

**Goals:**

Find out these numbers in each month from April 2020 to April 2021.

- Total # of drop-off users
- Total # of returning users
- Total # of new users

Most of the RentSpree transactions are based on transactions. Therefore, we need to develop a special method to set up the churn period for use in calculating drop-off users and returning users. The various definitions are defined as follows.

- Total # of drop-off users in month M:
  - The number of users who didn't create transactions longer than the **churn period** (Days) in month M
- Total # of returning users in month M:
  - The number of drop-off users who create the transactions in month M
  - If we have the same user in condition for drop-off users and returning users in the same month, We assume that we have 1 returning user and 1 returning user in that month.
- Total # of new users in month M:
  - The number of users who create the first transaction in month M

\*The value of **churn periods** differs for each user type due to their different characteristics in using our system. Therefore, we assign each group of users a different churn period as follows

- A = 360 Days
- B = 360 Days
- C = 120 Days
- D = 260 Days

Input:

1. daily\_transactions.csv: we have only 3 columns in this file.
  - \_id: The unique id for users
  - event\_date: The date that the user has created the transaction in our system
  - usertype: The type of user. [A, B, C, D]. If you found the same user who has more than 1 user type, please remove that user from the calculation.

Expected Output:

1. File CSV with 4 columns

month	dropoff_users	returning_users	new_users
April 2020	23127	10293	3810
May 2020	39494	12752	3278
...			
April 2021	81237	19804	8921

\*\* These numbers are just mock values.

2. Source code to produce the CSV in #1
3. How to run source code to produce the CSV in #1

Additionally, you can provide additional visual representations of how the code works in the form of diagrams.