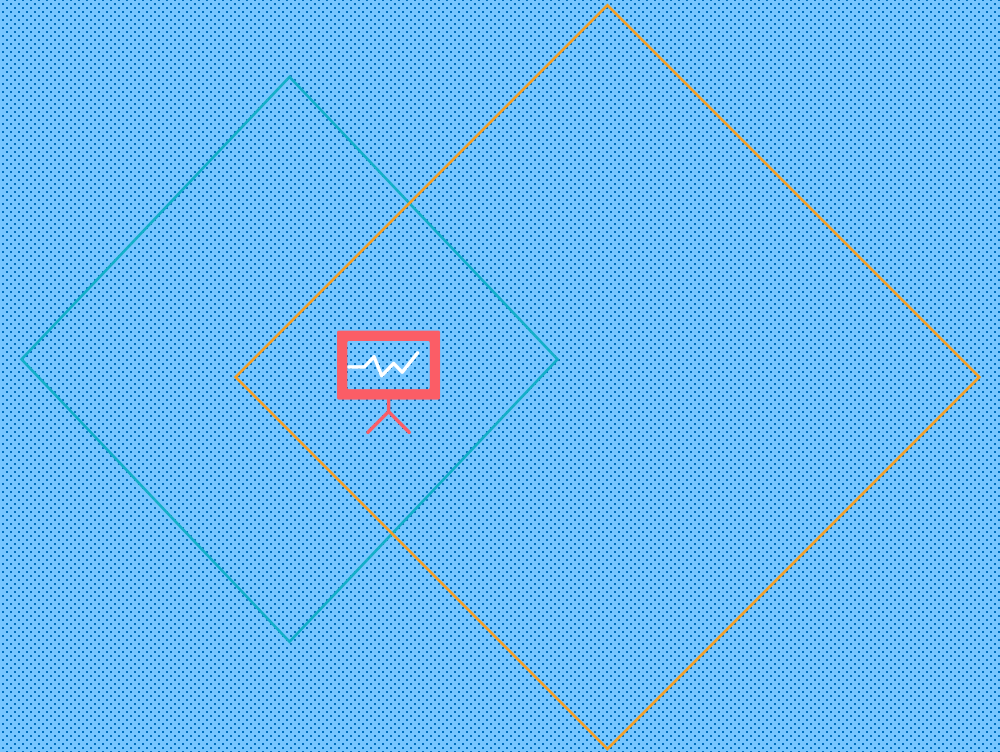


CREDIT EDA- BANK LOAN

Analytical Presentation



Anurag Agarwal DS-45

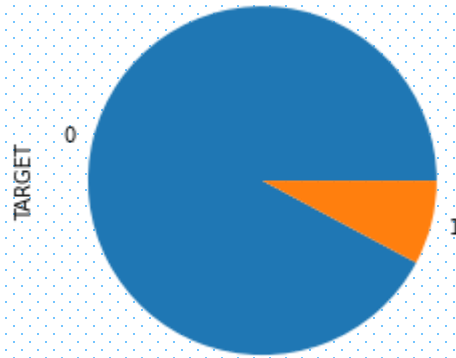
Synopsis-

- In the given data sets we have to study and analysis the factors behind the Loan Defaults, Approval, Refusal, Canceled and Unused Loans
- We have to visualize the data on the basis of hypothesis which has been assumed while analyzing the data
- We have to find the correlation between various factors and features and study them from different perspective
- We have to find workable solution for the Business problem

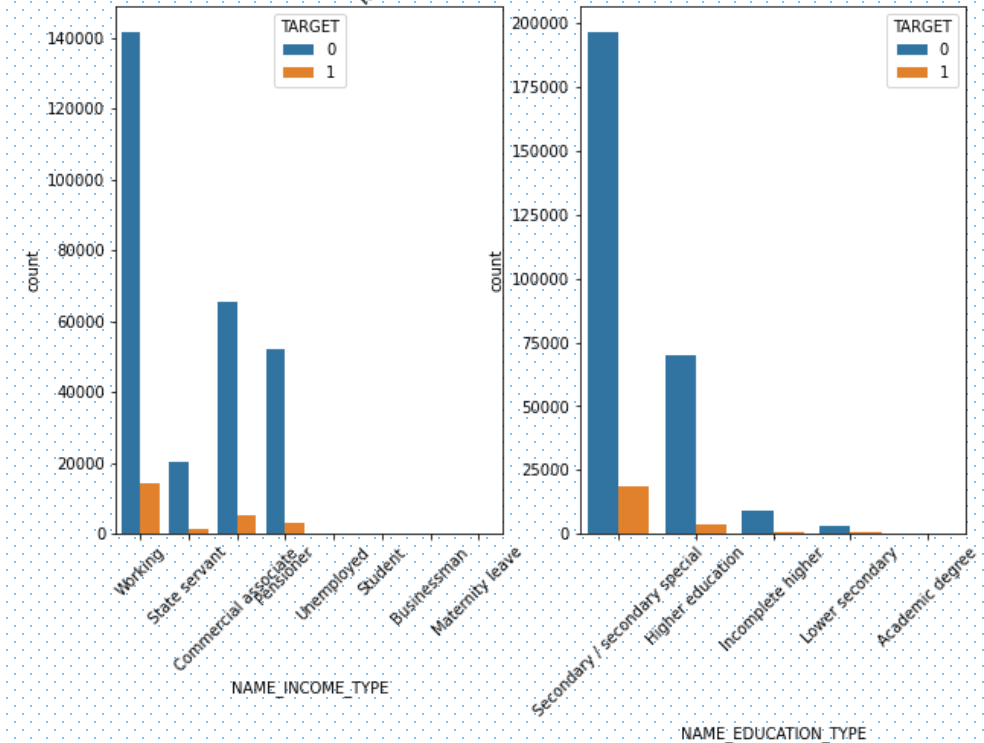
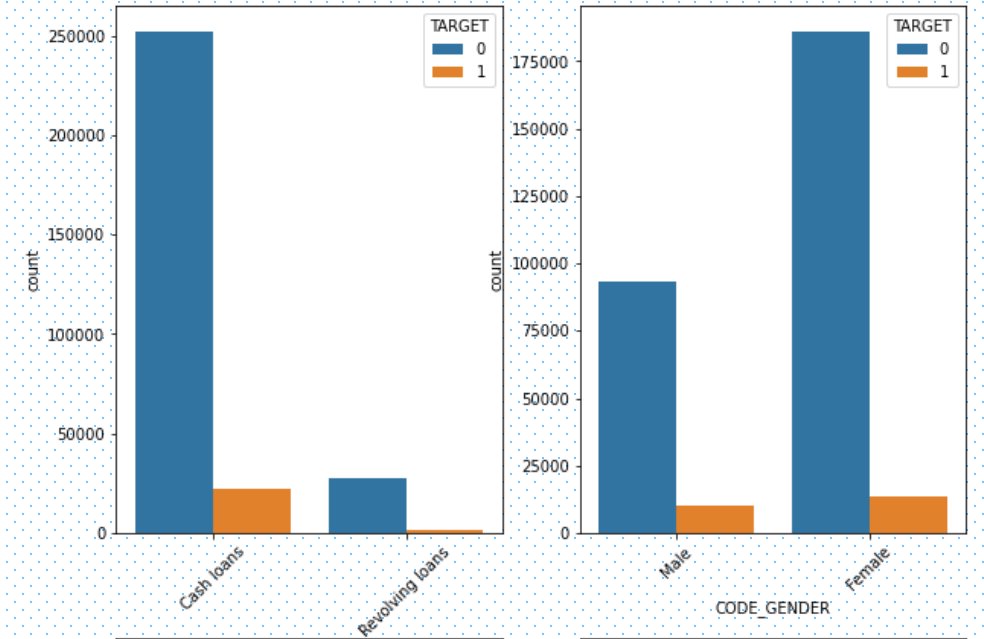
Steps-

- Understand the data and their features
- Find out Data Quality Issues- Missing values, features which are not require, Replacing, Imputing them.
- Handling Data- data correction on the basis of understanding and hypothesis
- Analysis- Different type of analysis , and find correlation between variables from different perspectives
- Preparing presentable data analysis to the point and precise

Target==0 as Non- Defaulters Target==1 Defaulters

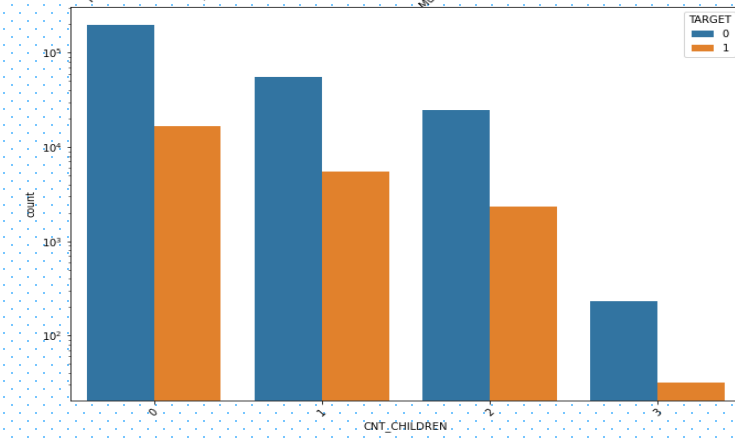
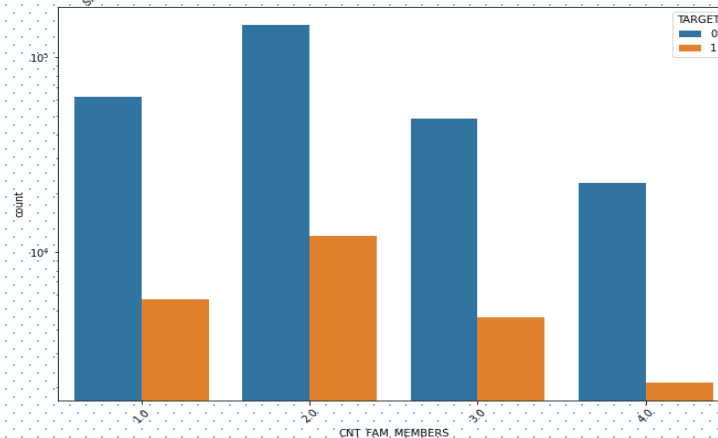
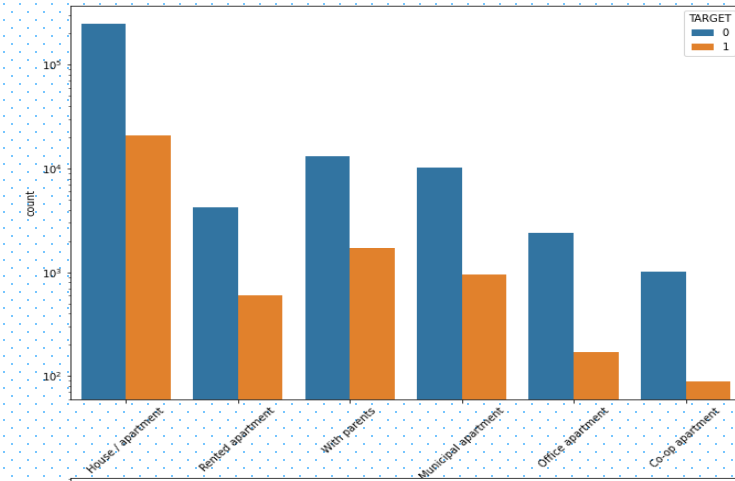
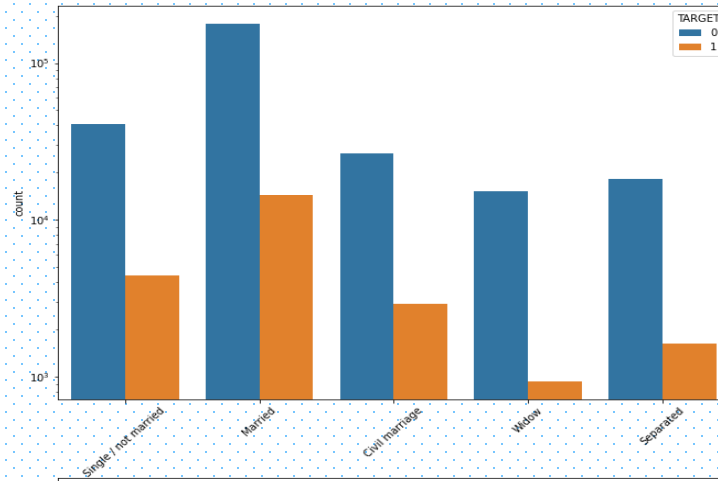
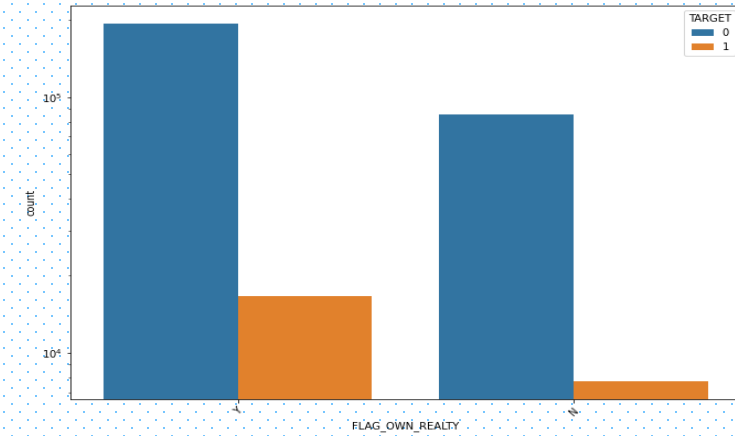
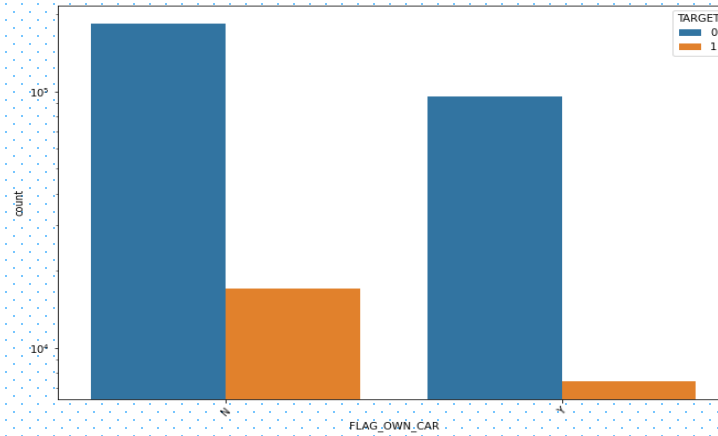


- 92.19% applicants are Non-Defaulters
- Distribution of Cash loans is 80% Higher then Revolving Loans
- Major applicants are Female 65.5%, Males defaulters are 23% while Females are 12%
- Working Class gets 51.53%, While 67% loans applied by applicants with Secondary Education
- Commercial Associates Defaults ratio is 12.69% and for Higher education is 15.64% and for Secondary education is 8.93%



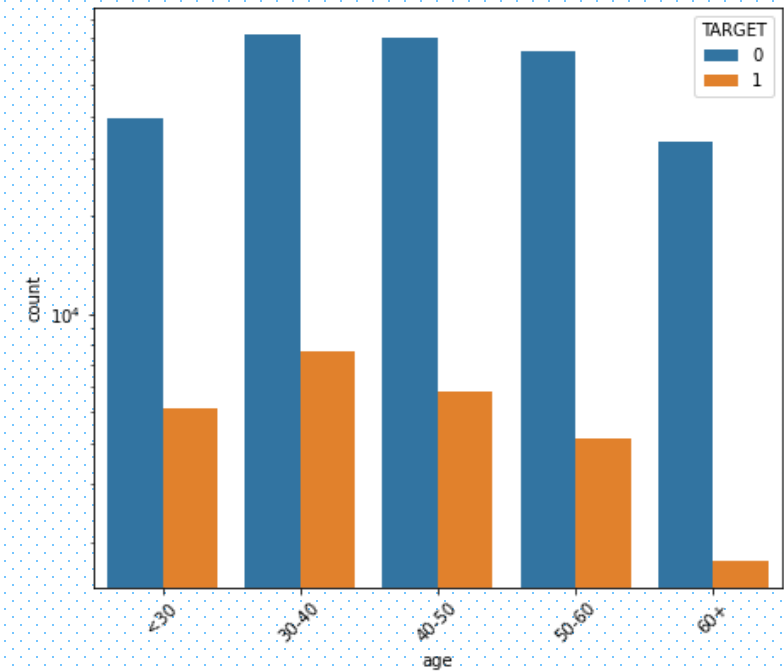
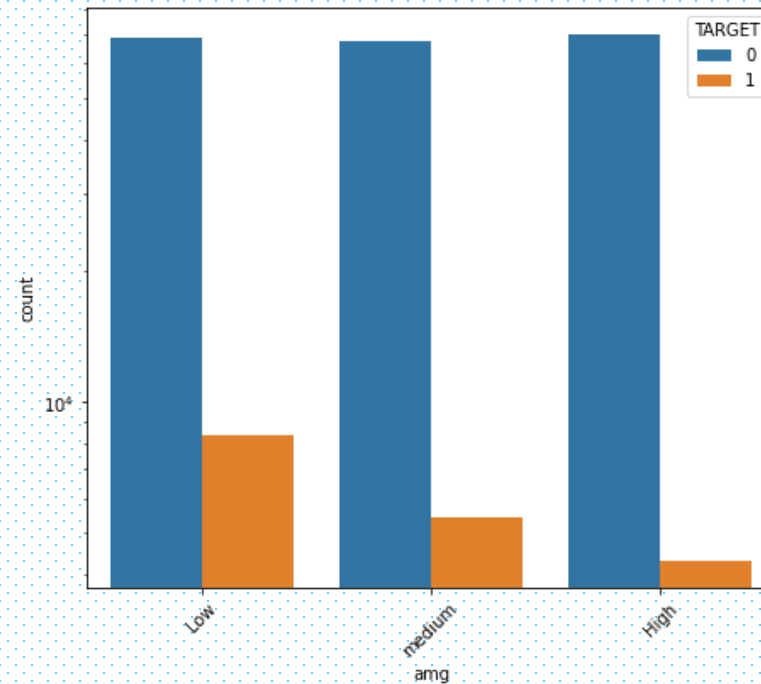
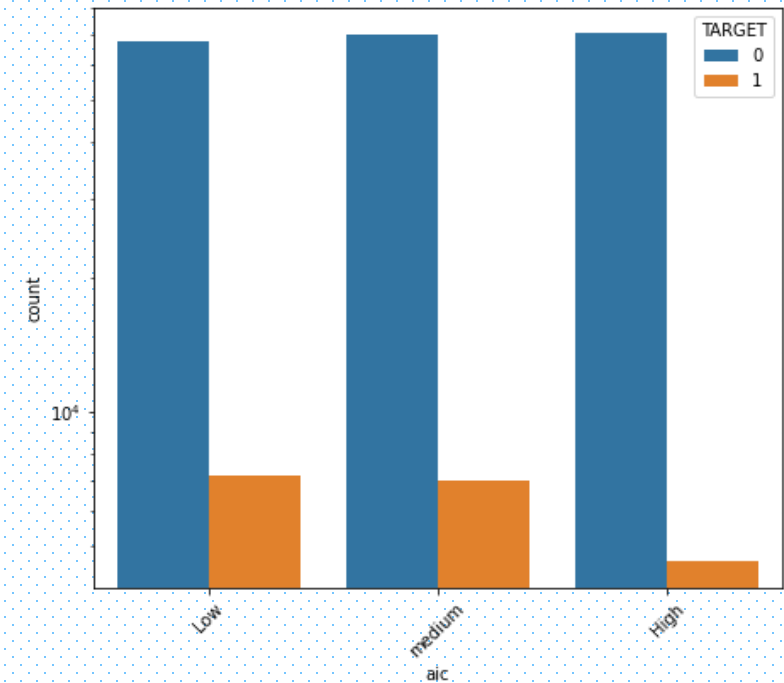
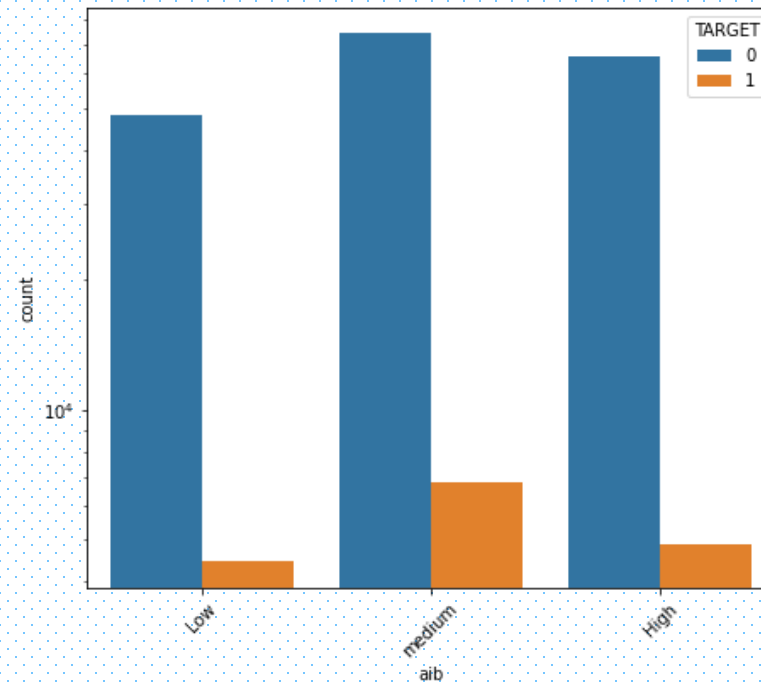
Target==0 as Non- Defaulters Target==1 Defaulters

- FLAG_OWN_CAR-65% doesn't have a car and out of them 10.5% are defaulters while People who own cars have 35% Defaulters
- 30% Applicants does not have a Home out of which only9.8% are defaulters, while 70% which have home 13% are defaulters
- Married are highest loan seekers and defaulters 59%, while widows are least defaulters 3%.
- Applicants leaving in House/Apartments have default rate 85%, co-ap apartments applicant are least defaulters 3%
- Applicants with 2 family members are highest loan seekers as well highest defaulters, while applicants with large number of family members are least defaulters

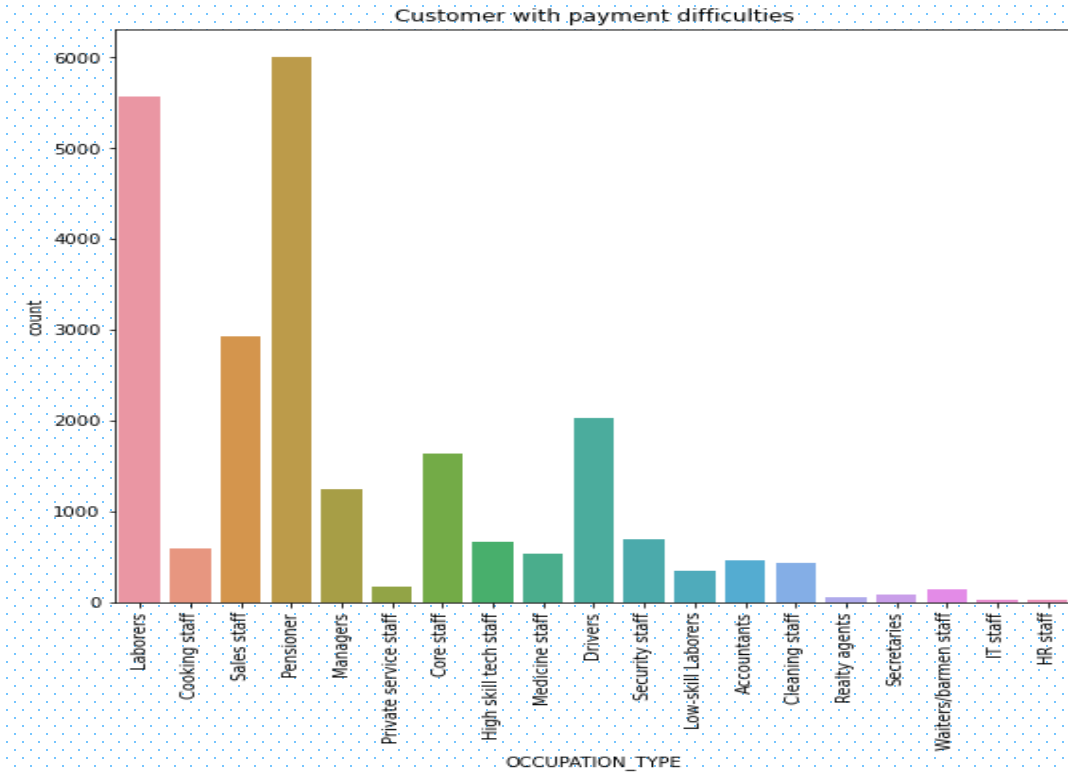
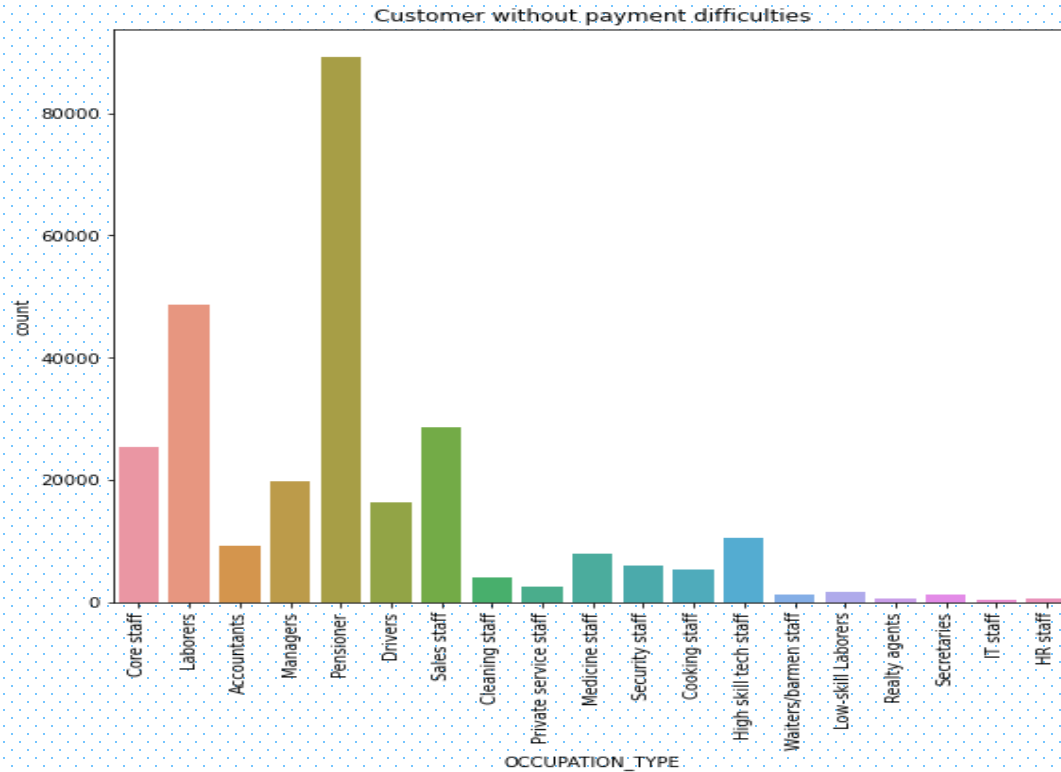


Target==0 as Non- Defaulters
Target==1 Defaulters

- Highest applicants are from medium income group 39.7%, while default rate among is 42%
- Amount credit equally distributed in range 33% +-, 38% Default is in low bin group, followed by 37.28% for medium
- Loan given across all goods price range, while 46% applicants default for low goods price and only 23% for high range
- 51% loan has been given for age between 30-50, 11% for 60+
- 31% default by age group 30-40, least by 60+



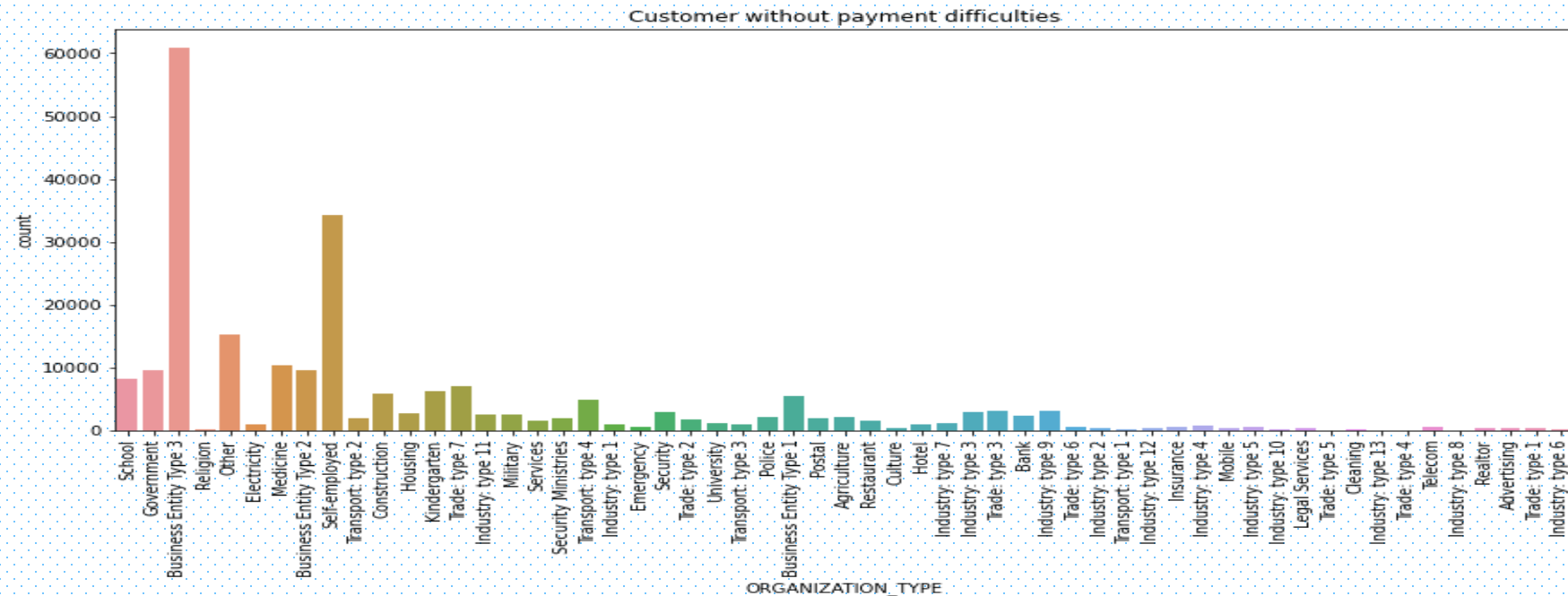
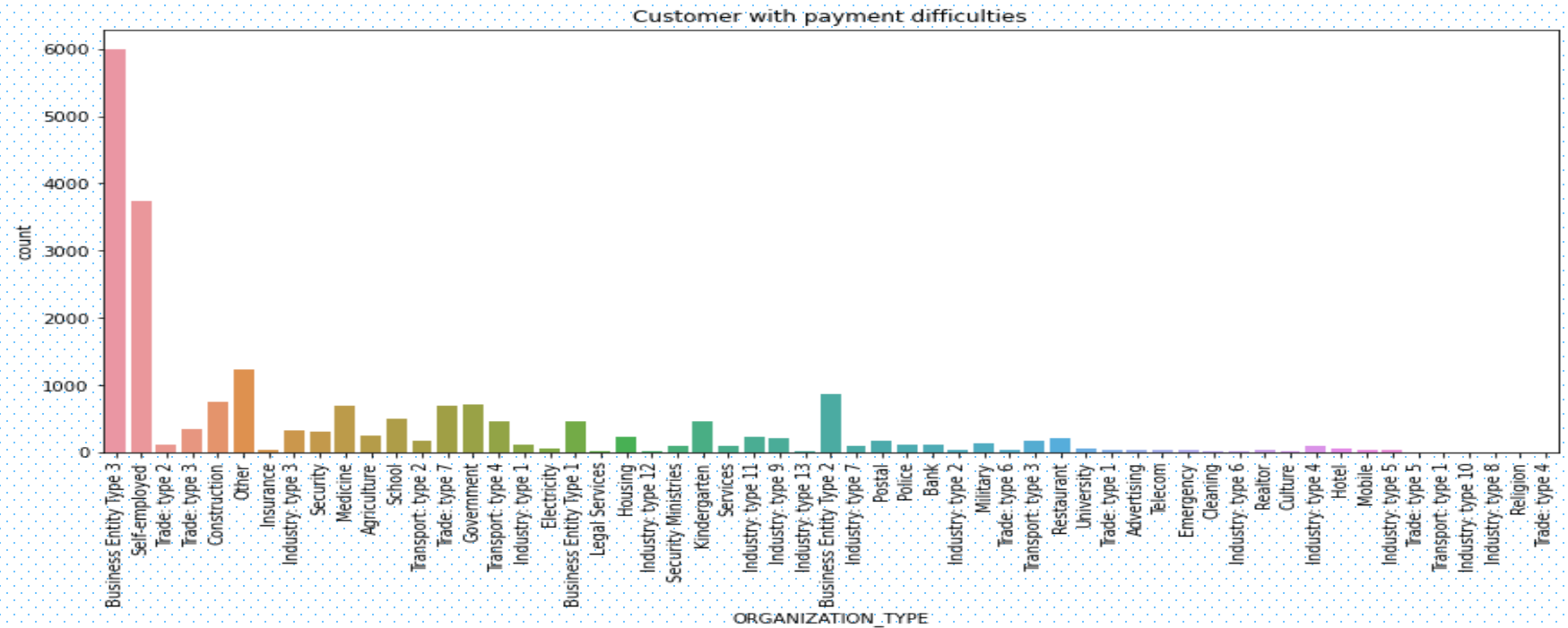
Occupation Type
 Target==0 as Non- Defaulters
 Target==1 Defaulters



- Top three loan seeker categories are Pensioners 31%, Labors 17%, Sales Staff 10%
- Least three loan seekers are IT Staff 1.7%, HR Staff 1.8%, Reality Agents 2.4%
- Highest three defaulters categories Pensioner 25%, labors 23%, Sales Staff 12%
- Least three defaulters categories HR Staff 1.2%, IT Staff 1.3%, Reality Agents 2.4%

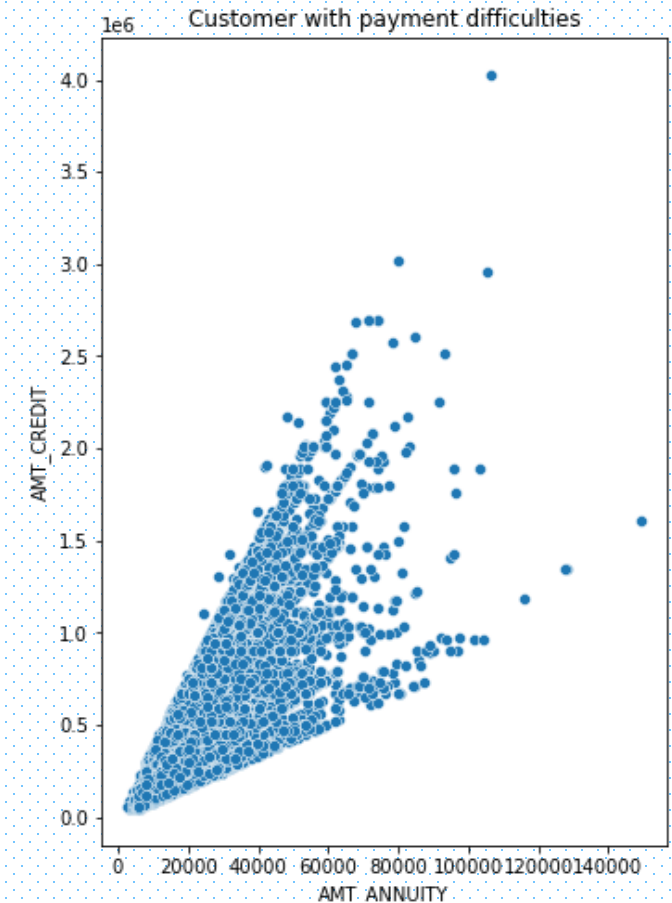
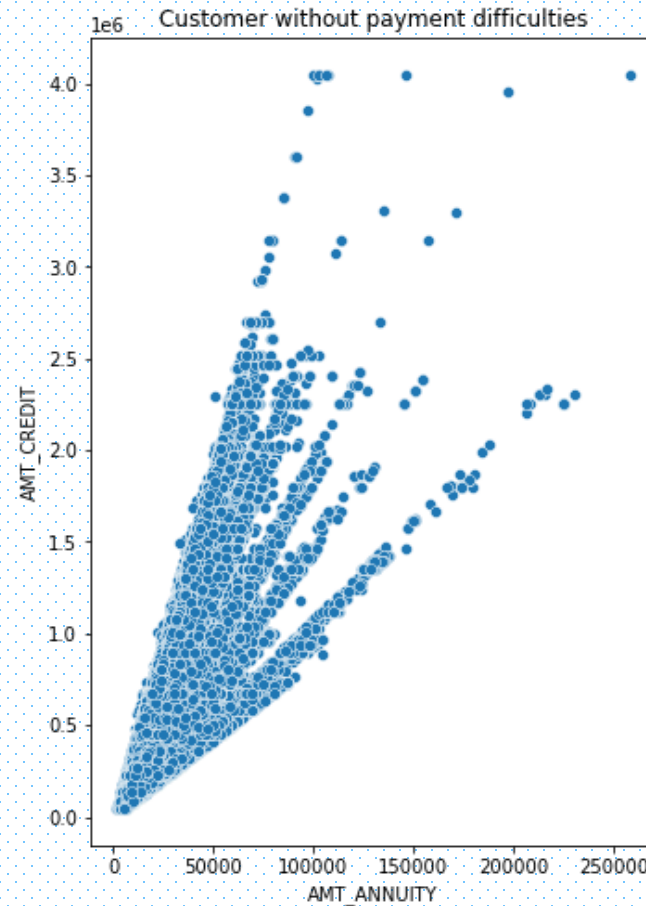
Organization Type
 Target==0 as Non- Defaulters
 Target==1 Defaulters

- ✓ Top three loan seeker categories are Business Entity 27%, Self Employed 15.23%, Other 6.5%
- ✓ Least three loan seekers are Industry Type 8- 0.009%, Trade Type 5- 0.019%, Trade Type 4- 0.024%
- ✓ Highest three defaulters categories Business entity 28.9%, Self Employed- 17.89%, Others- 5.8%
- ✓ Least three defaulters categories Type 4- 0.009%, Industry Type 8- 0.014%, Trade Type 4- 0.014%



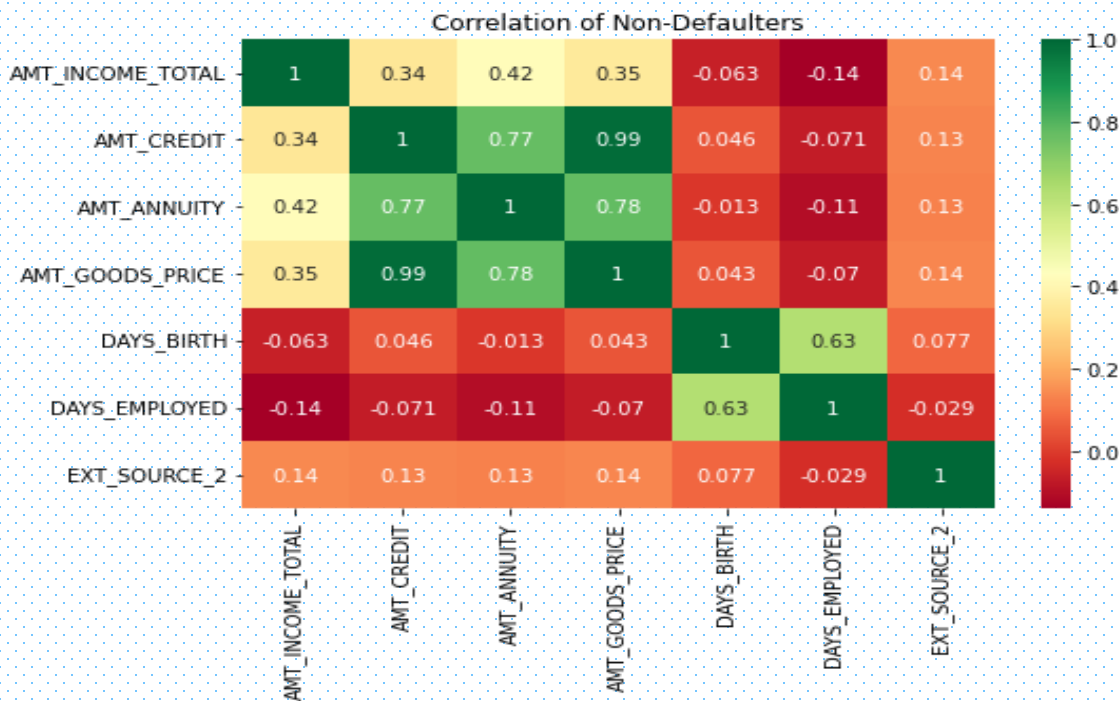
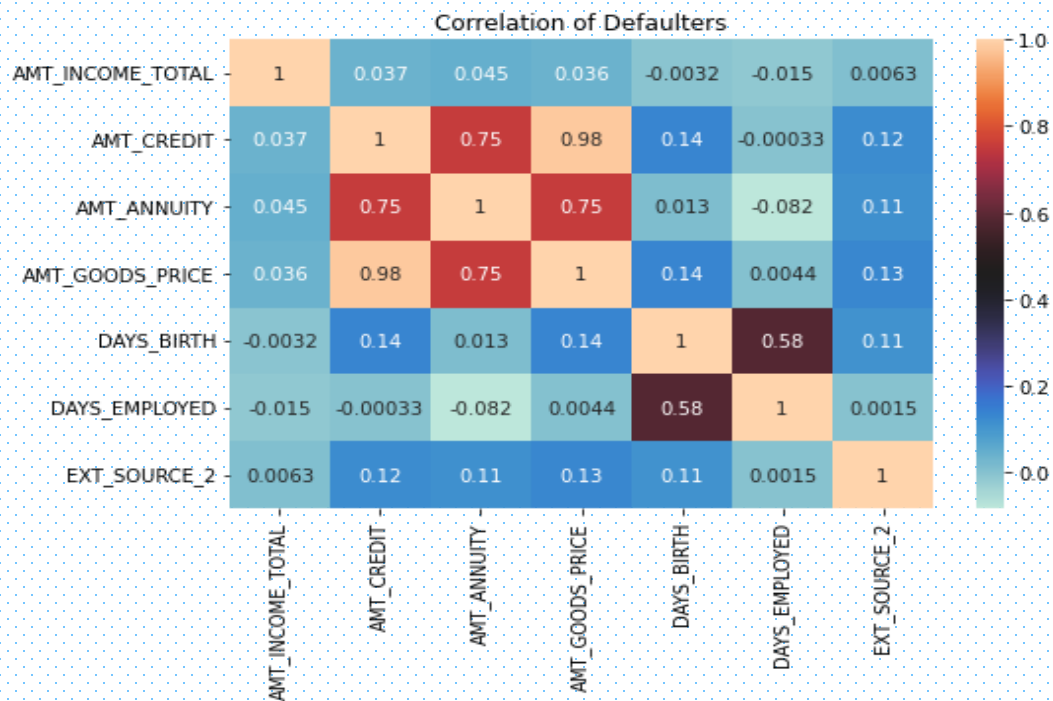
Analysis between AMT_Credit vs AMT_Annuity

- People with out payment default, have higher amount of credit and annuity as high as 250000
- Non-Defaulters have highest credit amount
- For annuity vs credit amount is highly dense in range of 150000- 2
- People with default have annuity as high as 140000 and amount



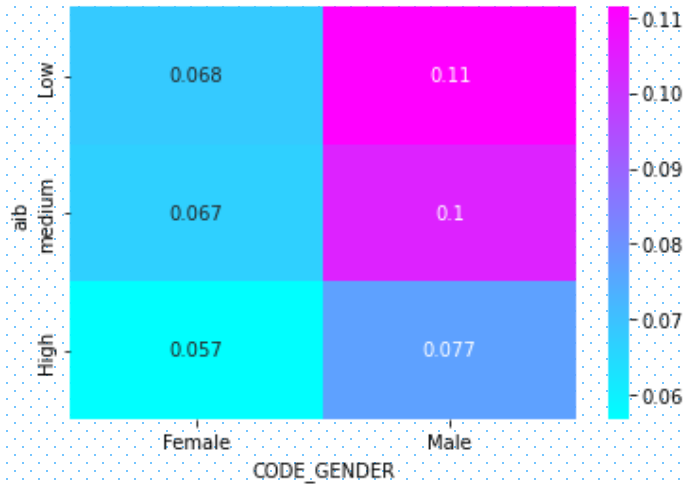
Correlation for continues features for Target==0 as Non- Defaulters

Correlation for continues features for Target==1 Defaulters

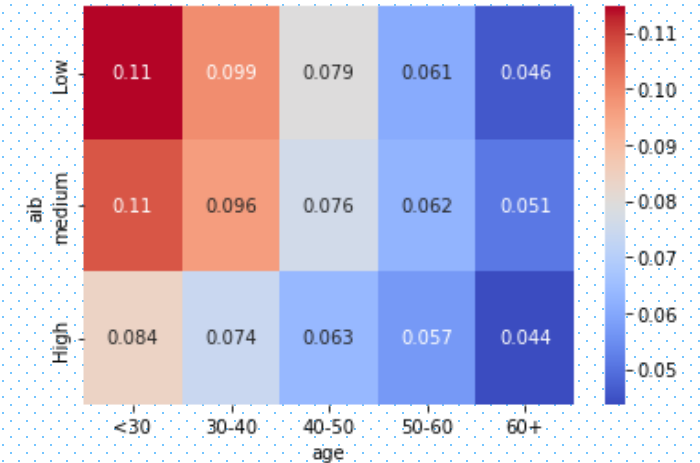


- Days of employment have negative correlation with income, credit amount and annuity
- Age have negative correlation with income, as we can understand young applicants have less income
- Score has week positive relation with credit amount, annuity, goods prices, age, while have strong relation with Income
- Credit amount have strong positive correlation with goods prices and annuity

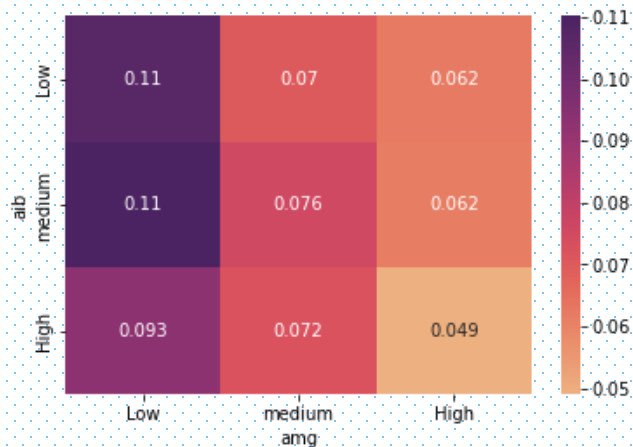
Different correlation Analysis:



- Males have higher income or get paid average 20% higher than Females
- Out of total applicants 66% are females with default rate is 12% while males default rate is 23%

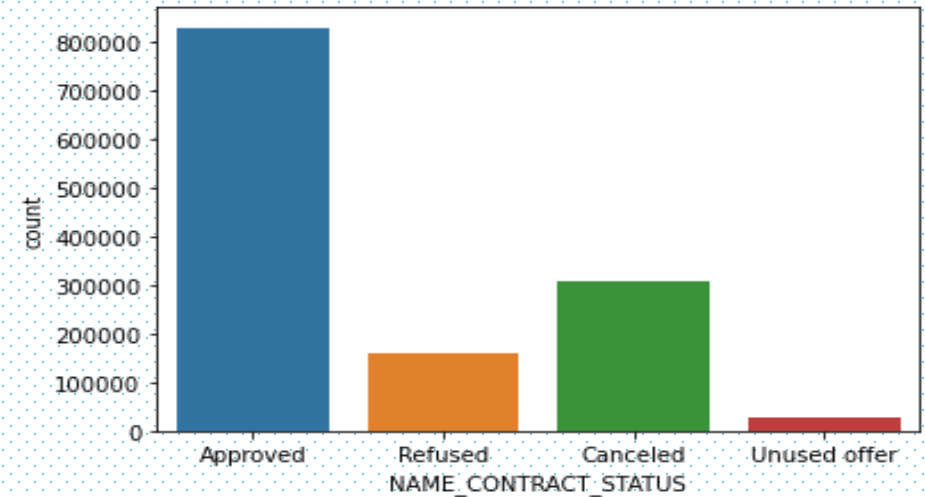
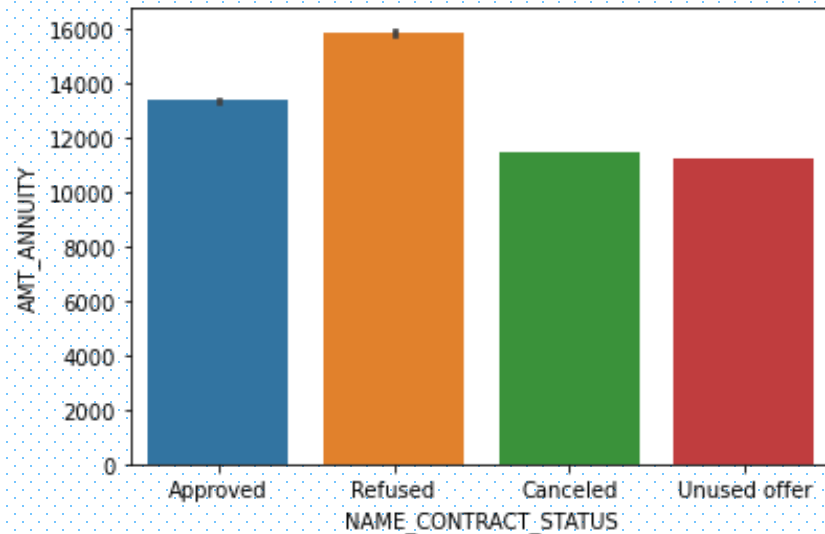
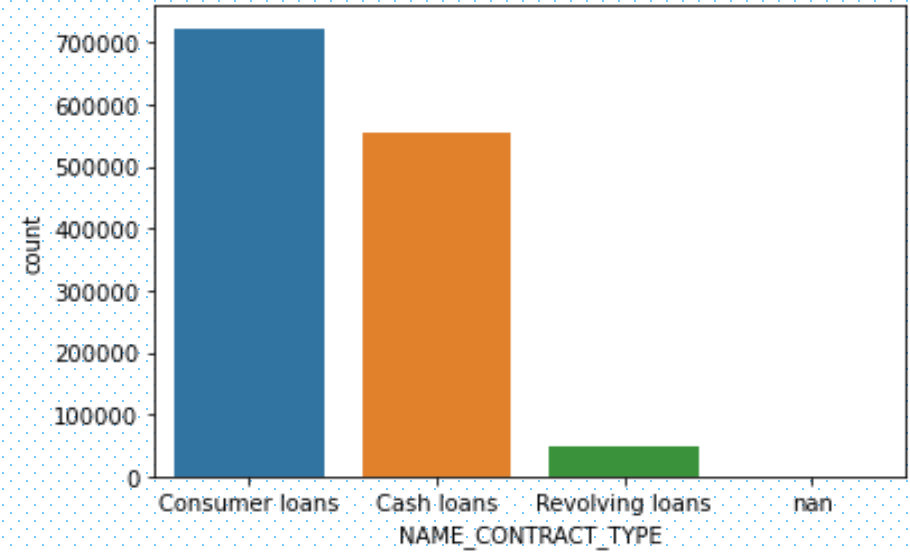


- people under 30 have least income and major defaulters while people have highest income between age 40-50 and least defaulters

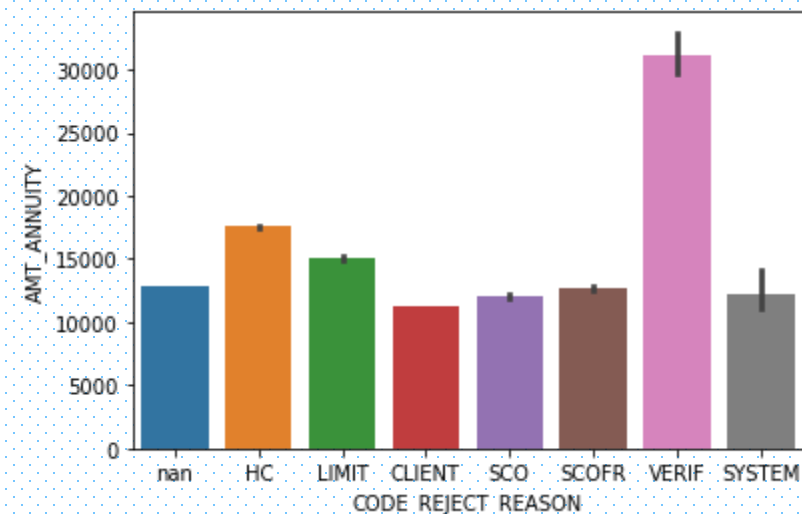
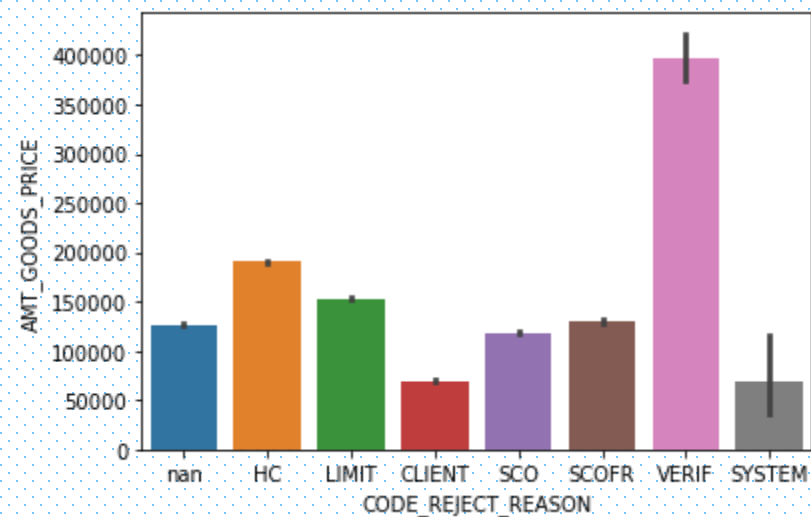


- Highest demand of loan by people with low income or medium income for low price of goods
- Second highest demand for loan is for high income group for medium price for goods

- Consumer loans are highest in demand 54.4% while Revolving loans are least only 3.6%
- Approved are 62.67%
- Canceled are 23.32%
- Refused are 12.01%
- Unused are 1.99%
- Loans for higher Annuity has been refused
- Approved and Unused loans are 52%



- Most common code for rejection is VERIF followed by HC and Limit
- For goods price rejections are only for >55000
- lower the annuity amount higher the rejections
- Strong relation is between Amount of application with, credit amount and goods price amount.
- for longer annuity applicants gets good credit amount.
- Annuity amount with cnt payment are matter of concern



1. Approved-

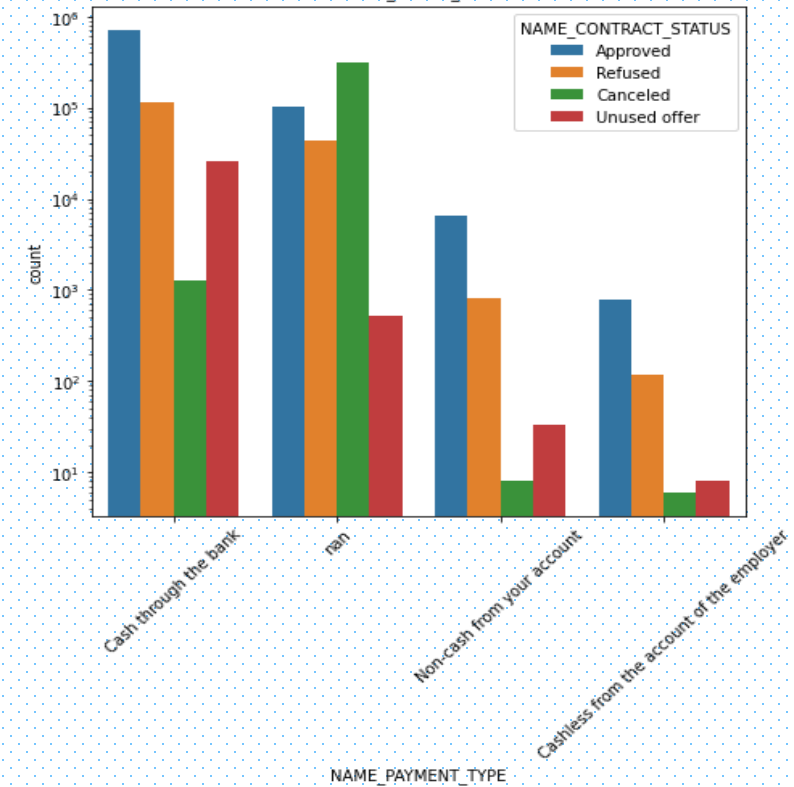
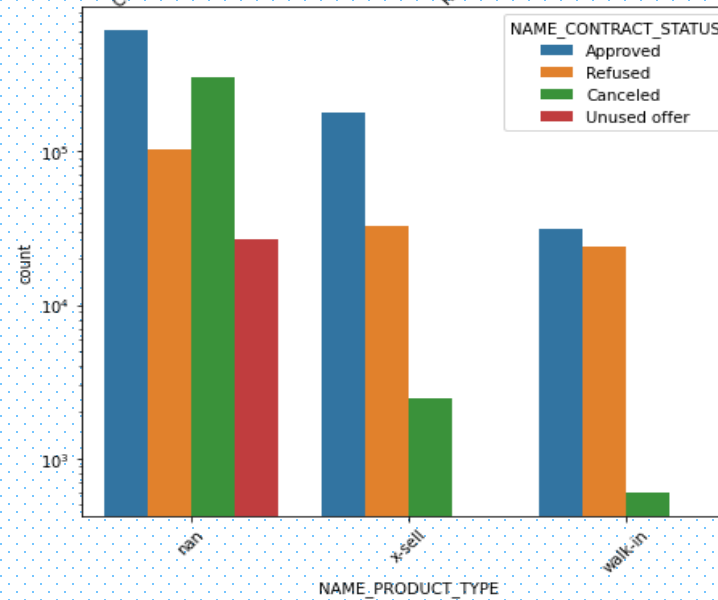
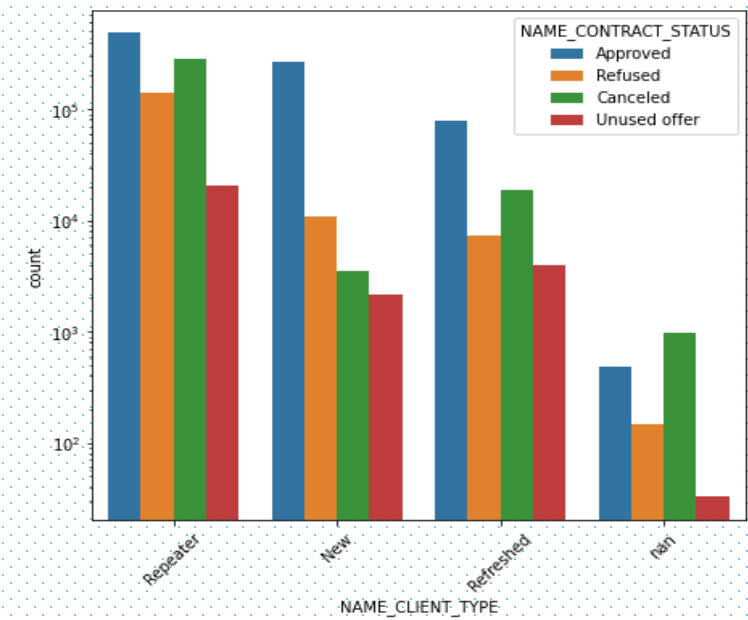
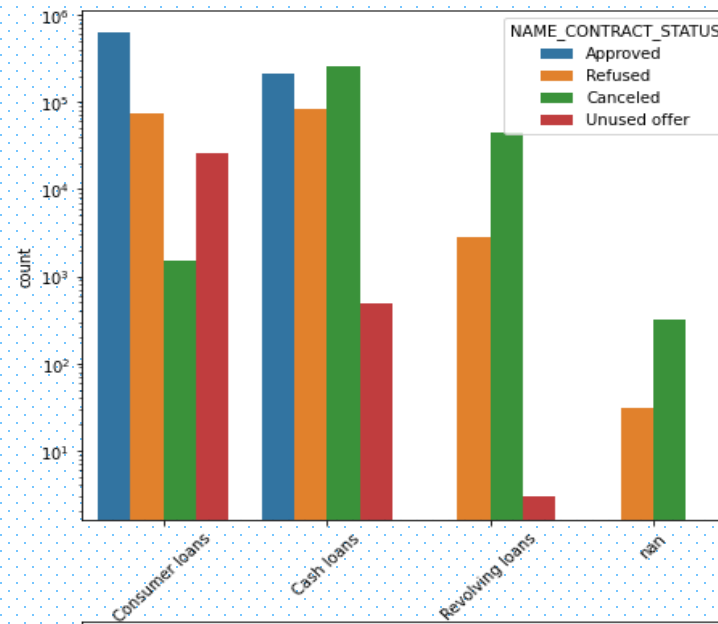
- 68% Consumer loans are approved, 6% Revolving loans which are approved are unused, 32% Cash loans have approval then High rate of approval for New Client, X-Sell and Payment through Bank

2. Refused-

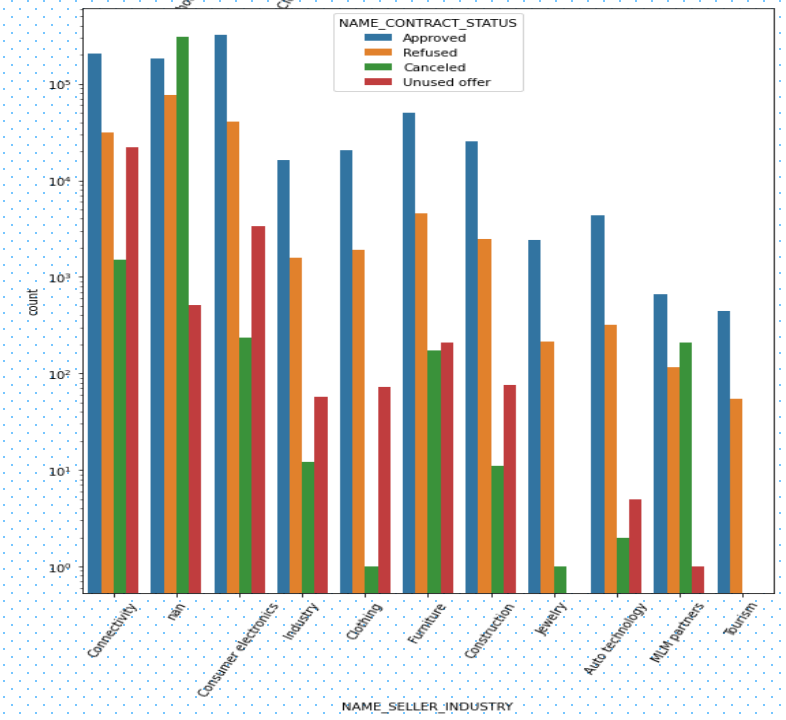
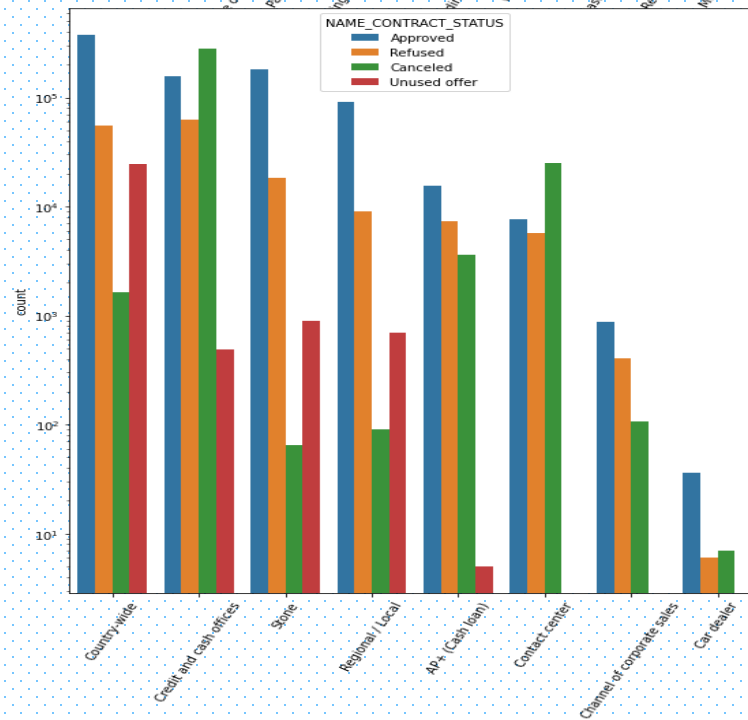
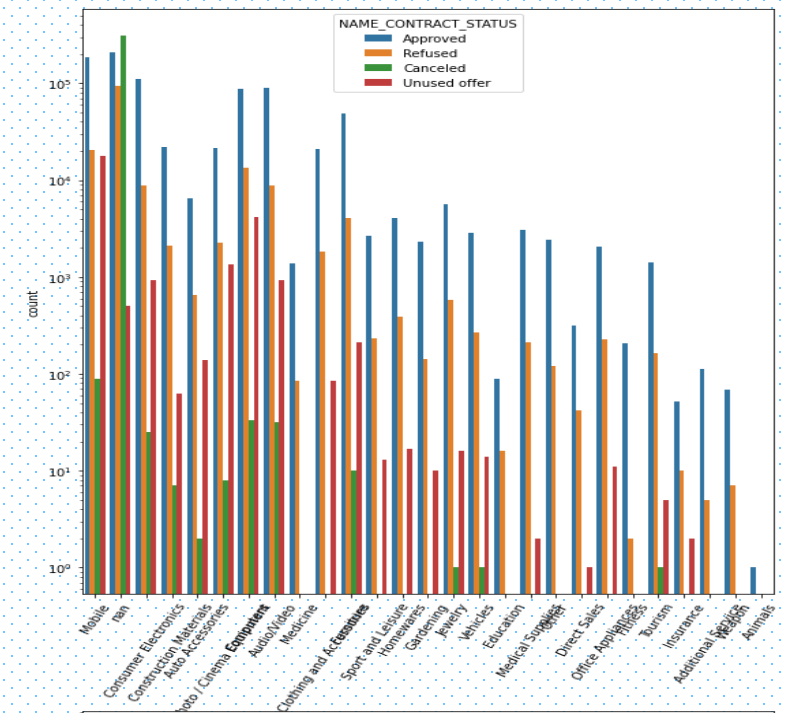
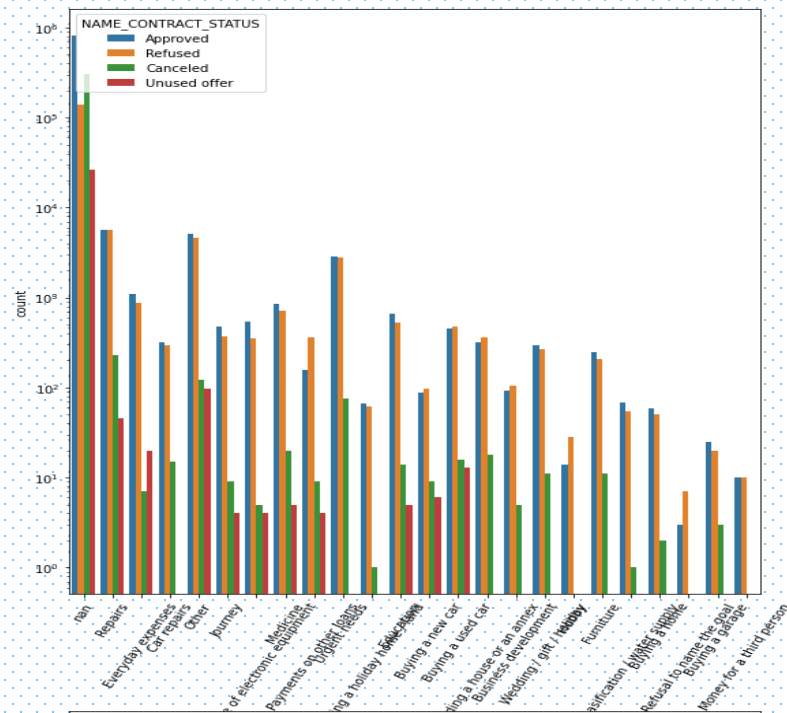
- 36% of Cash loans and 52% Revolving loans has been refused
- High number of refusals for Repeated customers, Portfolio, POS and Non Cash from Account

3. Canceled-

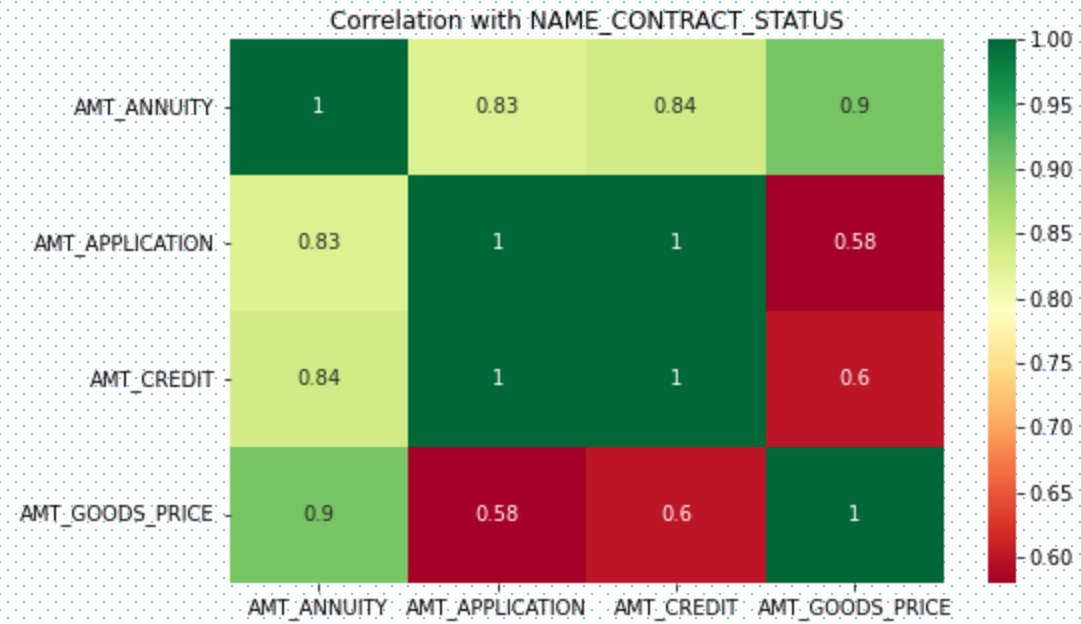
38% Cash Loans, 23% Repeated customers



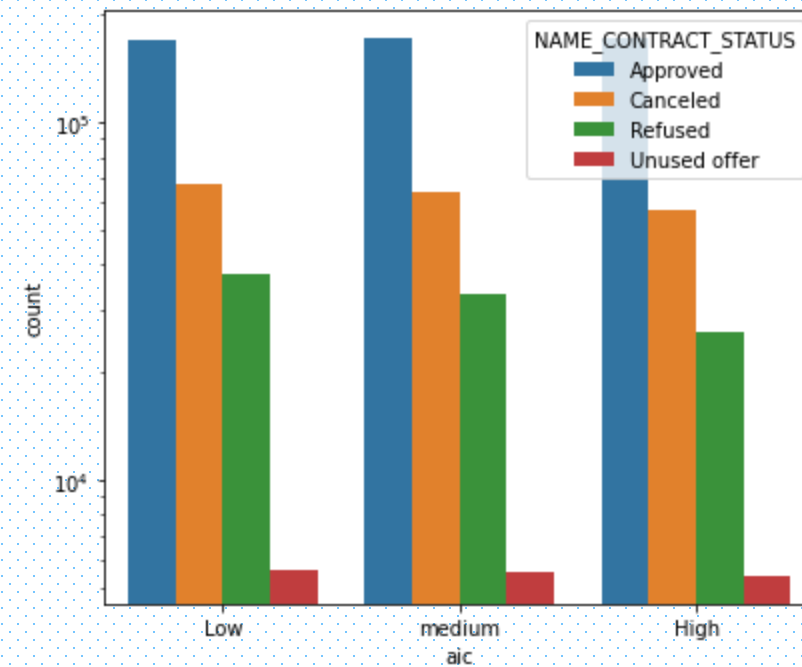
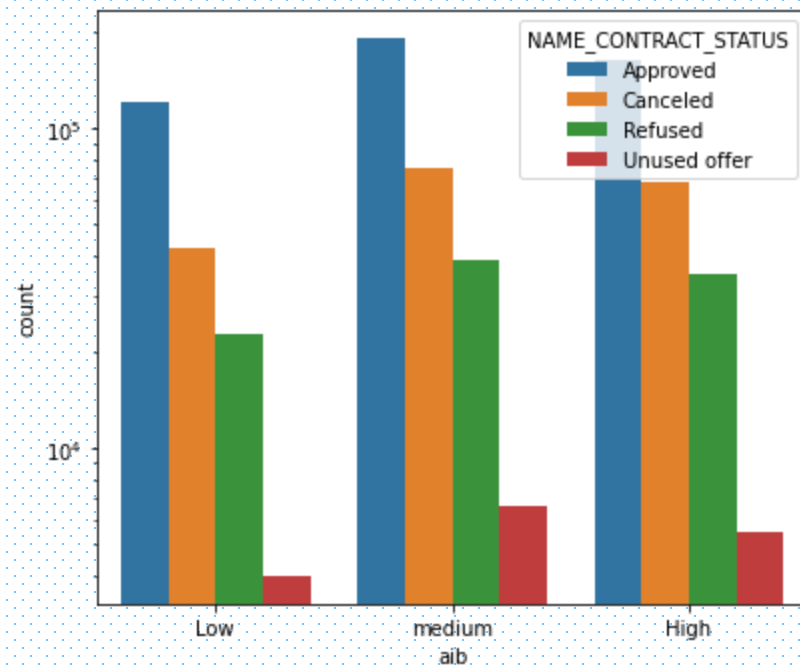
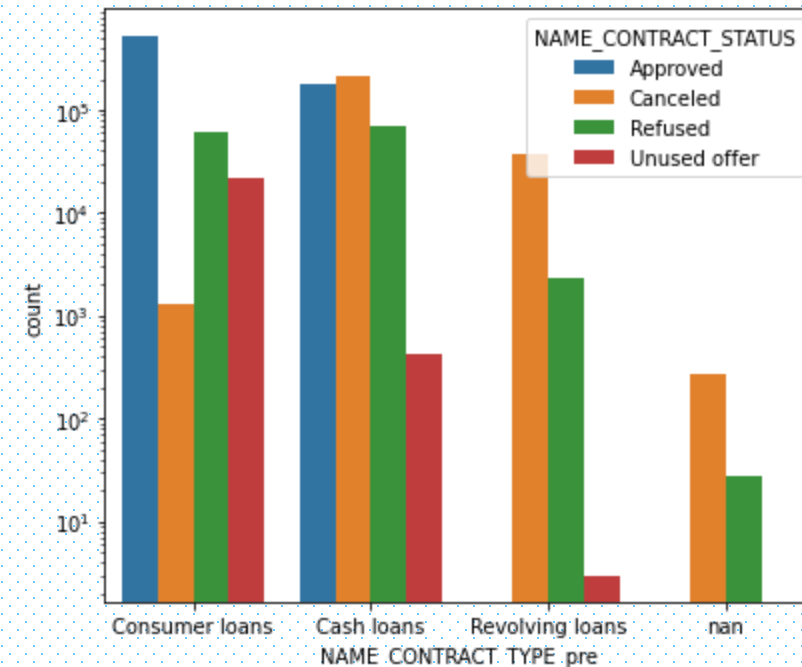
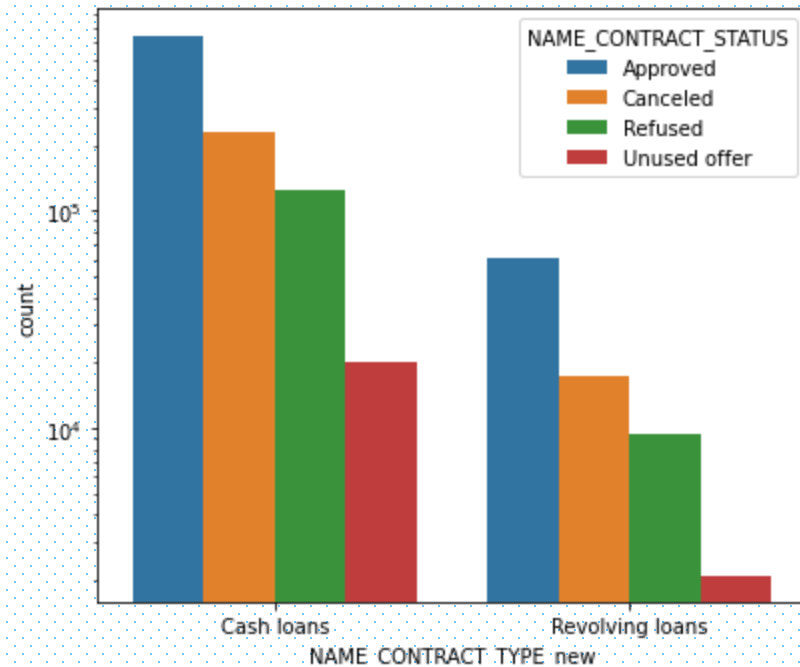
- Demand for Loans are higher for Repairs, Everyday expenses, and for payments on another loan, as have equal number of approval as well as Refusal
- Loans for Consumer durable are highest share for Mobiles, Electronics and AV Equipment's
- Loans Least in demands are Insurance, office supplies and Tourism
- Loans decisions are not effected by channel type. They are equally distributed
- High demands are for Connectivity, Electronics industry followed by Furniture and Construction



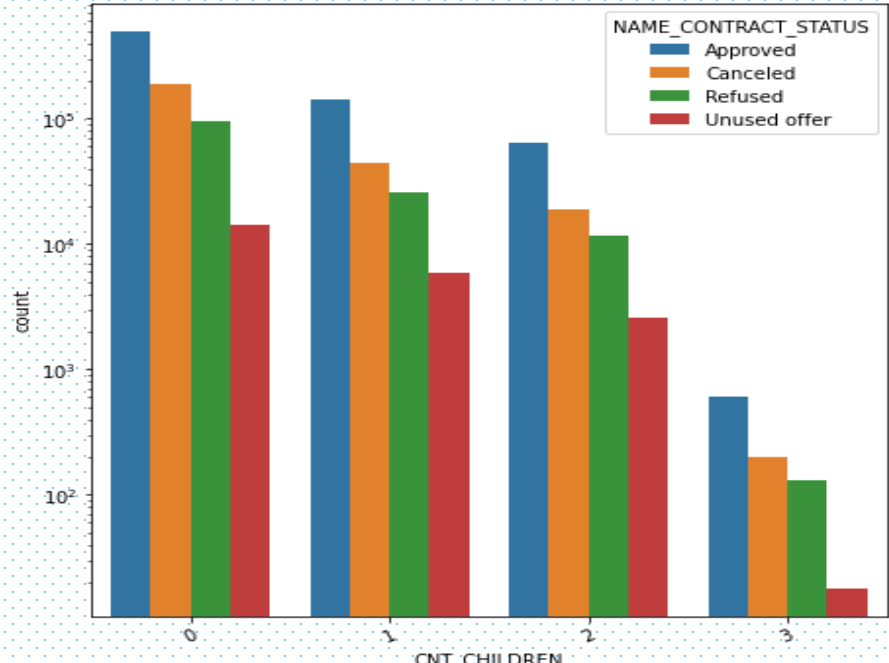
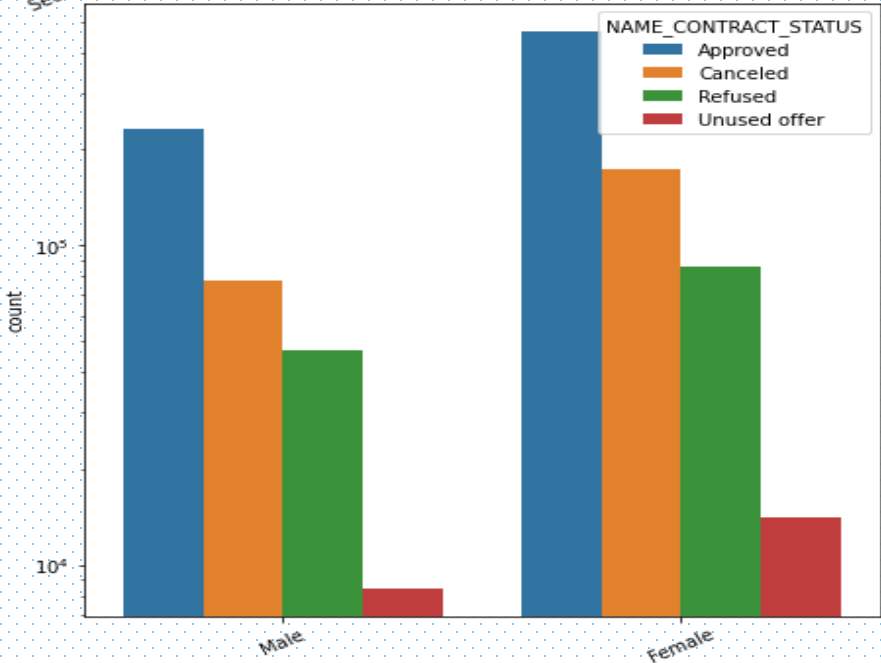
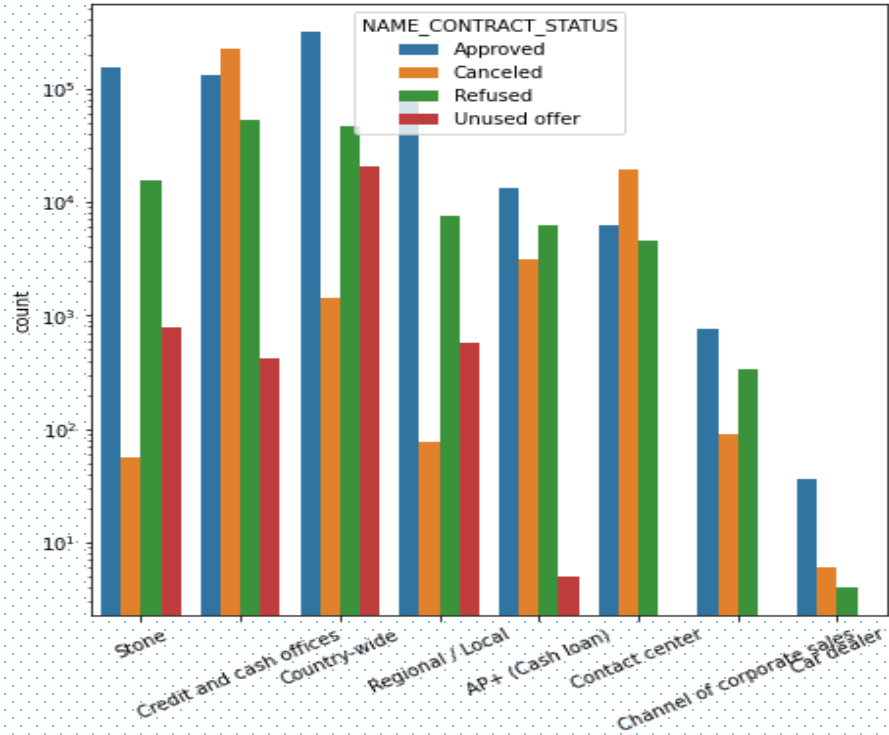
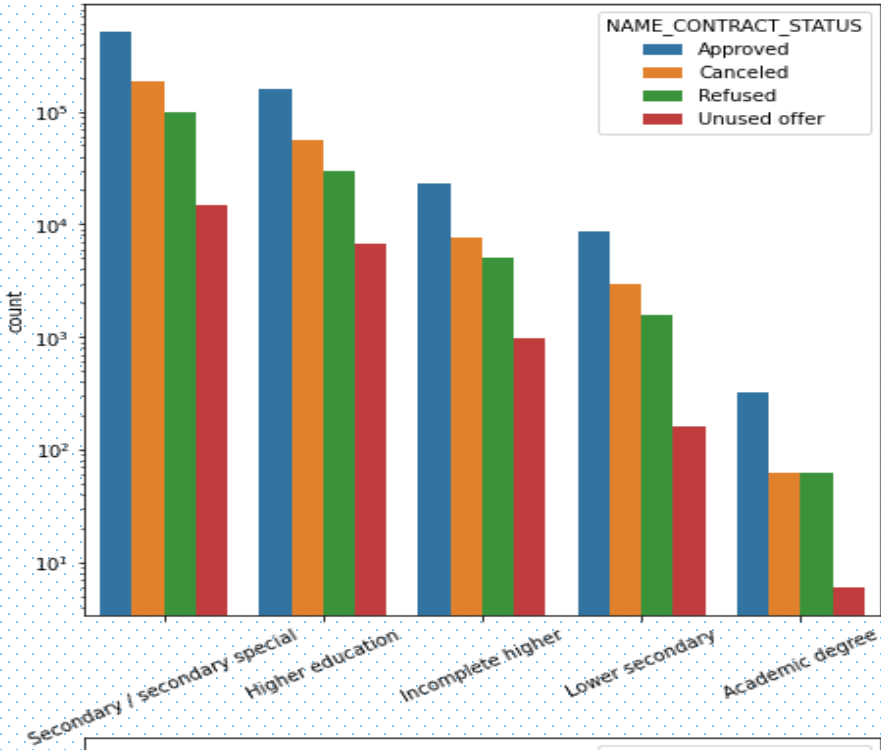
- For longer the annuity higher the credit amount credit
- Goods price amount approval have strong relation with Income and Annuity
- Credit amount have weak relation with amount goods price



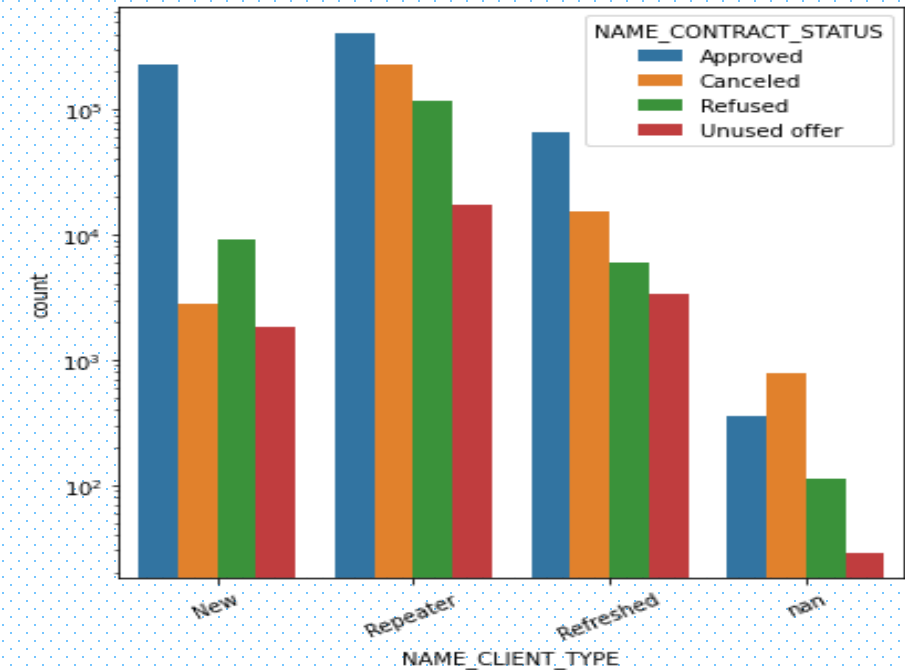
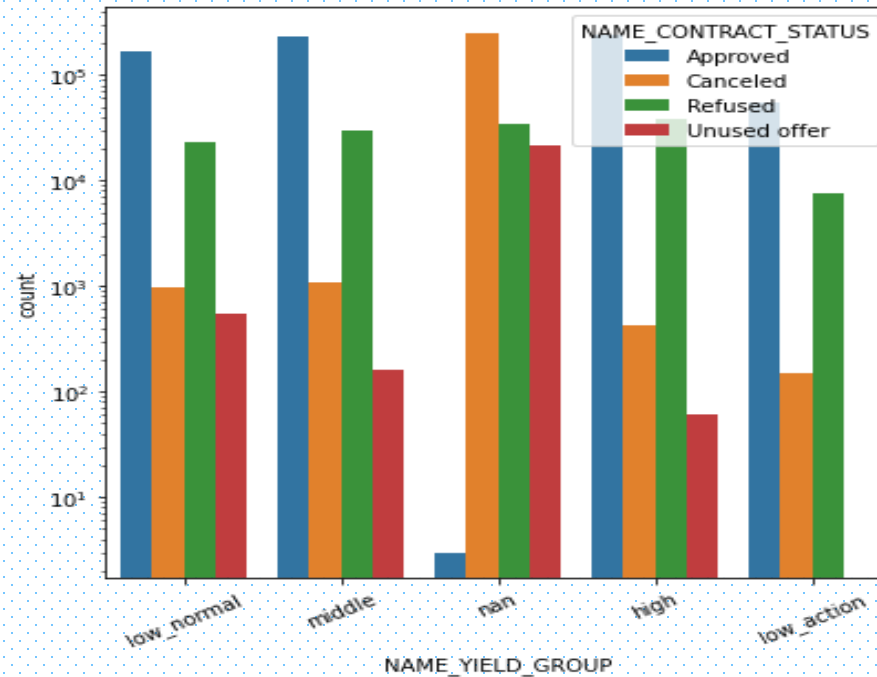
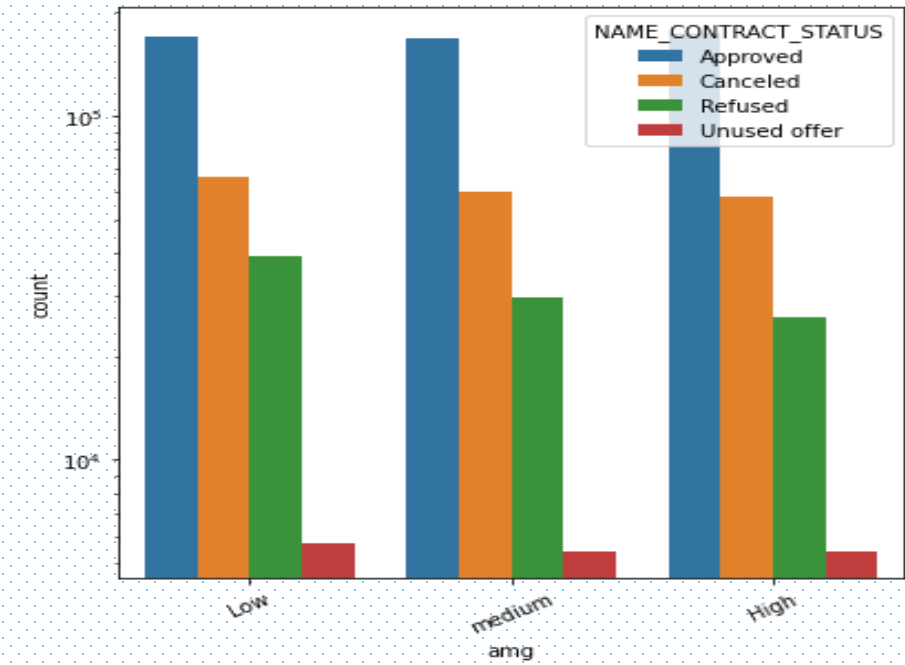
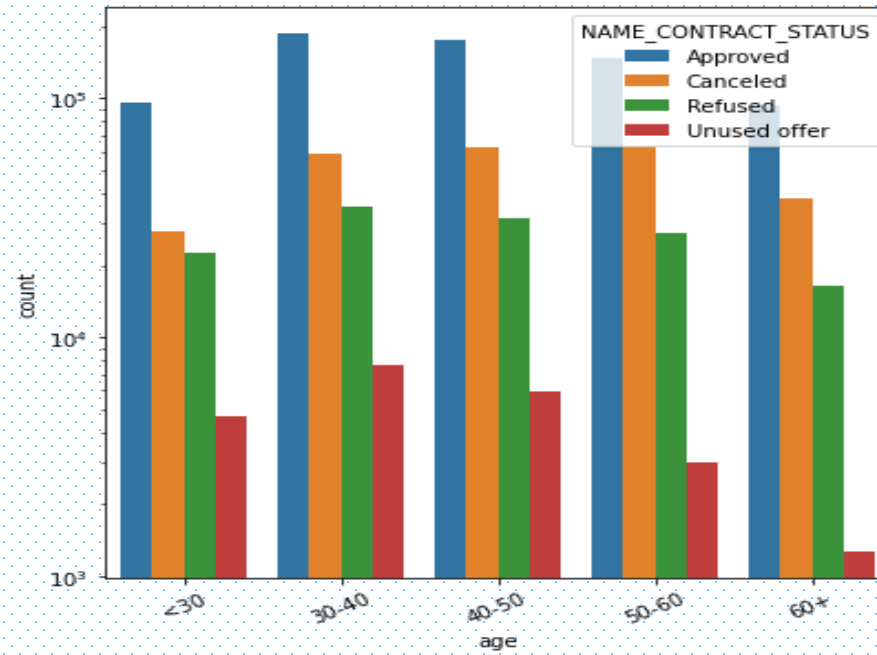
- Demand for Cash loans is > the 58% for revolving loan is 42%
- Approval and Unused combined for cash loan are >60%
- In previous data Consumer loan share is 38% followed by Cash loan 35%
- Consumer loans has most unused offer and approvals as well
- Loans has been approved across Income group, most unused loan is in medium income group
- Distribution of Credit amount across is same

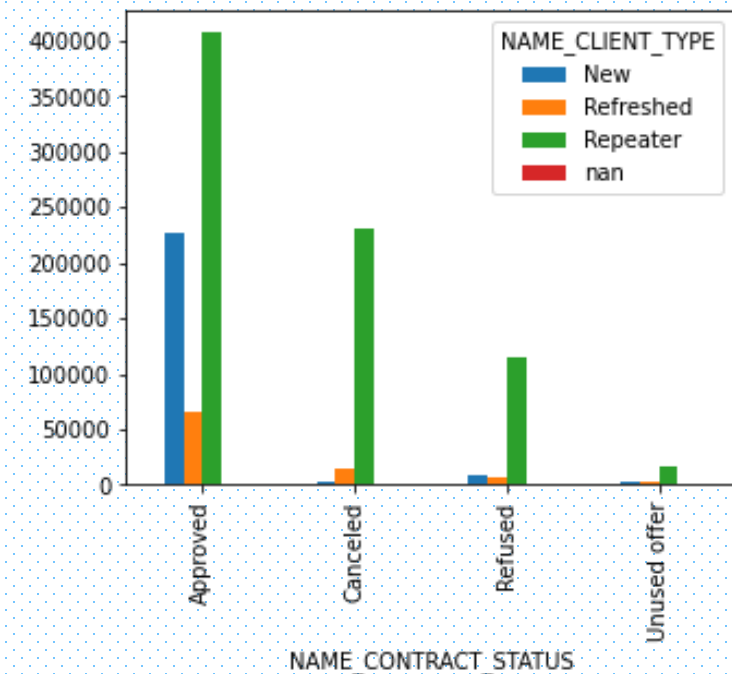
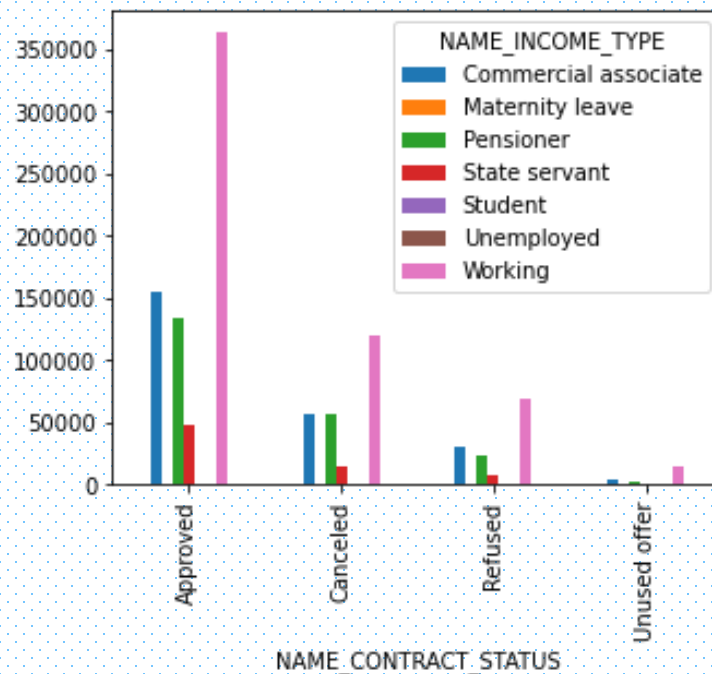
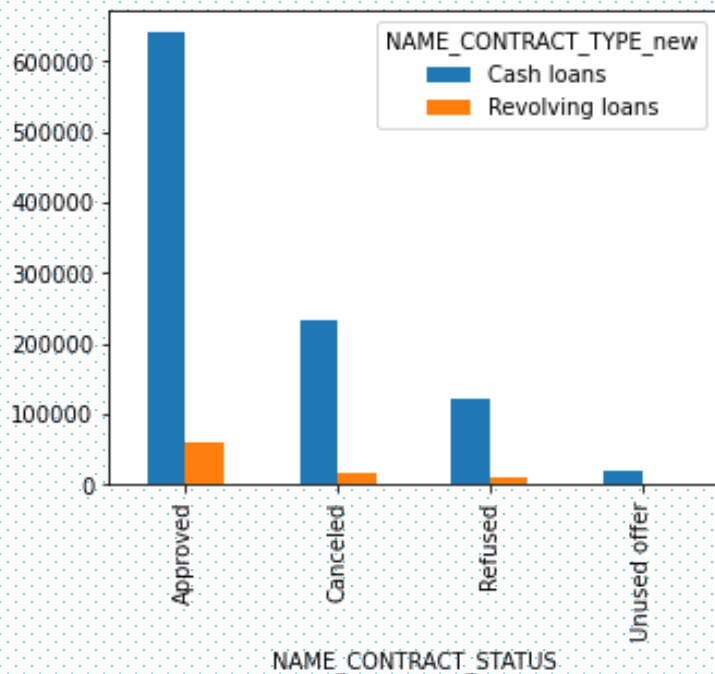


- loan Approval are more for Females applicants then males
- Less applicants with more then or equal to 3 children
- Loan decisions have no relation with channel type
- Car dealers channel has almost 0, unused offers
- People with higher education are tend to apply less for loans



- Loan Approval are more for new clients,
- Approval are more with Normal, Medium and High Rate of interest
- Refusal of loans are high for males, cash offices, repeaters, age < 30 years, low good price, low interest rate
- Cancellation of loans are high for males, cash offices, secondary education, repeaters, normal rate of interest, age > 50 years



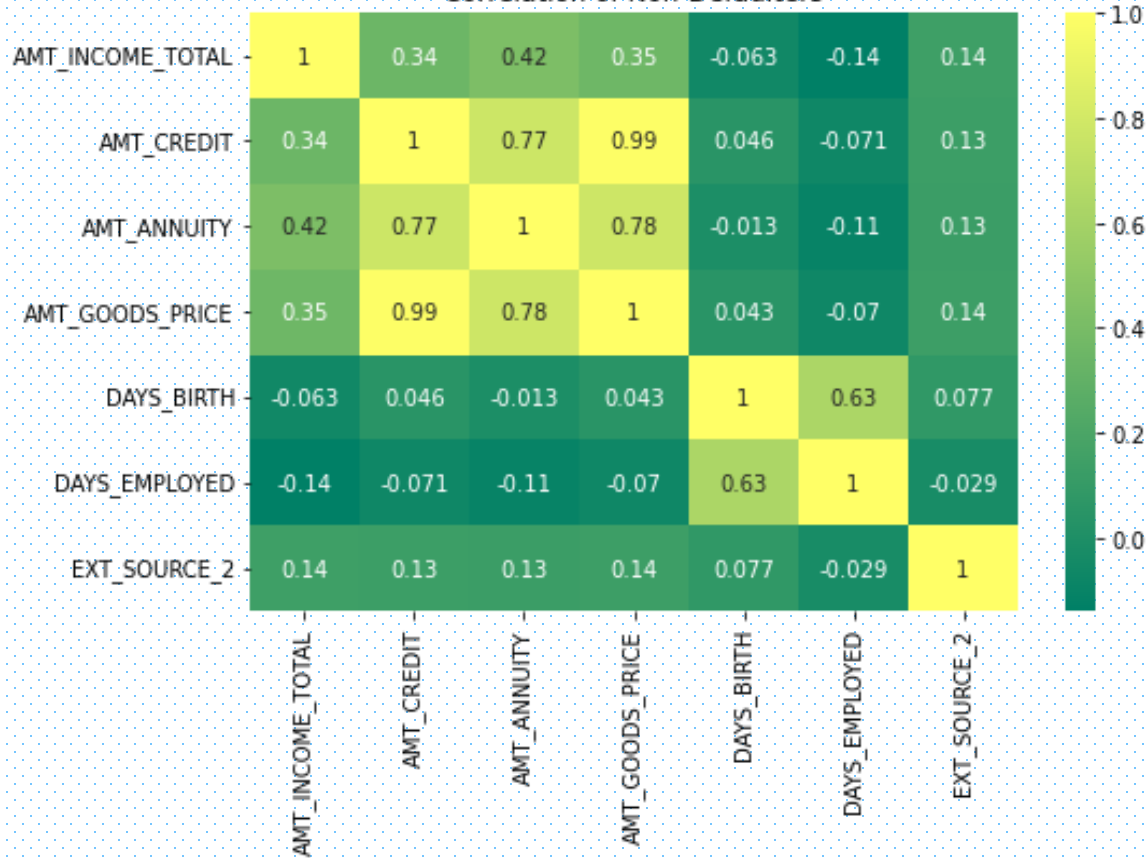


- 16% applications are for Revolving loan & 60% has been approved, refusal rate is 15% while unused is 3.3%
- 84% applications are for Cash Loans which has approval rate of 64%, refusal rate is 20% while unused offers are 3%
- If we combine approval and unused cash loans it comes to 67% which is rate of approved loans

- Working income group have 64% rate of loans approval followed by 26% commercial associates
- No loans has been approved or cancel or refused for maternity leave, students, and unemployed applicants

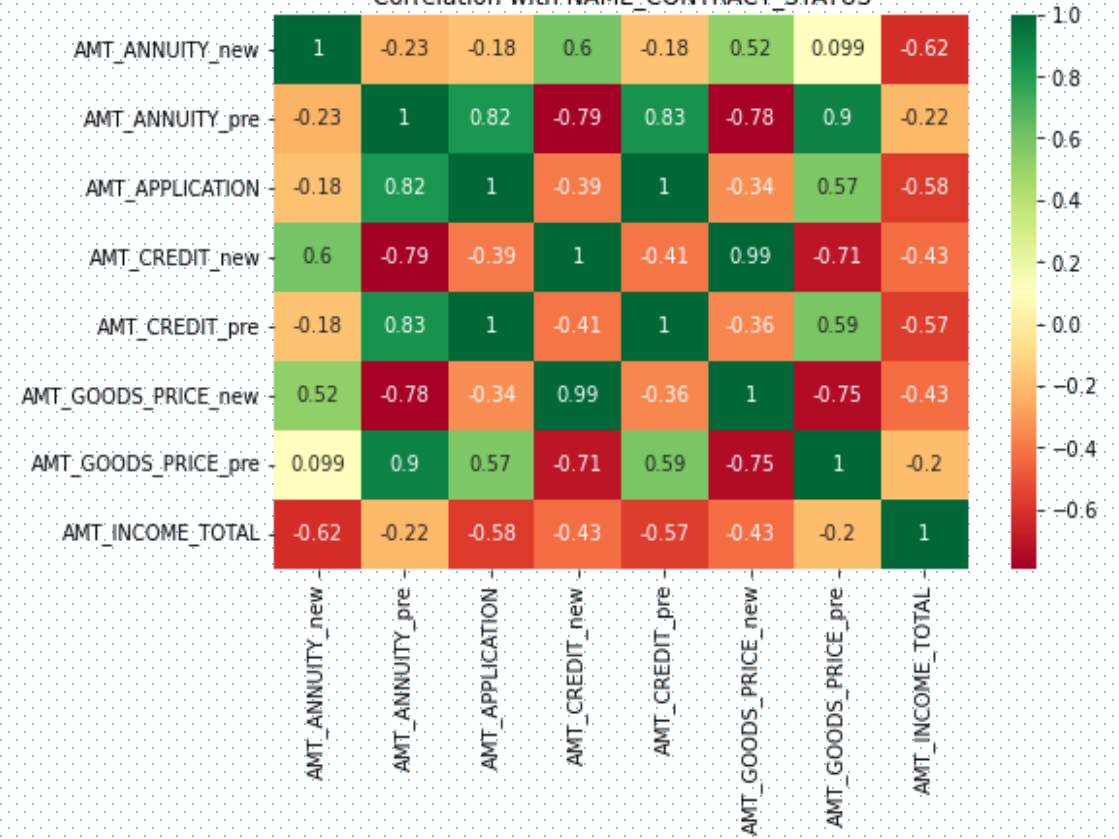
- For new applicants 90% loans are approved
- For repeaters 58% loans are approved

Correlation of Non-Defaulters

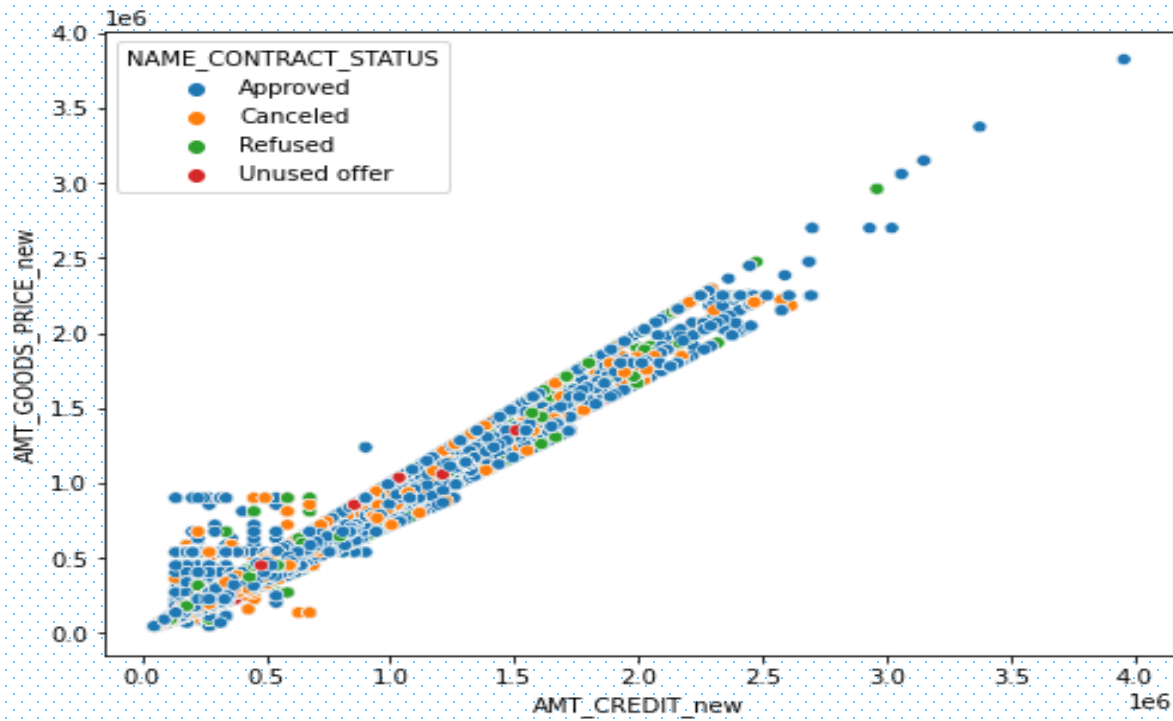


- Employment days have negative impact on income, credit amount, annuity, goods price and score
- Credit amount have direct relation with annuity and goods price
- Age can impact, income, amount credit, score, annuity, while have positive relation with employment

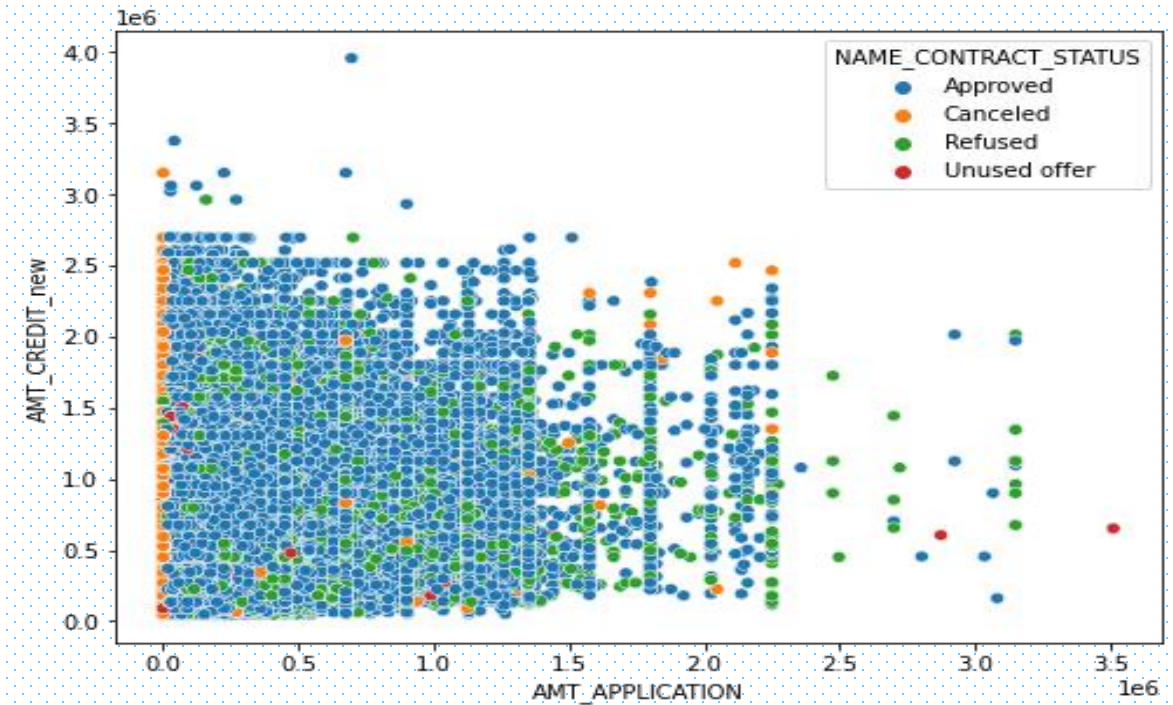
Correlation with NAME_CONTRACT_STATUS



- Strong positive correlation is seems between for new credit amount vs goods price
- We can see negative correlation between various factors, goods price new with annuity pre, income pre
- Income have direct impact with credit amount, as well annuity and application amount and goods price



- Most of the applicants comes under medium to low amount of loan requirements
- Most of the loan has been approved
- Amount credit is directly proportional with price of goods
- For higher the goods price vs credit very few loans are refused, else no loan has been canceled or unused
- Loans which are either refuse or cancel or unused falls parallel with regression line for approval
- In some cases even for higher good prices either low amount has been credit or applications has been canceled or refused



- For higher amount of application most of the loans are refused and very less are approved. where as very few are unused
- Maximum loan has been canceled where application amount is 0 or high
- Amount application have no direct co relation with credit amount.
- For small amount of application even high amount has been credited
- Unused loans are less as compare to canceled or refused
- Bank has approved maximum loans followed by the refusal of loans

Thank You

