A line of credit product

The whole project has 2 parts: credit.py and test.py

In credit.py:

#credit\_line(a child class of main\_factors) has the below methods:

#first\_transaction: for the first transaction calculation which starts when principal is loaded from 0 to positive

#transaction\_in\_period: for the non-first transaction where exclude the above scenario and only accountable for activity in 30 dates period

#over\_thirty\_dates\_cal: accounting for the activities lasting more than 30 dates between transactions or principal outstanding exceeding the period

#end\_period\_cal: concluding all the billing amount in the end of each period

#action\_management: manage the logic of actions for the above methods activities

#operation: read in a data frame and proceed with outcomes for transaction at each point in time

In test.py:

# All users basic logic cases were covered and a number to number match in record test was proceeded afterward on the 7 records transactions.

# the test cases order was the same as the excel’s sheet (Sheet1,Sheet2,Sheet3…etc). All 9 test cases has been passed. Yet, to check the credit balance, principal outstanding, interest due, we need to input 0 to the “amount” and “p” (payment) or “w” (withdraw) to the program to process. And we assume no negative transaction amount exists, since in the front end, this kind of input should be intercepted before proceeding to the database or the system.

# If we withdraw more than the credit limit, an error text will appear to the user and the data was intercepted and end the program. It was tested manually with sheet6 in test\_case2.xlsx

Side Notes:

Also, the accounting rule described in the requirement sheet tells only in the end of 30 days, does the credit card incur interest for the period during which the principal outstanding is greater than 0. Plus, as long as the principal is in the credit card, the dates accounting for the interest is effective, regardless of hours.

Finally, as it is said in the requirement sheet: “Interest is not compounded, so it is only charged on outstanding principal”, all the way through, the interest and the principal categories are completely separated. So at the end of the month, if there are positive amount of interest and principal, interest would stay in its own and not be transferred to the principal account, yet the credit balance takes into account of both.