**Team name: Growth Gurus**

**Members:** Akansha Shetty, Kaparotu Venkata Surya Tharani, Chimirala Kowstubha

**Dataset:** synthetic financial data

**Roles allocated:**

**Akansha:**

* **Descriptive Analysis:** This person will be responsible for summarizing and describing the characteristics of the dataset. Should analyze basic statistics, distributions, and visualizations to gain insights into the overall nature of the data.
* **Multivariate Analysis:**  Task involves analyzing multiple variables simultaneously to identify complex patterns and relationships within the data.
* May use techniques like regression analysis or clustering to understand how different variables interact with each other.
* **Anomaly Detection:** Role is to identify unusual patterns or outliers in the data that may indicate fraudulent activities.
* And will employ anomaly detection algorithms and techniques to flag potentially fraudulent transactions for further investigation.

**Tharani:**

* **Univariate Analysis:**Must focus on analyzing individual variables within the dataset to understand their distributions and characteristics.
* **Predictive Modeling:** Will develop statistical or machine learning models to predict the likelihood of fraud based on historical data. And will select appropriate algorithms, preprocess the data, train the models, and evaluate their performance to build effective fraud detection models.
* **Text Mining & NLP:** Responsibility is to analyze textual data within the dataset, such as transaction descriptions, using natural language processing techniques.
* And extract relevant information, identify patterns or keywords related to fraud, and utilize sentiment analysis or topic modeling to uncover insights.

**Kowstubha:**

* **Bivariate Analysis:** Will examine the relationship between pairs of variables within the dataset to identify correlations or patterns that may indicate fraudulent behavior.
* This involves analyzing how different variables interact with each other and whether there are any significant associations.
* **Network Analysis:** Their task is to analyze the network structure within the dataset, focusing on relationships and connections between entities like customers, merchants, or transactions,
* will use network analysis techniques to detect suspicious patterns of behavior, such as collusion or organized fraud rings.
* Combining of all the individual ipynb files.