

**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](#) with 8950 rows (one for each cardholder) organized in columns with descriptive headers.

### Key to column labels:

CUST\_ID : Credit card holder ID

BALANCE : Monthly average balance (based on daily balance averages)

BALANCE\_FREQUENCY : Ratio of last 12 months with balance

PURCHASES : Total purchase amount spent during last 12 months

ONEOFF\_PURCHASES : Total amount of one-off purchases

INSTALLMENTS\_PURCHASES : Total amount of installment purchases

CASH\_ADVANCE : Total cash-advance amount

PURCHASES\_FREQUENCY : Frequency of purchases (percentage of months with at least one purchase)

ONEOFF\_PURCHASES\_FREQUENCY : Frequency of one-off-purchases

PURCHASES\_INSTALLMENTS\_FREQUENCY : Frequency of installment purchases

CASH\_ADVANCE\_FREQUENCY : Cash-Advance frequency

AVERAGE\_PURCHASE\_TRX : Average amount per purchase transaction

CASH\_ADVANCE\_TRX : Average amount per cash-advance transaction

PURCHASES\_TRX : Average amount per purchase transaction

CREDIT\_LIMIT : Credit limit

PAYMENTS : Total payments (due amount paid by the customer to decrease their statement balance) in the period

MINIMUM\_PAYMENTS : Total minimum payments due in the period.

PRC\_FULL\_PAYMENT : Percentage of months with full payment of the due statement balance

TENURE : Number of months as a customer