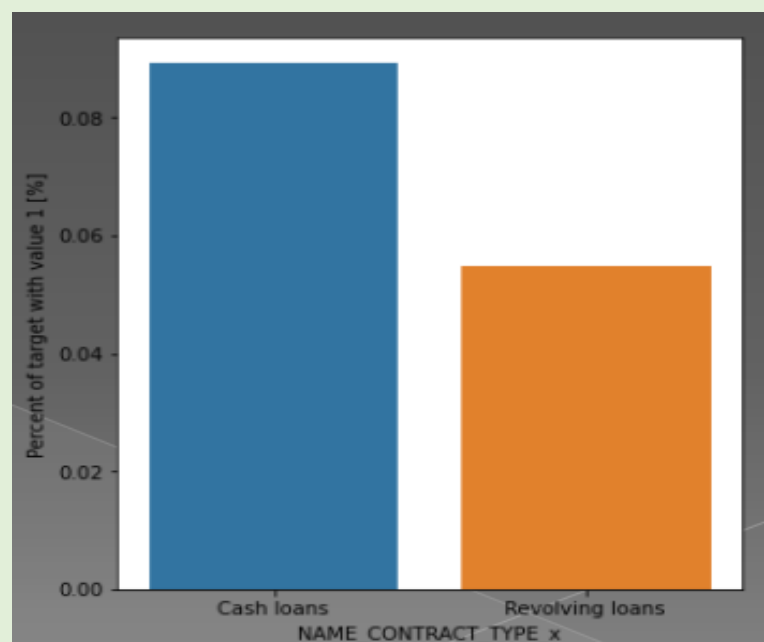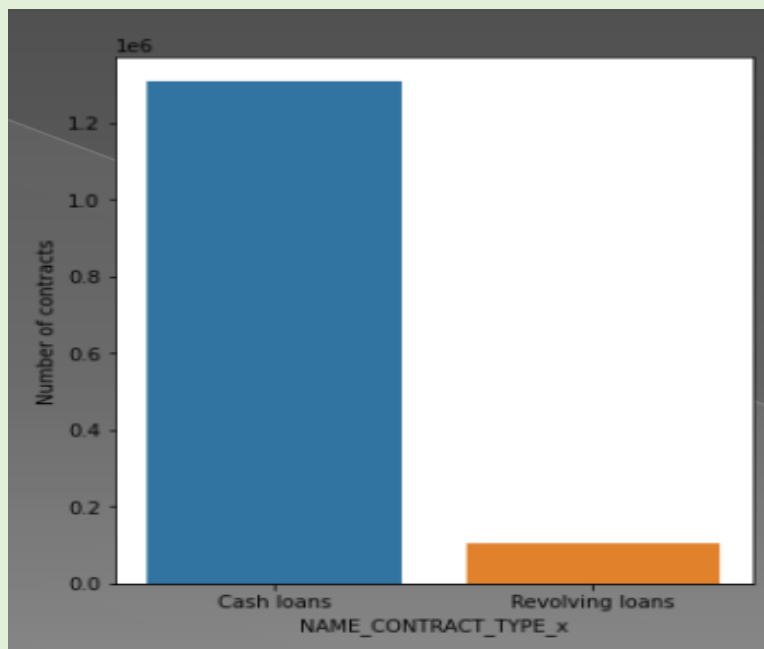# BANK LOAN CASE STUDY

UNIVARIATE ANALYSIS

DISTRIBUTION OF CONTRACT TYPE

We can see the revolving loans that a client takes is small in size when compared to cash loans. When the percentage% of non payment for the revolving loans are comparatively higher.

PURPOSE OF LOAN

- The credit price of the loan purposes like BUYING A HOME , BUYING A LAND, BUYING A NEW CAR and BUILDING A HOUSE is higher.
- These Loan purposes with REPAIRS are facing more difficulties as compared in payment on time.
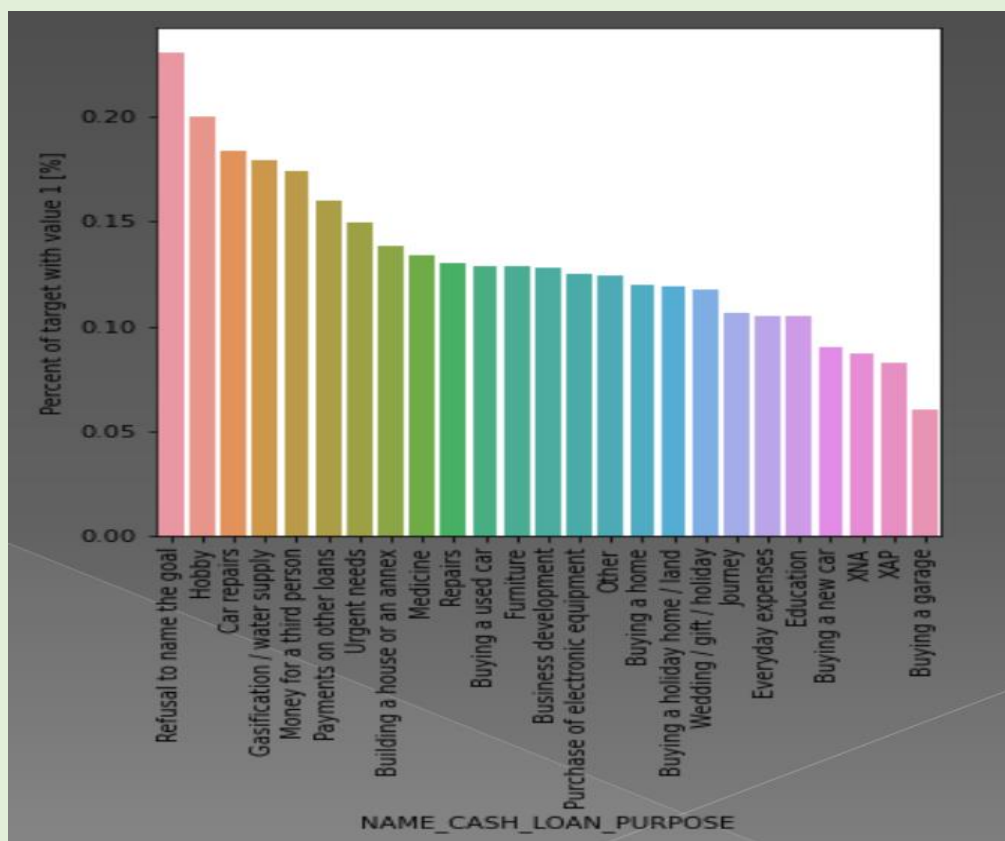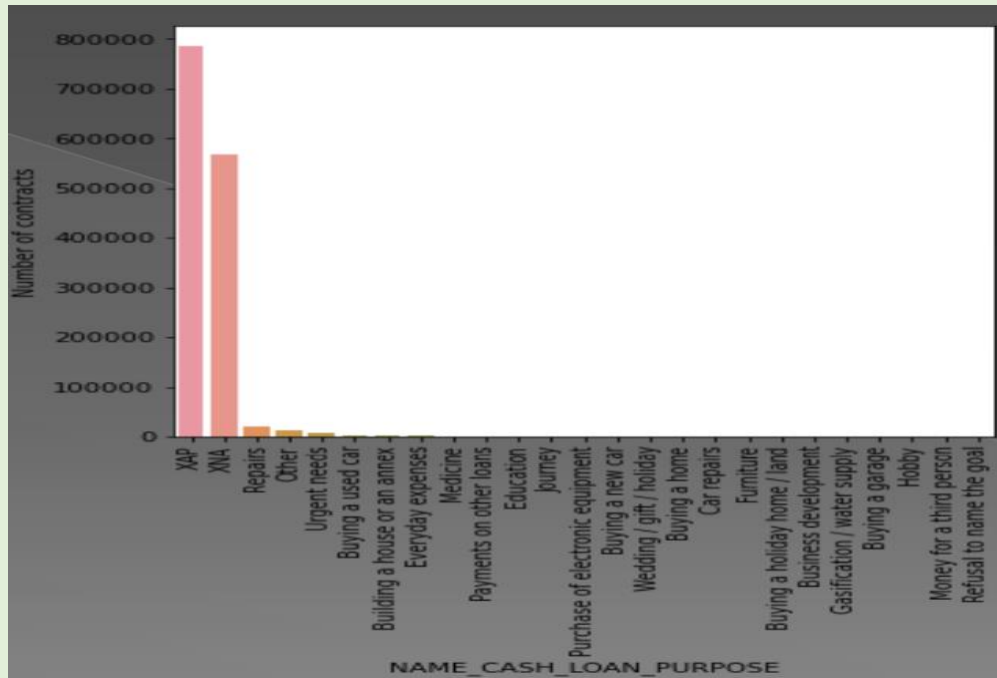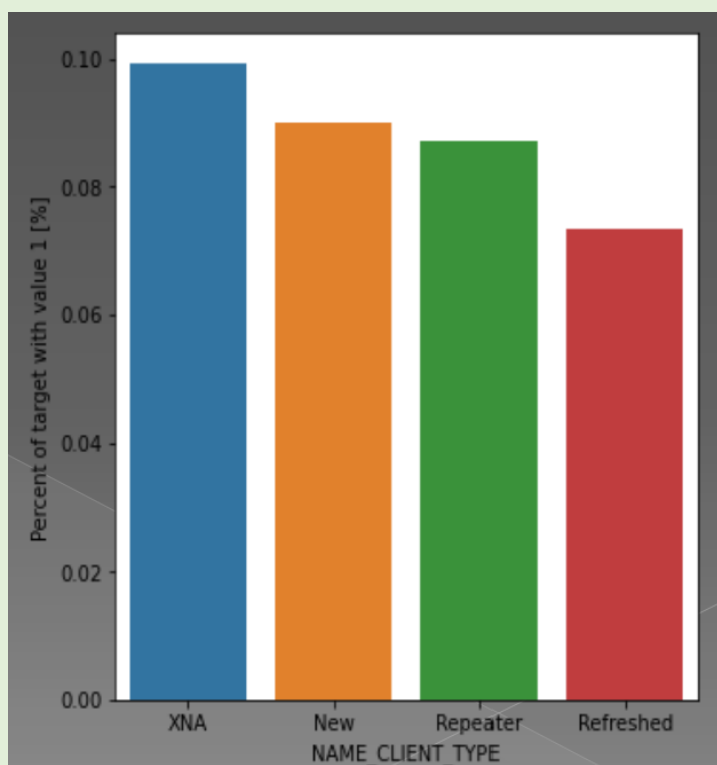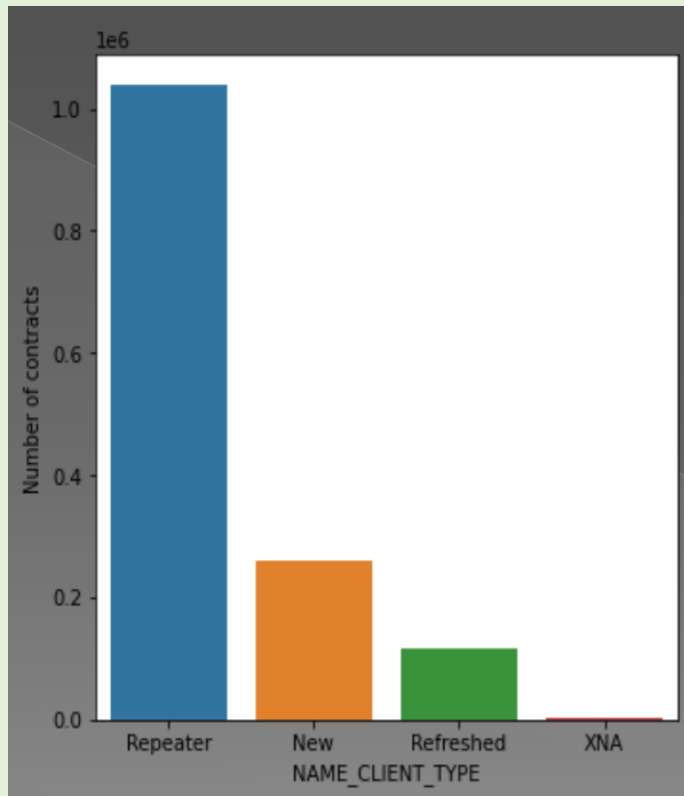
CONTRACT STATUS

As the contract status shows it has to be the percentage of refused is more for than the category but still the people who did not pay for after this approval is also more than 60 percent %
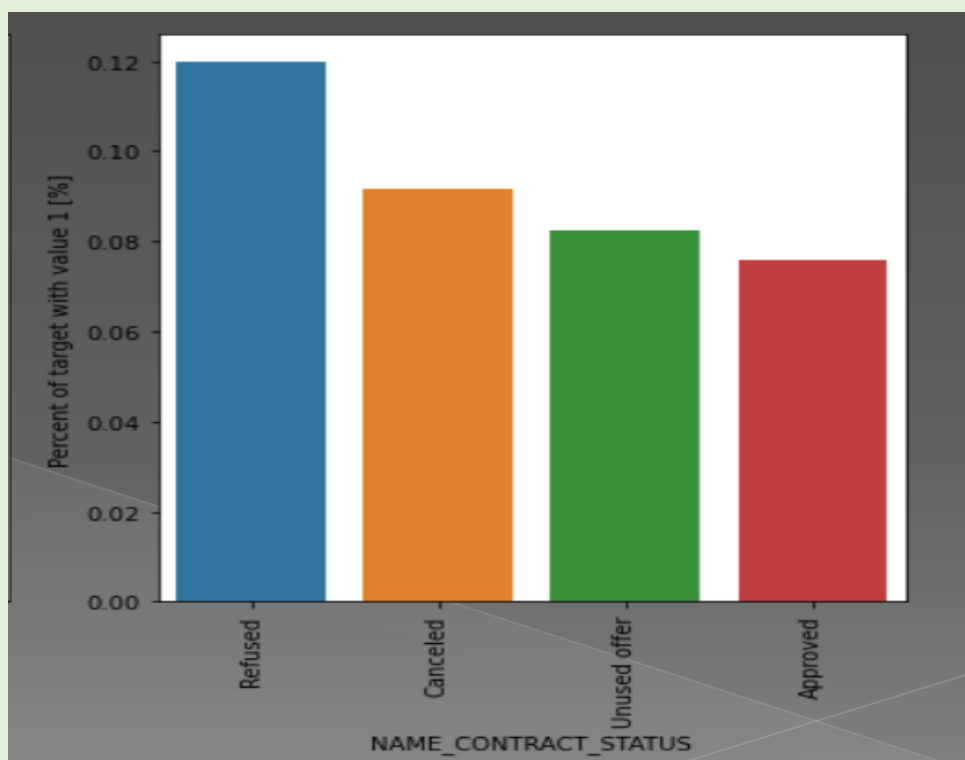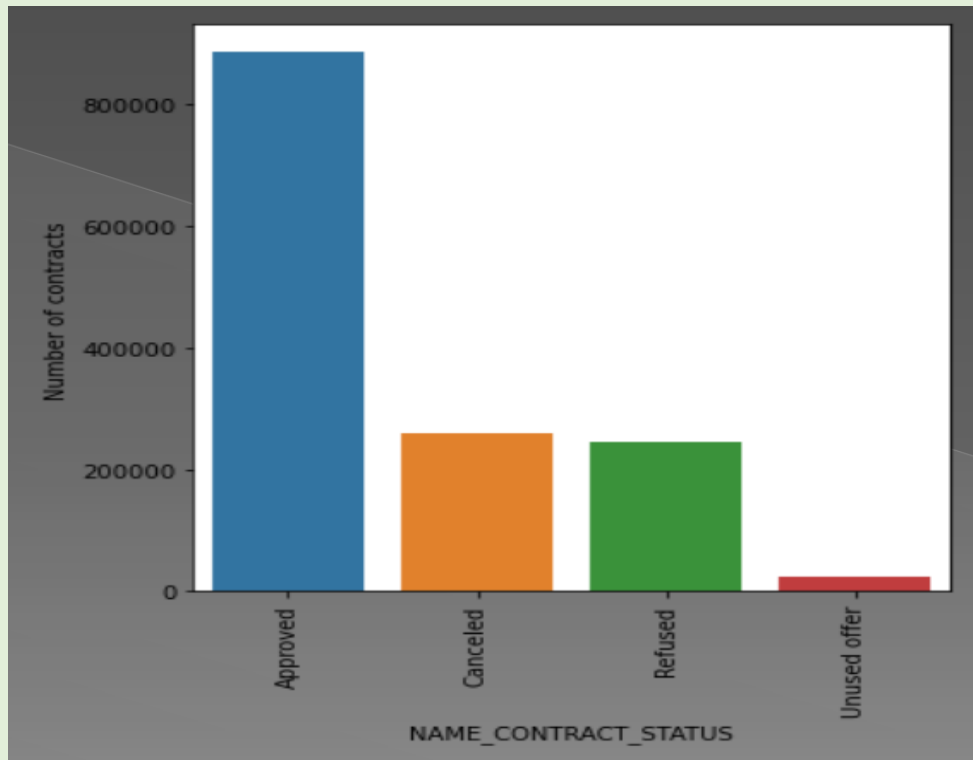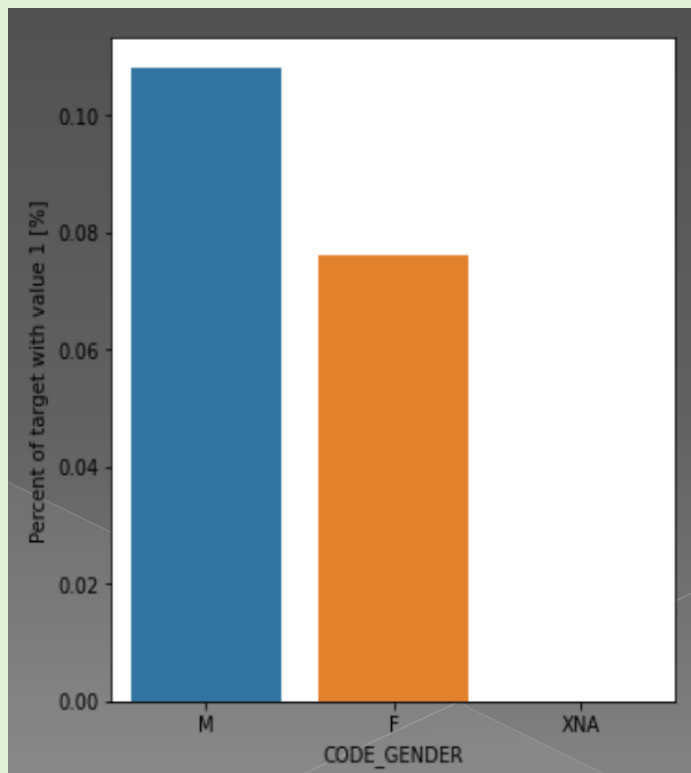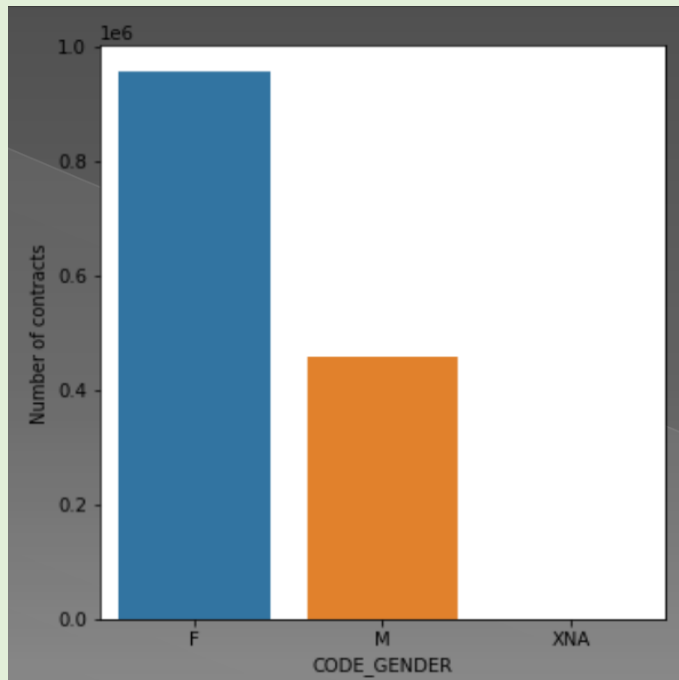
Type of Client

The repeated customers of the bank are also not repaying the loans on the time given. The are also having pending loan history.

Gender based analysis

This graph shows the percentage of non paying defaulters are more in men when compared to women clients. This gives conclusion that men are defaulters.

Gender based analysis

Flag Own Reality

Based on the below analysis cases there is own reality as well as own car.
But the percentage of loan non payment are equally tallyed to the same.
So this cases cannot be considered to be a factor for determination.
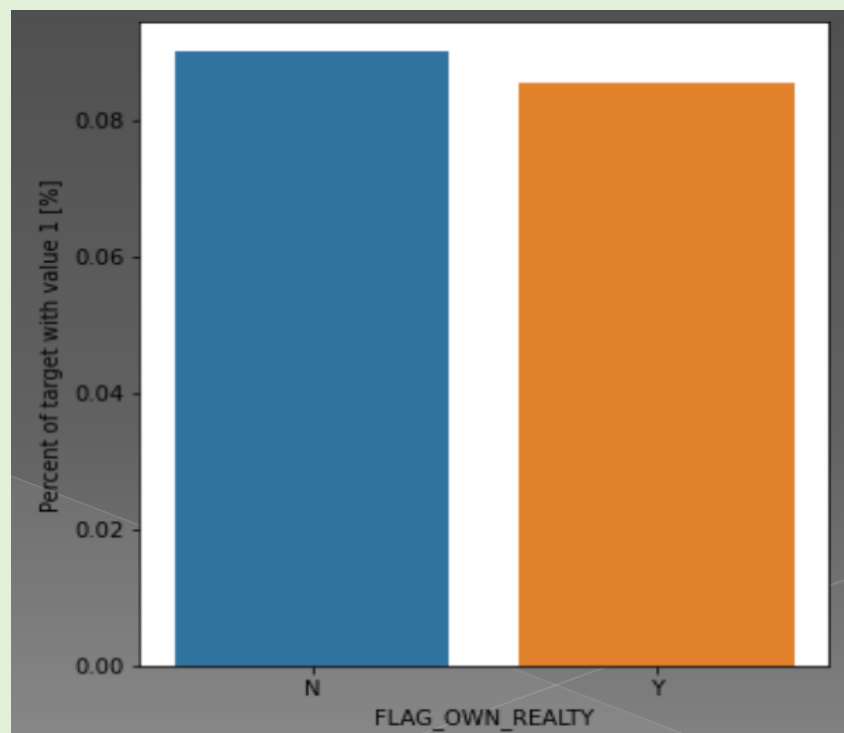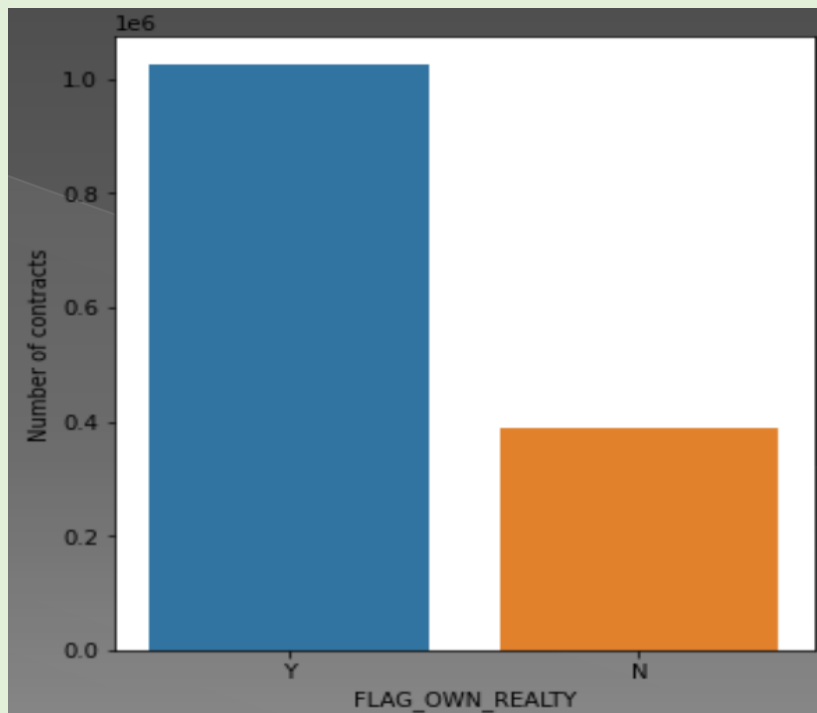
Count of children of the clients to analyse

From the below graph outcomes we can see that irrespective of 1,2,3,or 5 number of children the % percent of loan non payment is close but there is a difference for people with 6 and 4 number of children.
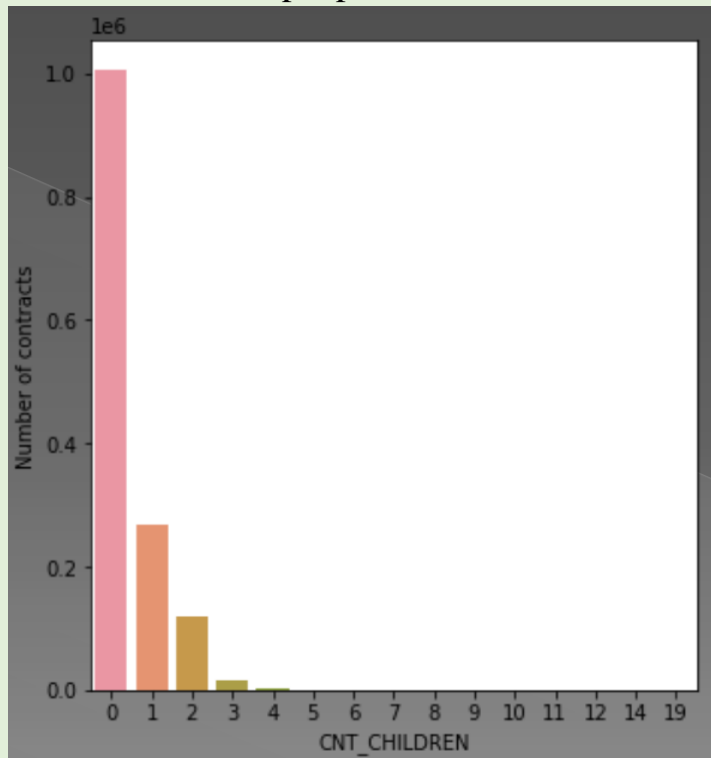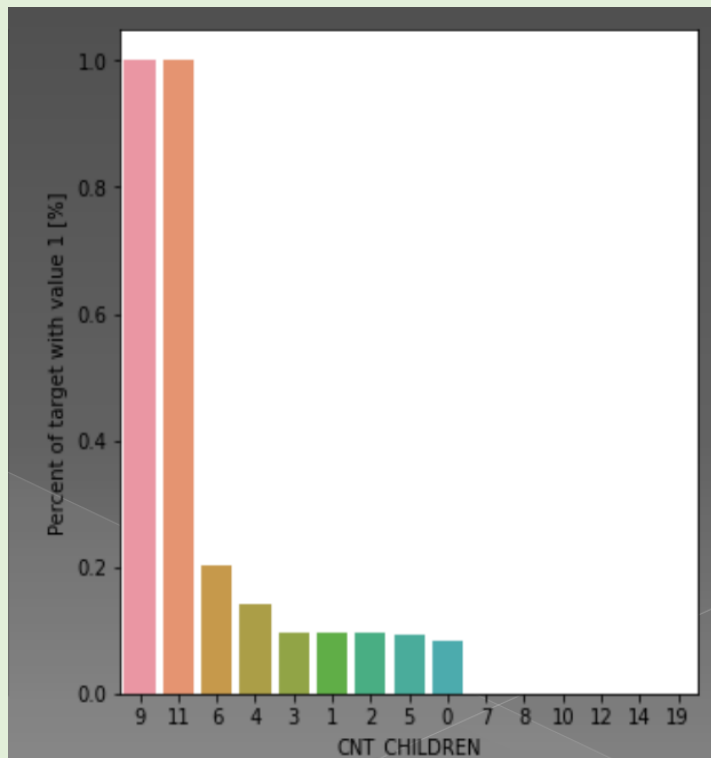
Type of income of the client

- The number of credits are higher than other ie. "Maternity leave" when compared to the income type of "working", "commercial associate", and "State servant".
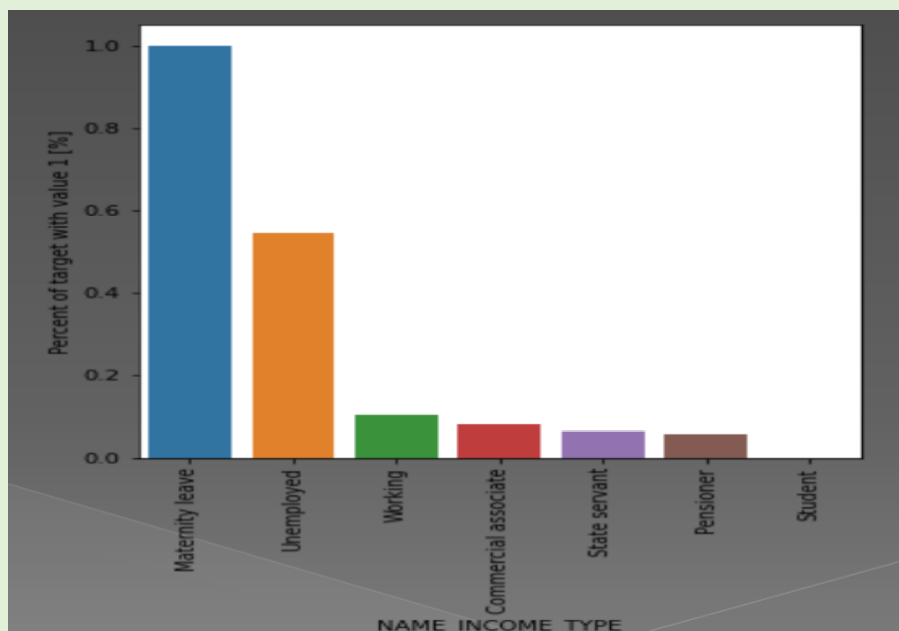- By this we get to know that females are having ore number of credits than male clients.
- The credits are lesser for the income type "Maternity leave"
- The type 1 clients are those who are given with no income type. These are "students", "pensioner" and "buisnessman" which actually means that they do not have any late payment history.
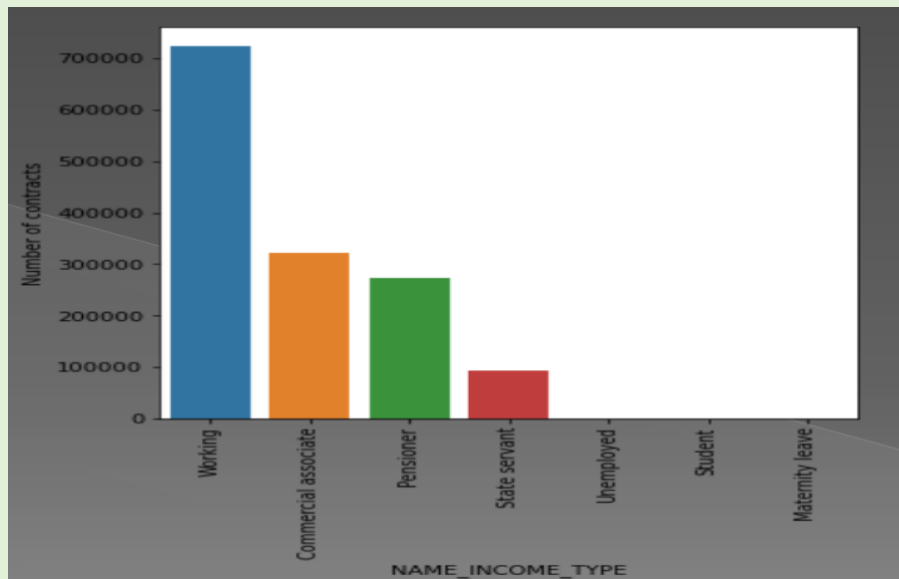
Type of Education

Higher the education higher is the re-payment rate. Clients who have higher level of education would repay the loan with out backlogs.
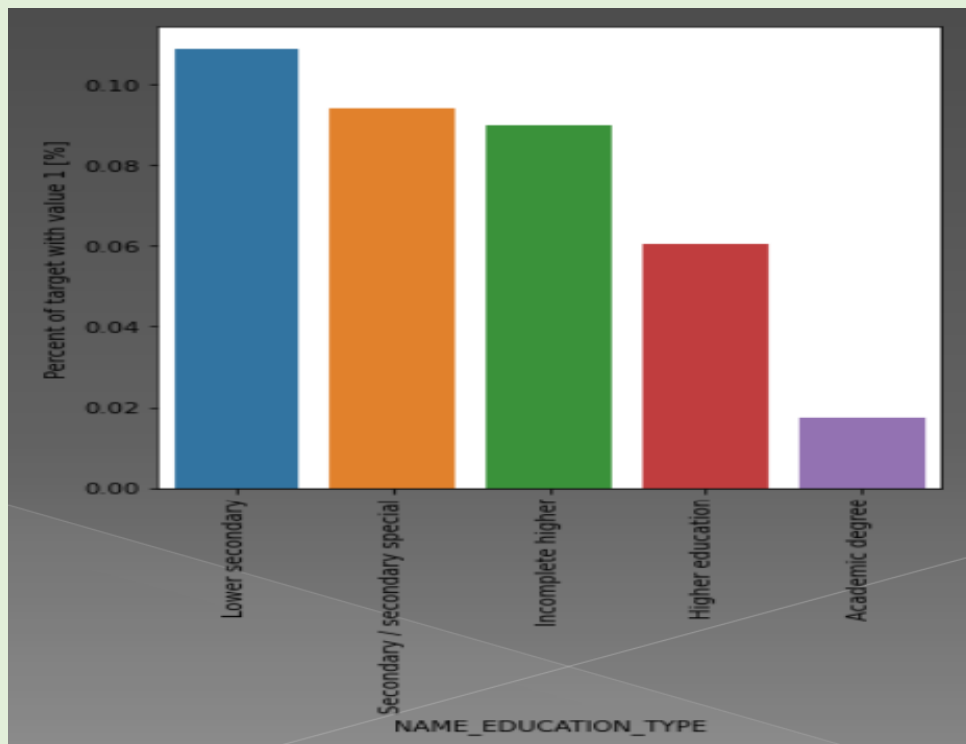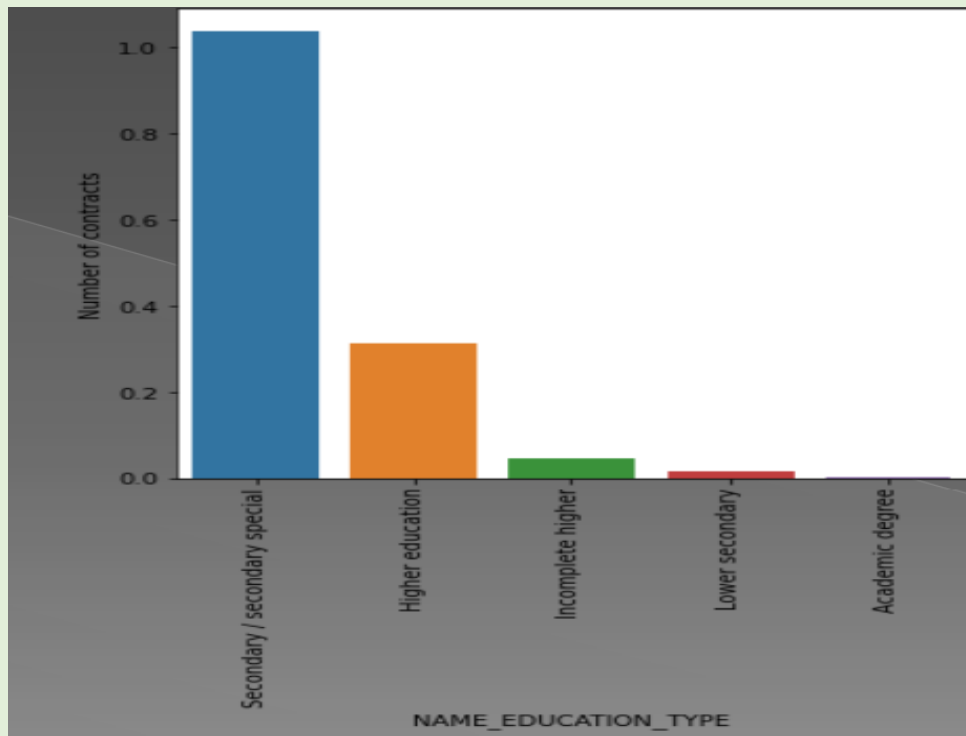
Family status

- Atmost non payment of loans is because of civil marriage and single people. Not married people of a family members have a higher percentage% of non payment history.
- Whereas the family members have better rate of loan repayment compared to single and separated people of civil marriage members even though they contribute to the higher than 60% of the total loan contracts being signed.
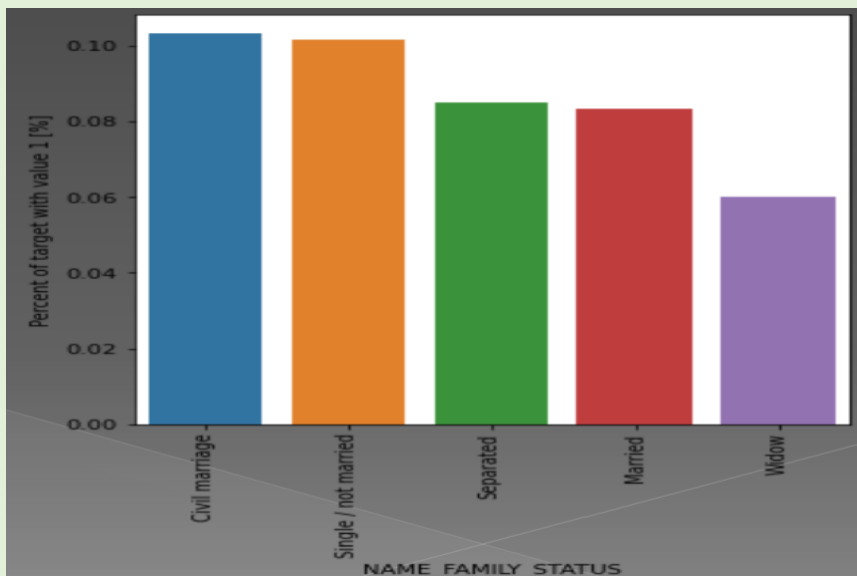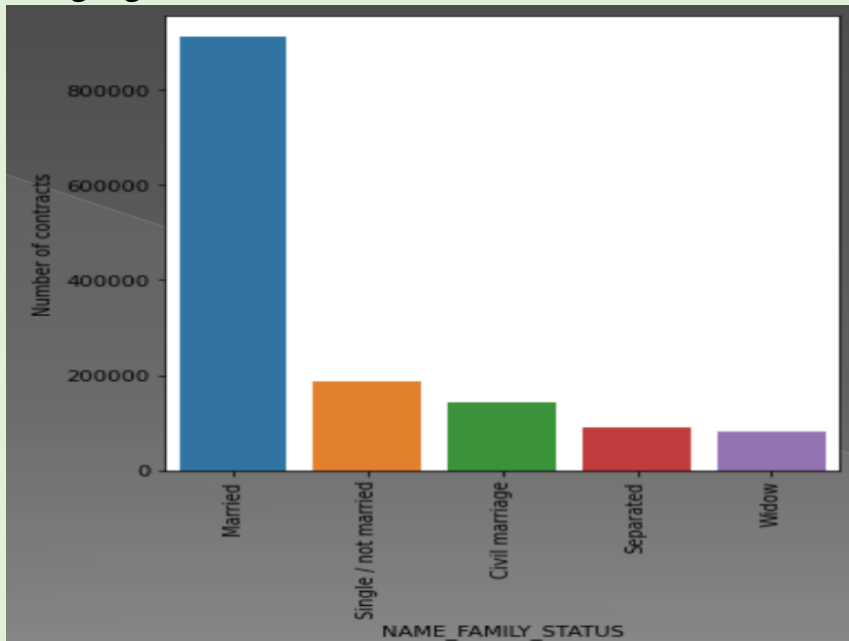
Housing type

- Bank can focus mostly on housing types based on
  - With parents
  - House / apartments
  - Municipal apartments

For calculating the successful loan payments rate.

- Bank limit the loan being provided to people who live in housing type of co-op apartments which may reduce risk of loan non repayment.
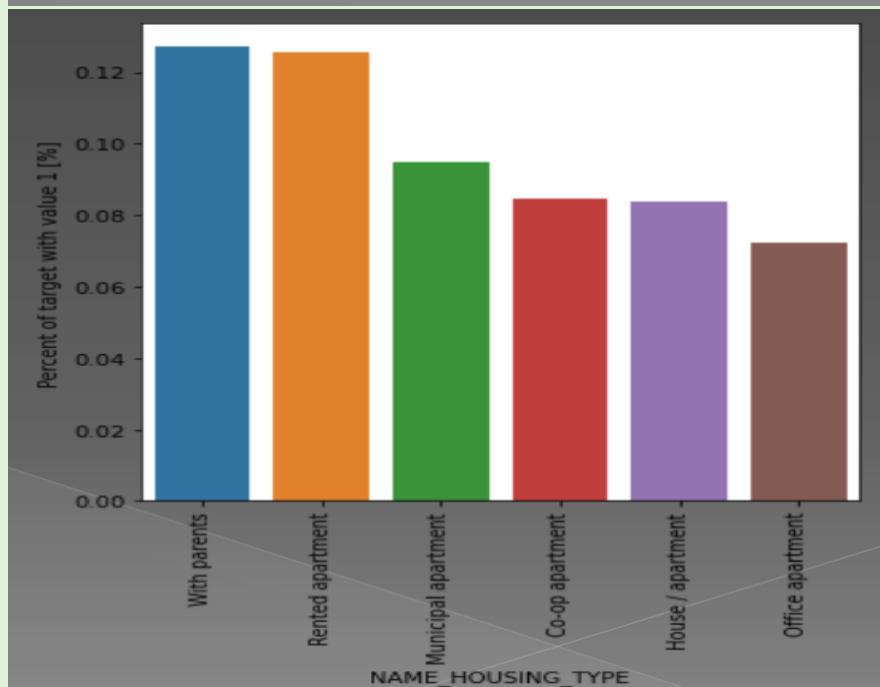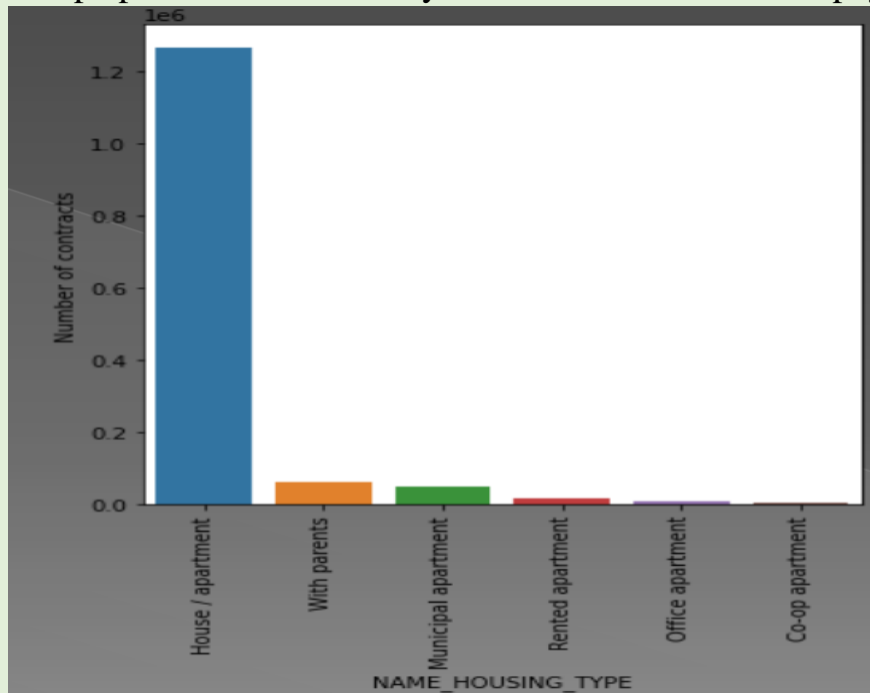
Count of family members

- Families witb people count less than 3 or may be equals 3 make over of more than 60% percent of loan contracts.

Loan repaid

- From the below graph we can see that the data is very much imbalanced as of the graph representation.
- "Class 0" are those who come under **loans repaid**.
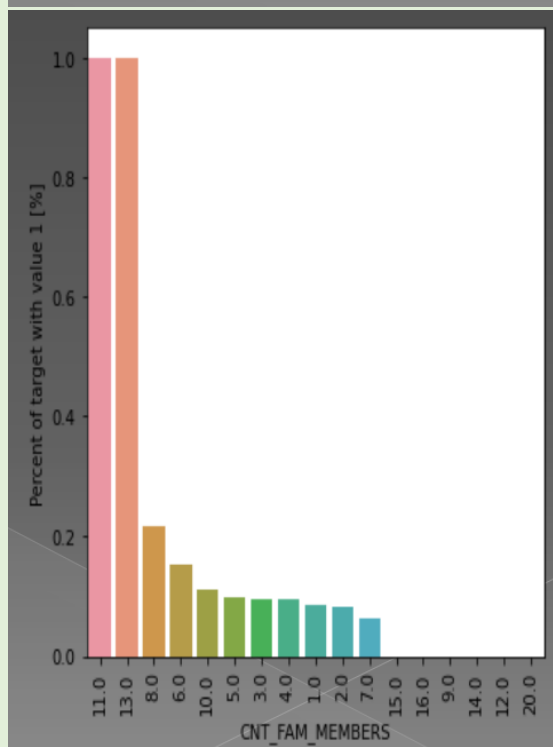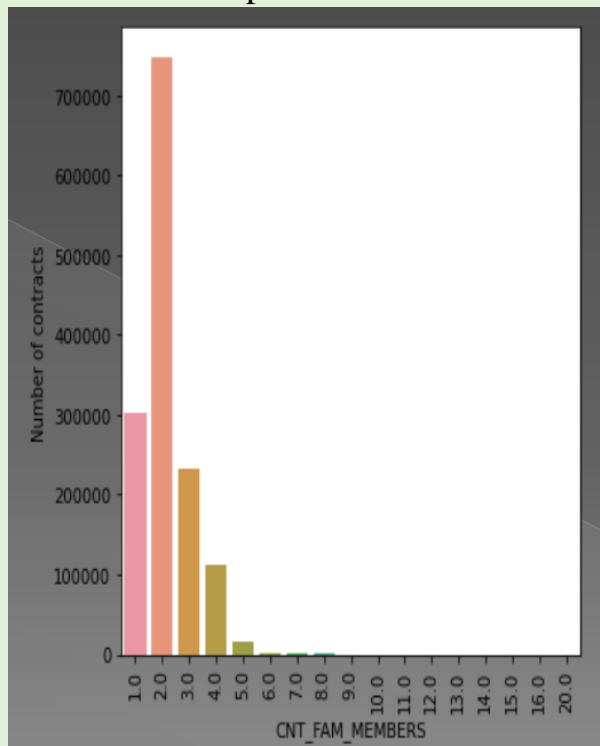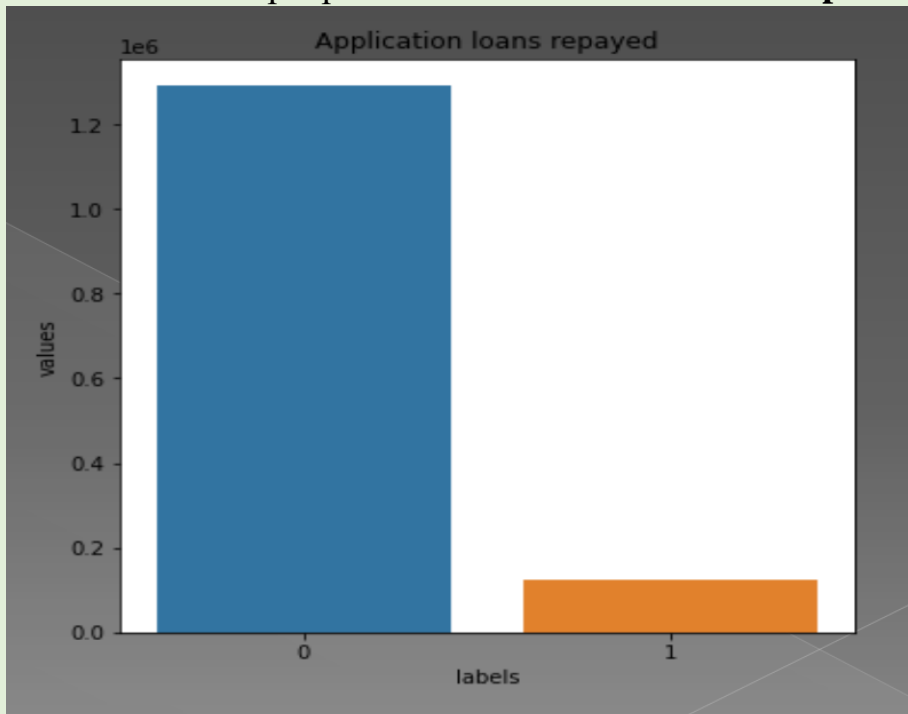- "Class 1" are the people who come under **loans not repaid**.

Heat map representation.

	CNT_CHILDREN	AMT_INCOME_TOTAL	DAYS_EMPLOYED	CNT_FAM_MEMBERS
CNT_CHILDREN	1.000000	0.011661	-0.247960	0.879224
AMT_INCOME_TOTAL	0.011661	1.000000	-0.067488	0.014119
DAYS_EMPLOYED	-0.247960	-0.067488	1.000000	-0.249285
CNT_FAM_MEMBERS	0.879224	0.014119	-0.249285	1.000000

Conclusion

- Banks should focus on providing loans to the ones who repay it, contract type "student" , "pensioner", "buisnessman" with housing type other than "co-op apartment" are likely to repay the loan without back logs. Hence they are marked under successful repyment contractors.
- Banks should be generous to less on income type of "working" as they are having most number pf unsuccessful payments.
- Also with loan purpose "repair" is having higher number of unsuccessful payments on time.
- Almost get as much as clients as contractors from housing type "with parents" as they are having least number of unsuccessful payments.