flexibility, 0.5=medium flexibility, 1=high flexibility.
4. credibility: 0=low credibility, 0.5=medium credibility, 1=high credibility.
5. competitiveness: 0=low competitiveness, 0.5=medium competitiveness, 1=high competitiveness.
6. operating\_risk: 0=low risk, 0.5=medium risk, 1=high risk.
7. class: bankruptcy, non-bankruptcy (target variable).

**Acceptance Criterion:**

Need to deploy the end results using Flask /Streamlit.etc.

**Milestones:**

30 days to complete the Project

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| **Milestone** | **Duration** | **Task start - End Date** |
| Kick off and Business Objective discussion | 1 day |  |
| Data set Details & EDA | 1 Week |  |
| Model Building | 1 Week |  |
| Model Evaluation | 1 Week |  |
| Deployment & PPT | 1Week  1 day |  |
| Presentation |

Protocols:

1. All participants should adhere to agreed timelines and timelines will not be extended.
2. All the documentation – Final presentation and python code to be submitted before the final presentation day.
3. All the participants must attend review meetings
4. **Industrial Risk**: This feature evaluates the level of risk associated with the industry in which the company operates. Industries vary in terms of stability, market demand, and susceptibility to economic downturns. Understanding the industrial risk helps assess the external factors that could impact the company's financial performance. For banks, this information is crucial as they need to gauge the risk associated with lending to companies operating in different sectors.
5. **Management Risk**: Management risk refers to the competence and effectiveness of the company's leadership in managing its operations and navigating challenges. A high management risk indicates potential issues such as poor decision-making, governance problems, or lack of strategic vision. Banks consider management risk when evaluating the ability of a company's leadership to generate profits, repay debts, and maintain financial stability.
6. **Financial Flexibility**: Financial flexibility measures the company's ability to manage its financial obligations and adapt to changing circumstances. A high level of financial flexibility suggests that the company has sufficient liquidity, access to capital, and manageable debt levels. In the banking context, assessing financial flexibility helps determine the likelihood of a company facing liquidity issues or defaulting on its loans.
7. **Credibility**: Credibility reflects the reputation and trustworthiness of the company in the eyes of investors, creditors, and other stakeholders. It encompasses factors such as transparency, integrity, and reliability of financial reporting. Banks rely on credibility assessments to gauge the risk of lending to a company and to ensure the accuracy of financial information provided by borrowers.
8. **Competitiveness**: Competitiveness assesses the company's ability to maintain market share, generate profits, and sustain growth in a competitive environment. Factors such as product differentiation, market position, and innovation capabilities influence competitiveness. Banks consider a company's competitiveness when evaluating its long-term viability and ability to generate cash flows for debt repayment.
9. **Operating Risk**: Operating risk refers to the potential for losses arising from operational failures, such as production disruptions, supply chain issues, or regulatory compliance failures. High operating risk can negatively impact profitability and financial stability. For banks, understanding a company's operating risk helps assess the likelihood of financial distress and the potential impact on loan repayment.

Initially the data is like 0.5;0;0;0;0;1;bunkrupt so I used

Excel > Data > Text to column, to separate them

Or we can use df = pd.read\_csv(“ ”,sep=';')