Problem Statement: -

You have been given dummy bureau report of some individuals in XML format. Bureau report is loan history of the customer. The report has information of his/her historical trade experience, inquiries he/she has made for loan requests. Trade experience includes information such as his/her the loan amount taken by him/her, loan disbursed date, Date of report when his information is reported in bureau and others information such as his payment dpd status and months.

DPD is days past due during his EMI duration. For example, if a customer doesn't repay his/her emi for more than 30 days after his given repayment date, then it is said that a customer has gone 30+dpd.

The report has information about multiple trades according to the customer's trade types (eg:-Business Loan, Personal Loan ,etc.) , disbursed date, disbursed amount etc.

For each single trade you will have Disbursed Amount (loan amount) a customer has taken for that loan (eg-100000(Disbursed Amount) for Business Loan(Account Type) on 01-06-2011(Disbursed date) and for each trade you will have his payment history of that particular loan that has his/her DPD value, status and month for which he has to pay back his EMI.

An example is shown below for a particular customer from his XML bureau report.

"<LOAN-DETAILS>

<ACCT-NUMBER>XXXX</ACCT-NUMBER>

<CREDIT-GUARANTOR>XXXX</CREDITGUARANTOR>

<ACCT-TYPE>Personal Loan</ACCT-TYPE>

<DATE-REPORTED>01-04-2019</DATE-REPORTED>

<OWNERSHIP-IND>Individual</OWNERSHIP-IND>

<ACCOUNT-STATUS>Active</ACCOUNT-STATUS>

<DISBURSED-AMT>60,000</DISBURSED-AMT>

<DISBURSED-DATE>16-08-2018</DISBURSED-DATE>

<INSTALLMENT-AMT>7,293</INSTALLMENT-AMT>

<OVERDUE-AMT>0</OVERDUE-AMT>

<WRITE-OFF-AMT>0</WRITE-OFF-AMT>

<CURRENT-BAL>14,252</CURRENT-BAL>

<SECURITY-STATUS>Un-secured</SECURITYSTATUS>

<COMBINED-PAYMENTHISTORY>Apr:2019,000/STD|Mar:2019,DDD/DDD|Feb:2019,031/XXX|Jan:2019,000/STD|Dec:2018,DDD/DDD|Nov:2018,000/STD|Oct:2018,000/STD|Sep:2018,000/STD|Aug:2018,000/STD|</COMBINED-PAYMENT-HISTORY>

<MATCHED-TYPE>PRIMARY</MATCHED-TYPE>

<SECURITY-DETAILS></SECURITY-DETAILS>

<LINKED-ACCOUNTS></LINKED-ACCOUNTS>

</LOAN-DETAILS>"

The information marked in red has **Disbursed Amount** and **Payment history** information of a particular individual for a single trade.

<DISBURSED-AMT>60,000</DISBURSED-AMT>:-Loan amount is 60000 for this loan.

<COMBINED-PAYMENT-HISTORY>Apr:2019,000/STD|Mar:2019,DDD/DDD|Feb:2019,031/XXX|Jan:2019,000/STD|Dec:2018,DDD/DDD|Nov:2018,000/STD|Oct:2018,000/STD|Sep:2018,000/STD|Aug:2018,000/STD|</COMBINED-PAYMENT-HISTORY>:- for April 2019 he has 0 DPD(he has paid his EMI on time) in Feb 2019 he has gone more than 30 days past due.

In the Payment history, there may be instances where instead of the exact days past due there are codes. Following table has the mapping of these codes to DPD:

Code	DPD Mapping
XXX	000
STD	000
SUB	091
DBT	151
LSS	181
SMA	061
DDD	000

You are given ~10 customers datafiles. Calculate below mentioned 3 elements for all the 10 customers. Send out the csv/excel along with your working code for the problems.

Based on the above statement you have to write a python code to solve the following problems: -

1) What percentage of trades are with 30+ DPD (more than 30 days past due) among all the trades available for each of the customer?

2) What is the sum of total disbursed amount for all loans for each customer?

3) What is the maximum number of months of 30+ due per trade was there for each of the customer??

e.g. for trade 1 there are 3 occurrences of 30+, for trade 2 there are 6 occurrences and for trade 3 there are 3 occurrences then the answer will be 6.