**Please limit yourself to 4 hours time!**

**Place your submissions to the Submissions sub-folder with the naming convention: lastname\_firstname**

### **The Goal**

You work as a data scientist at a credit card company. A senior VP is leading an effort to reduce costs associated with signup incentives by offering credit cards with carefully targeted benefits that will attract new cardholders. As a first step, she would like you to examine cardholder data collected over the last 6 months in order to understand the various kinds of users who use the company’s products. She is especially interested in getting an idea of which benefits to associate with each new card offering.

### **The Data**

The data consists of [a csv file](https://drive.google.com/open?id=1iiqQ090w95vMF7ysGmNa_zmaFS18ipEJ) with 8950 rows (one for each cardholder) organized in columns with descriptive headers.

Explanation

This case requires to develop a customer segmentation to define marketing strategy. The  
sample Dataset summarizes the usage behavior of about 9000 active credit card holders during the last 6 months. The file is at a customer level with 18 behavioral variables.

Following is the Data Dictionary for Credit Card dataset :-

CUST*ID* : Identification of Credit Card holder (Categorical)  
**BALANCE** : Balance amount left in their account to make purchases (  
BALANCEFREQUENCY : How frequently the Balance is updated, score between 0 and 1 (1 = frequently updated, 0 = not frequently updated)  
**PURCHASES** : Amount of purchases made from account  
ONEOFF*PURCHASES* : Maximum purchase amount done in one-go  
INSTALLMENTSPURCHASES : Amount of purchase done in installment  
**CASH*ADVANCE*** : Cash in advance given by the user  
PURCHASESFREQUENCY : How frequently the Purchases are being made, score between 0 and 1 (1 = frequently purchased, 0 = not frequently purchased)  
ONEOFFPURCHASESFREQUENCY : How frequently Purchases are happening in one-go (1 = frequently purchased, 0 = not frequently purchased)  
PURCHASESINSTALLMENTSFREQUENCY : How frequently purchases in installments are being done (1 = frequently done, 0 = not frequently done)  
CASHADVANCEFREQUENCY : How frequently the cash in advance being paid  
CASHADVANCETRX : Number of Transactions made with "Cash in Advanced"  
PURCHASES*TRX* : Numbe of purchase transactions made  
**CREDITLIMIT** : Limit of Credit Card for user  
**PAYMENTS** : Amount of Payment done by user  
MINIMUM\_PAYMENTS : Minimum amount of payments made by user  
PRCFULLPAYMENT : Percent of full payment paid by user  
TENURE : Tenure of credit card service for user