**Which topic did you choose to apply the data science methodology to?**

Our Bank has many customers and we would like to enroll them for our credit card , so can we get the list of customers in our data-set and has high possibility to enroll in one and pay the loan debited or taken by using credit card.

**Next, you will play the role of the client and the data scientist.**

**Using the topic that you selected, complete the Business Understanding stage by coming up with a problem that you would like to solve and phrasing it in the form of a question that you will use data to answer. (3 marks)**

**You are required to:**

1. **Describe the problem, related to the topic you selected.**
2. **Phrase the problem as a question to be answered using data.**

**For example, using the food recipes use case discussed in the labs, the question that we defined was, "Can we automatically determine the cuisine of a given dish based on its ingredients?"**

**Goal:** Can we get the list of the customers who has high possibility to opt for our credit card by our data.  
**Objective:**The customers should be able to pay back the loan taken from Credit Card.

**Briefly explain how you would complete each of the following stages for the problem that you described in the Business Understanding stage, so that you are ultimately able to answer the question that you came up with. (5 marks):**

1. **Analytic Approach**
2. **Data Requirements**
3. **Data Collection**
4. **Data Understanding and Preparation**
5. **Modeling and Evaluation**

**You can always refer to the labs as a reference with describing how you would complete each stage for your problem.**

1.Analytic Approach : as per the business understanding , we need to predict the people who can pay back the loan so we need to build a predictive model

We will use Decision tree classification because of

-Categorical Outcome

-Explicit decision path

-likelihood of classification outcome

-easy to understand and apply

2.Data Requirements:

-Customer With more than One business or High earnings

-Customer with Permanent Address

-Past Transaction

-Upcoming Festivals

-Economy of the Country

-income Tax File Reports Of the Customers

3.Data Collection:

-RTI Of bank

-Bank Data Set Of customers

-Countries Reoccurring Events like festivals.

-GDP of world From Kaggle

4.Data Understanding:

-Finding any trend By Visualization

-Analyzing any Correlations

-Histograms

-Uni-variate Stats

-Pairwise collection

5:Data Preparation:

-Text Analysis of the forms of customers

-Removing Duplicate

-Filling or removing Missing Value

-Reedit Invalid Values

-using easy formats like capitalizing or lower casing some datas ,converting text to numbers

-Feature Engineering to add or remove Independent Variables

-Creating Training sets and test sets

6:Modelling and Evaluating the Data:

-lessen the sensitivity and avoid type 2 error false negative

-using a proper ML model to answer the desired question

-finding and changing analytical approach if the answer is far from exxpectation

-evaluate to see if the desired output is obtained

- give feedback to help getting more accuracy