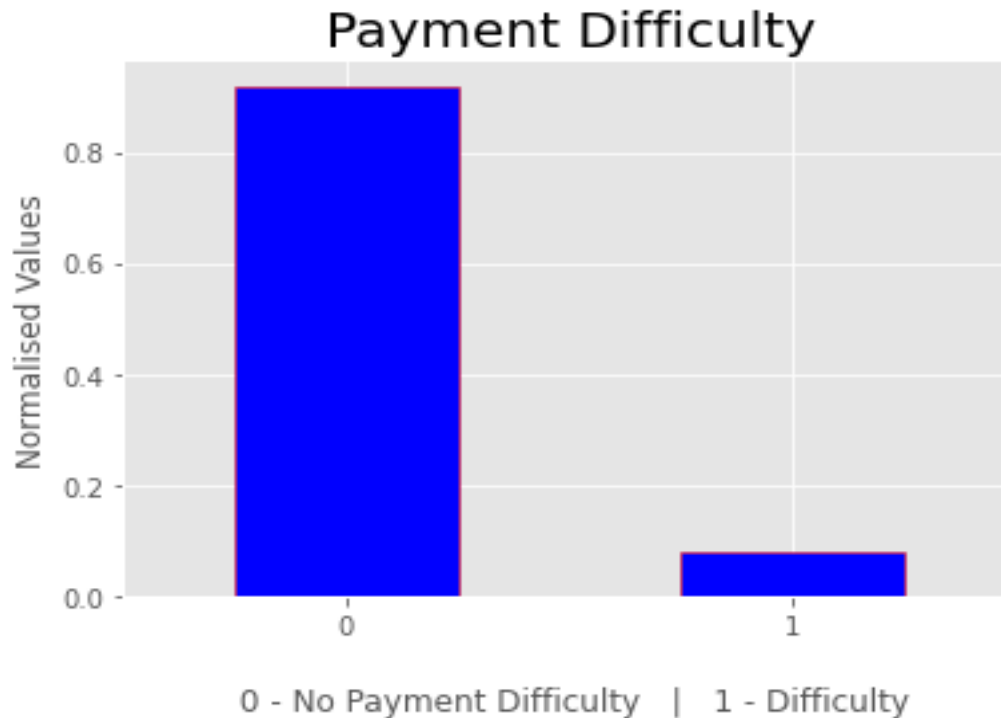


# EDA Graded Assignment

Credit EDA Case Study

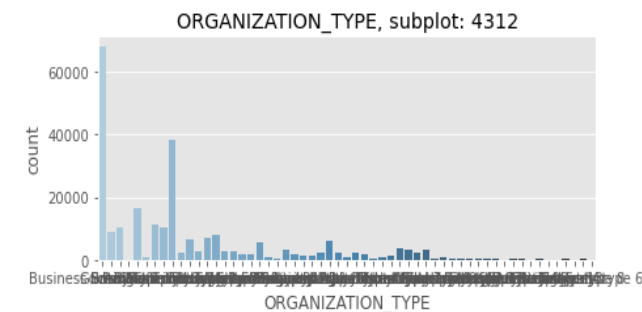
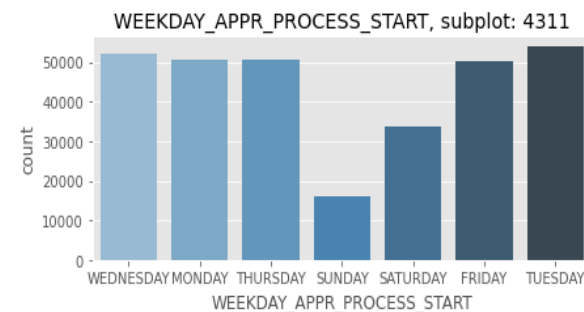
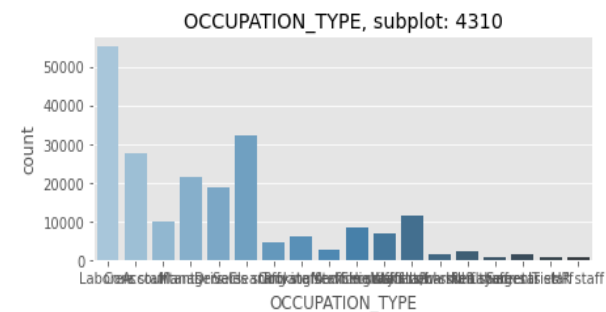
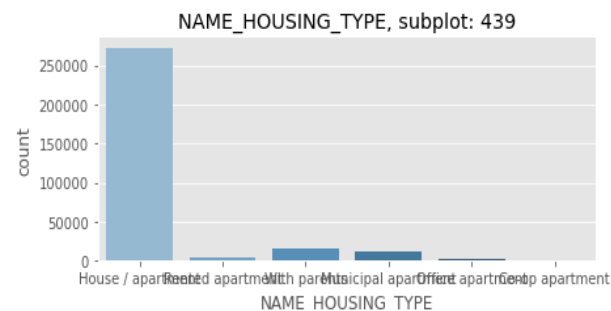
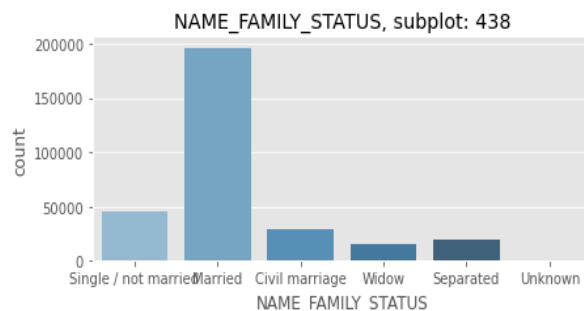
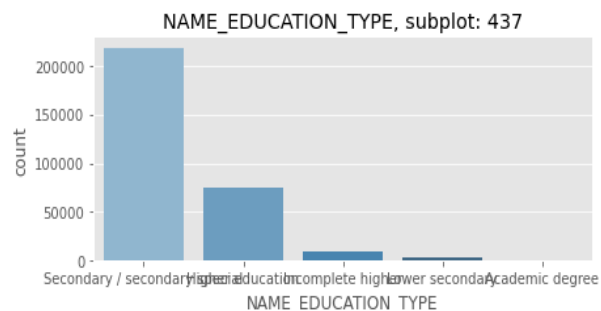
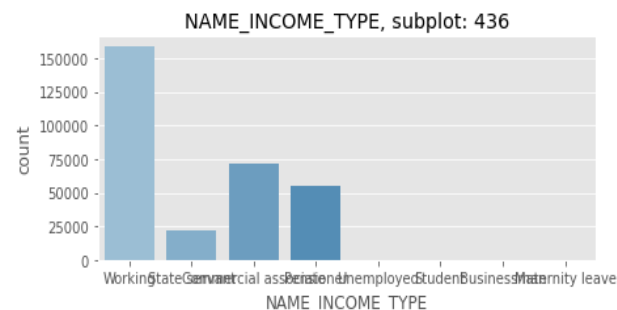
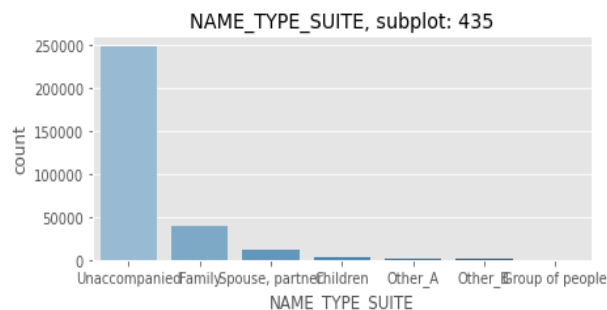
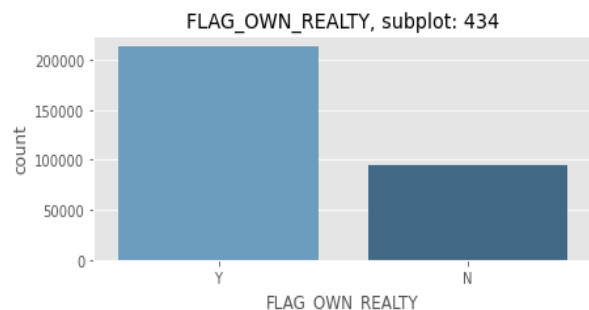
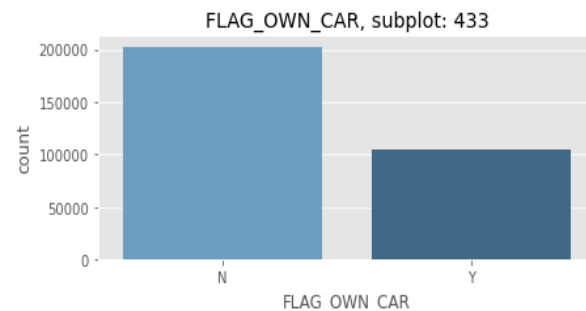
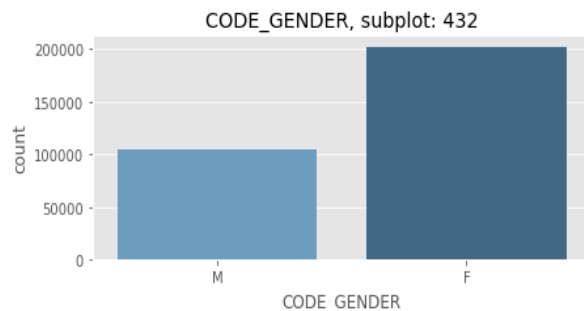
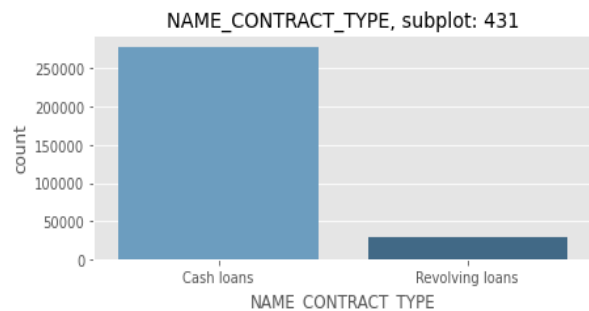
-Ameya Kulkarni

# Overall Payment Difficulty



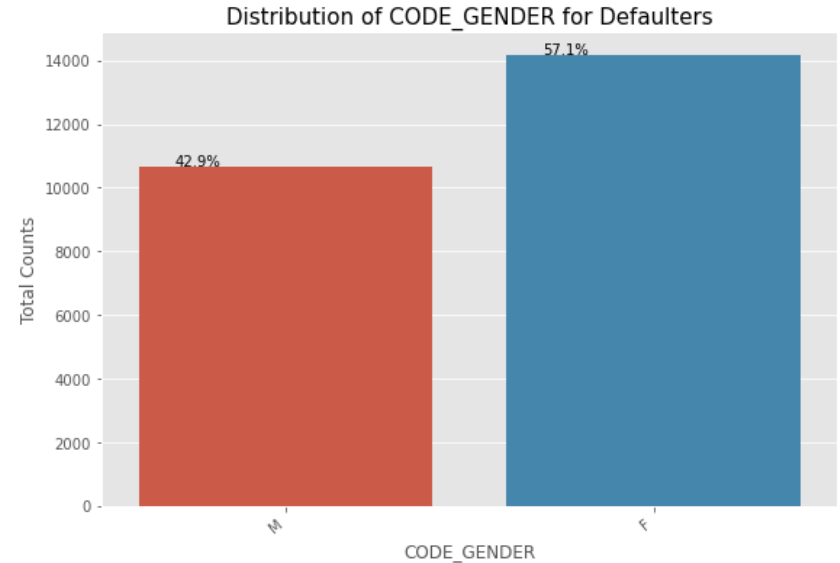
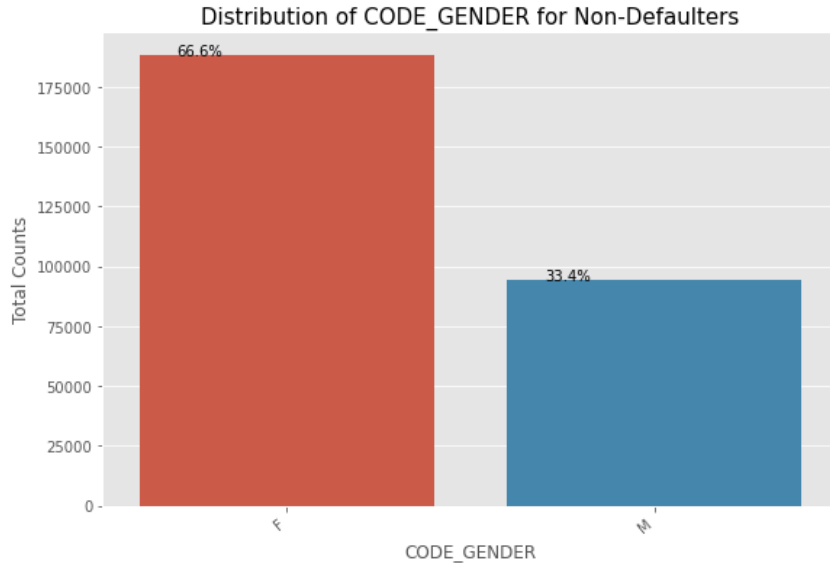
Here we can see that no. of applicants with payment difficulty are way less compared to the applicants with no payment difficulty.

# Some Insights



- From the previous charts we reach these initial conclusion:
  1. Cash loans offered are more than revolving loans, at 90%
  2. 65% Females have taken loans in comparison to 34% male. This is an interesting insight and needs to be studied further.
  3. 65% applicant dont own cars.
  4. 69% applicants own living quarters.
  5. 81% applicants came accompanied for loan application (This might not have any effect on our analysis).
  6. While most applicants are working class, 18% are pensioners.
  7. 71% have secondary education and 24% have higher education.
  8. More than 63% appicants are married.
  9. 31% have not mentioned their occupation type.

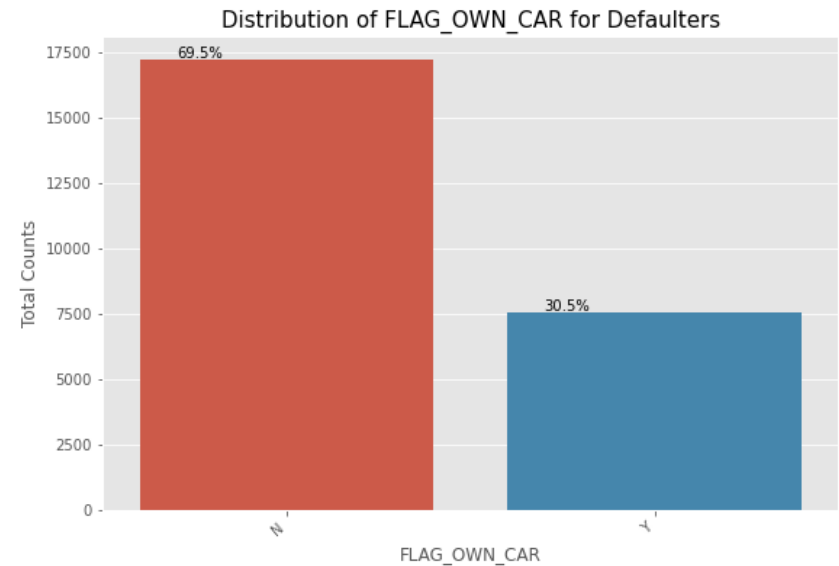
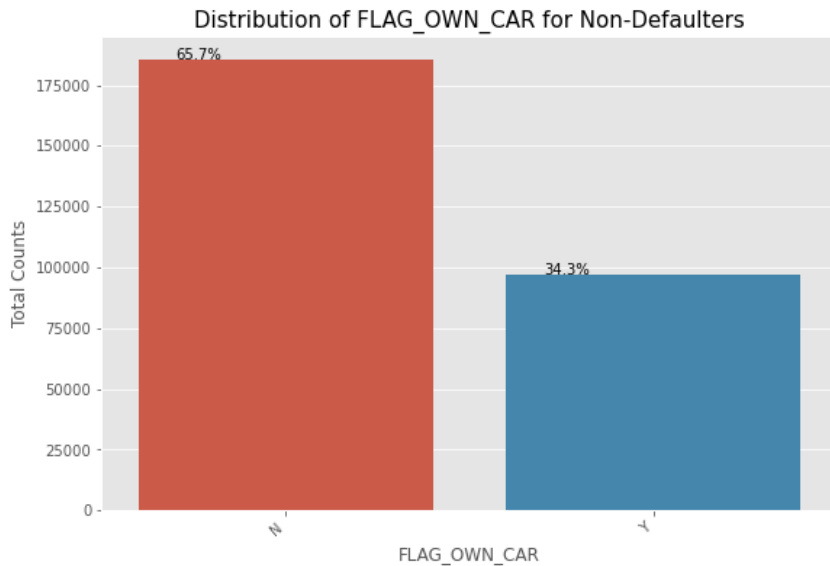
# Genders based defaulters.



We can see that females contribute almost 67% to the non-defaulters and 57% to the defaulters.

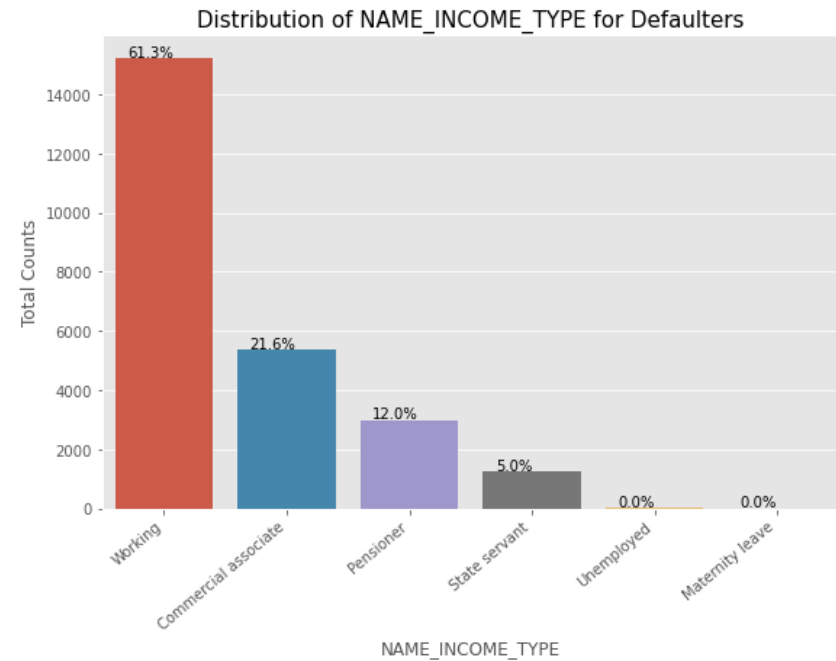
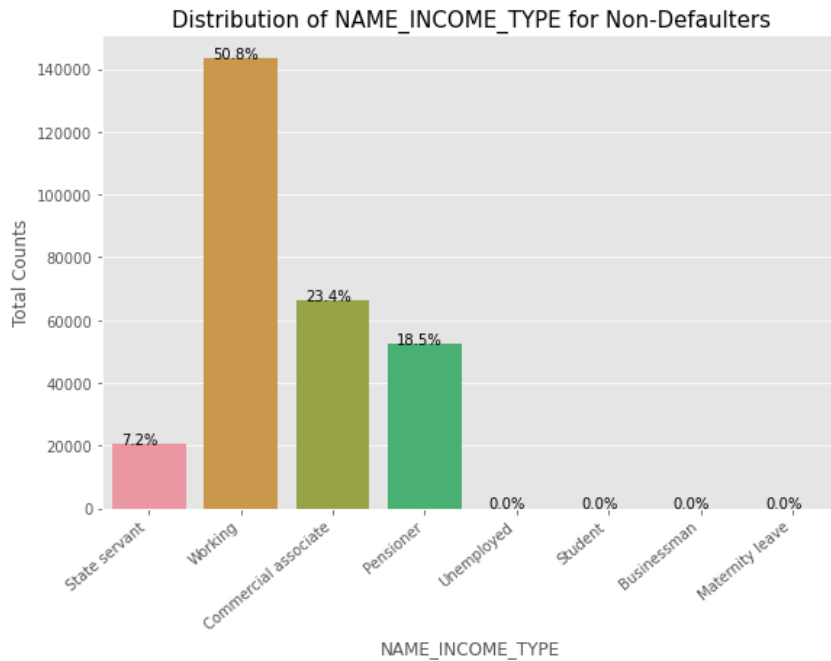
As we learned earlier, there are more number of female applicants than men, that could be the reason for this inference.

# Impact of Owning a car on Defaulters



We can see that people without cars contribute 65.7% to the non-defaulters while 69.5% to the defaulters.

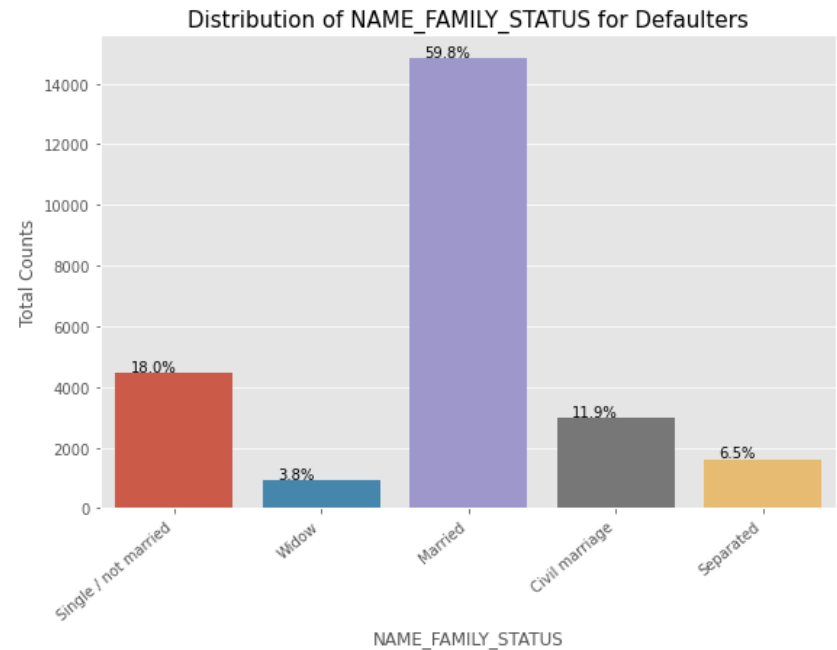
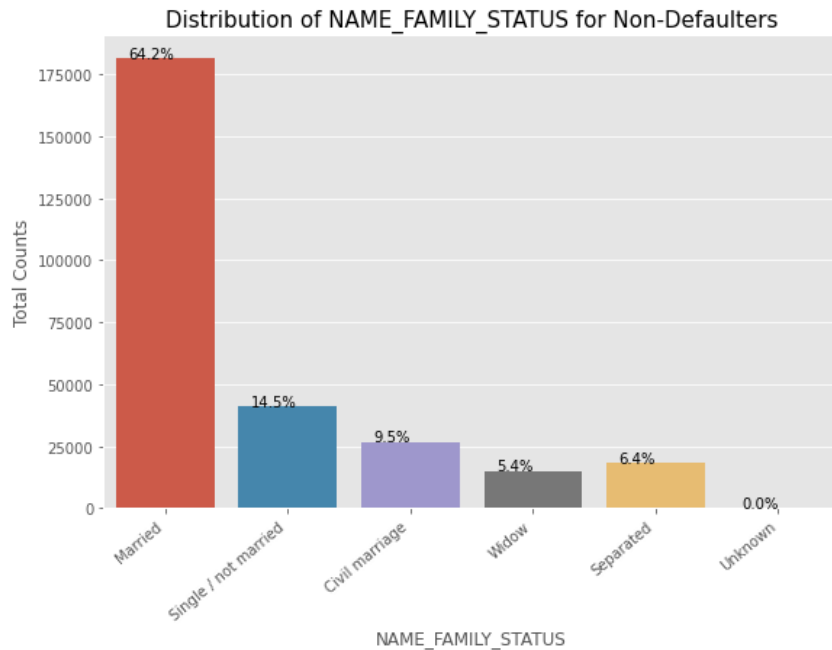
# Relationship between Occupation and Defaulter



- We can see that the students don't default. The reason could be they are not required to pay during the time they are students.
- We can also see that the Businessmen never default.
- Most of the loans are distributed to working class people
- We also see that working class people contribute almost 51% to non defaulters while they contribute to 61% of the defaulters. Clearly, the chances of defaulting are more in their case.

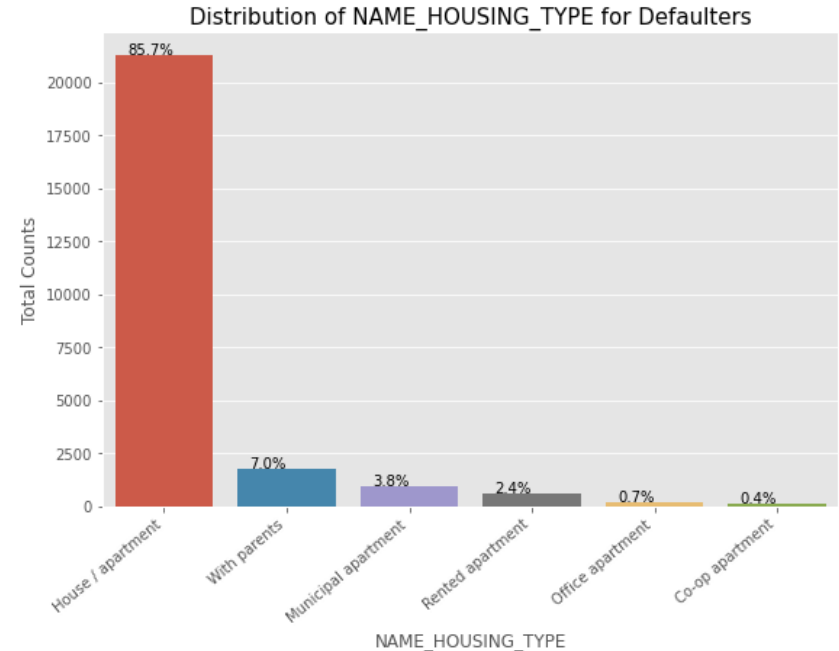
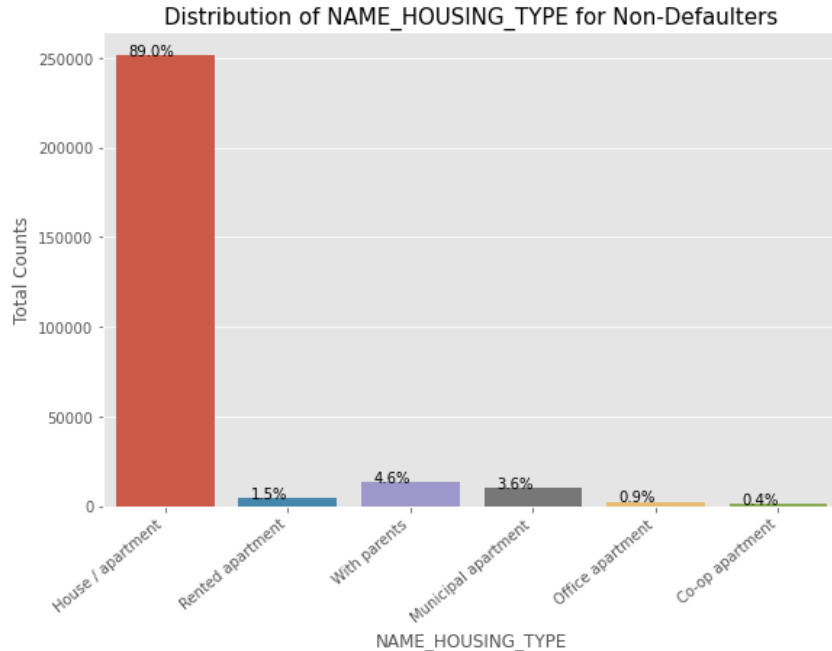


# Relationship between Family Status and defaulter



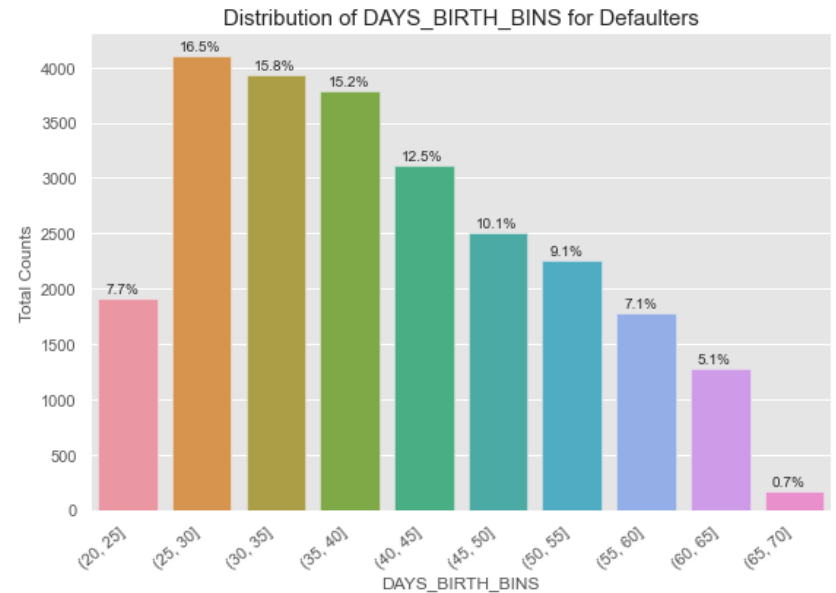
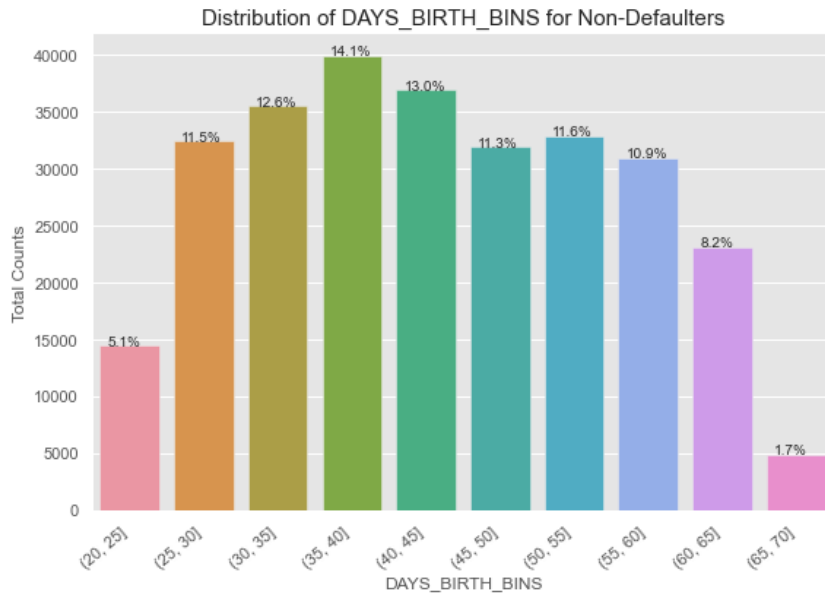
Married people tend to apply for loans more than others in the group. But from the graph we see that Single/non Married people contribute 14.5% to Non Defaulters and 18% to the defaulters. So there might be more risk associated with them too.

# Relationship between Owning a house and Defaulter



- It is clear from the graph that people who have House/Apartment, tend to apply for loans more than others.
- People living with parents tend to default more often when compared with others.

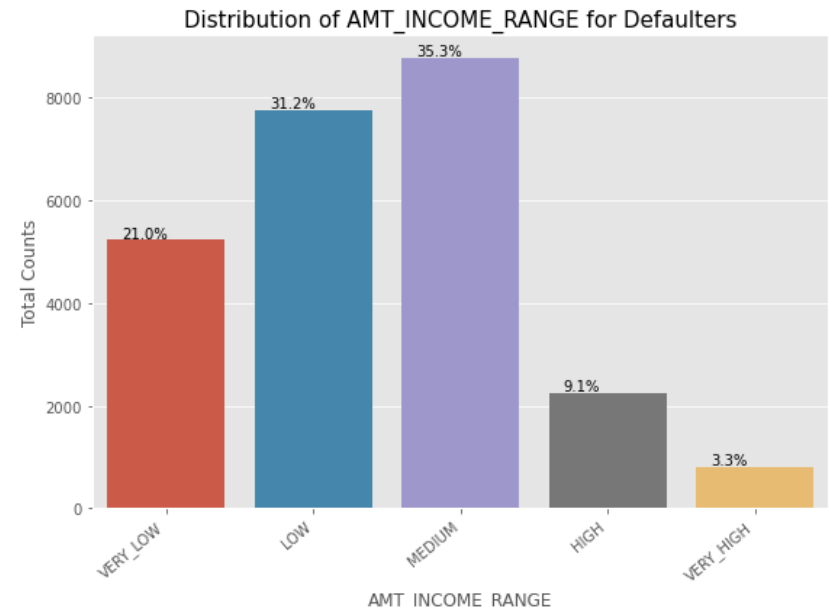
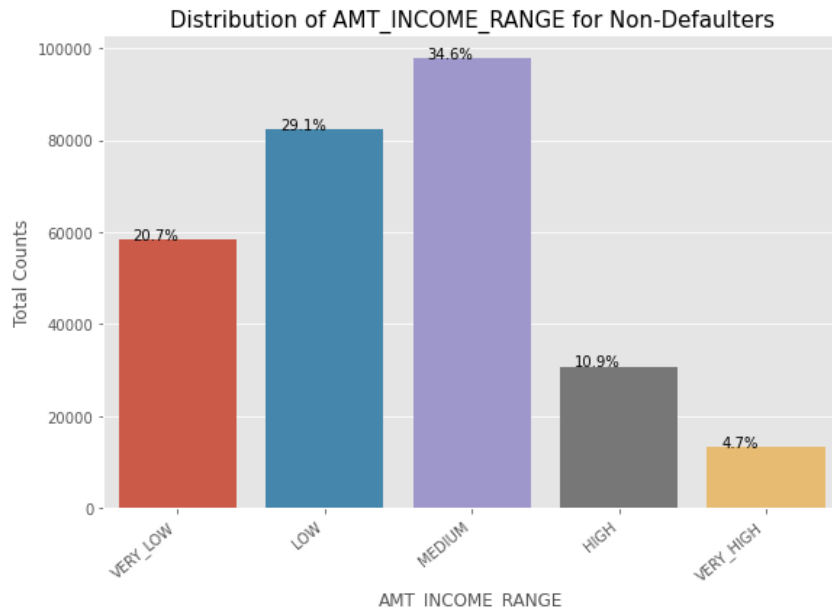
# Relationship between Age and Defaulter



We see that [25,30] age group tend to default more often. So they are the riskiest people to loan to.

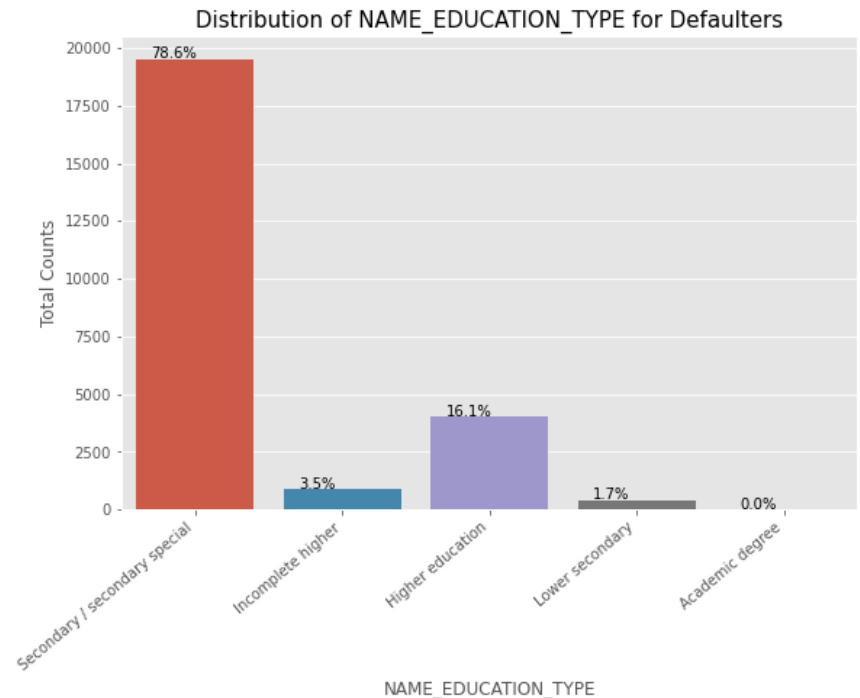
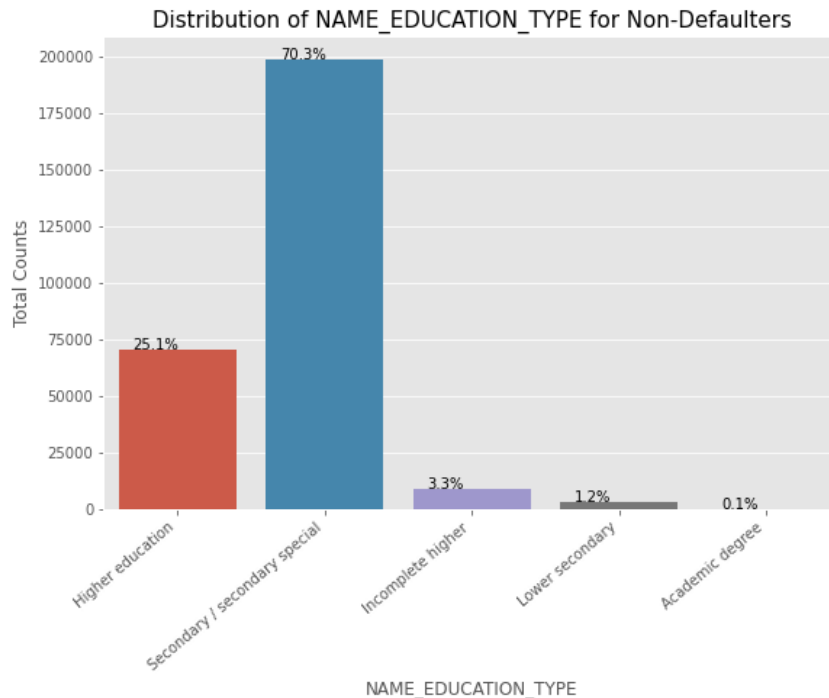
With increasing age group, people tend to default less starting from the age 25.

# Relationship between Income and Defaulter



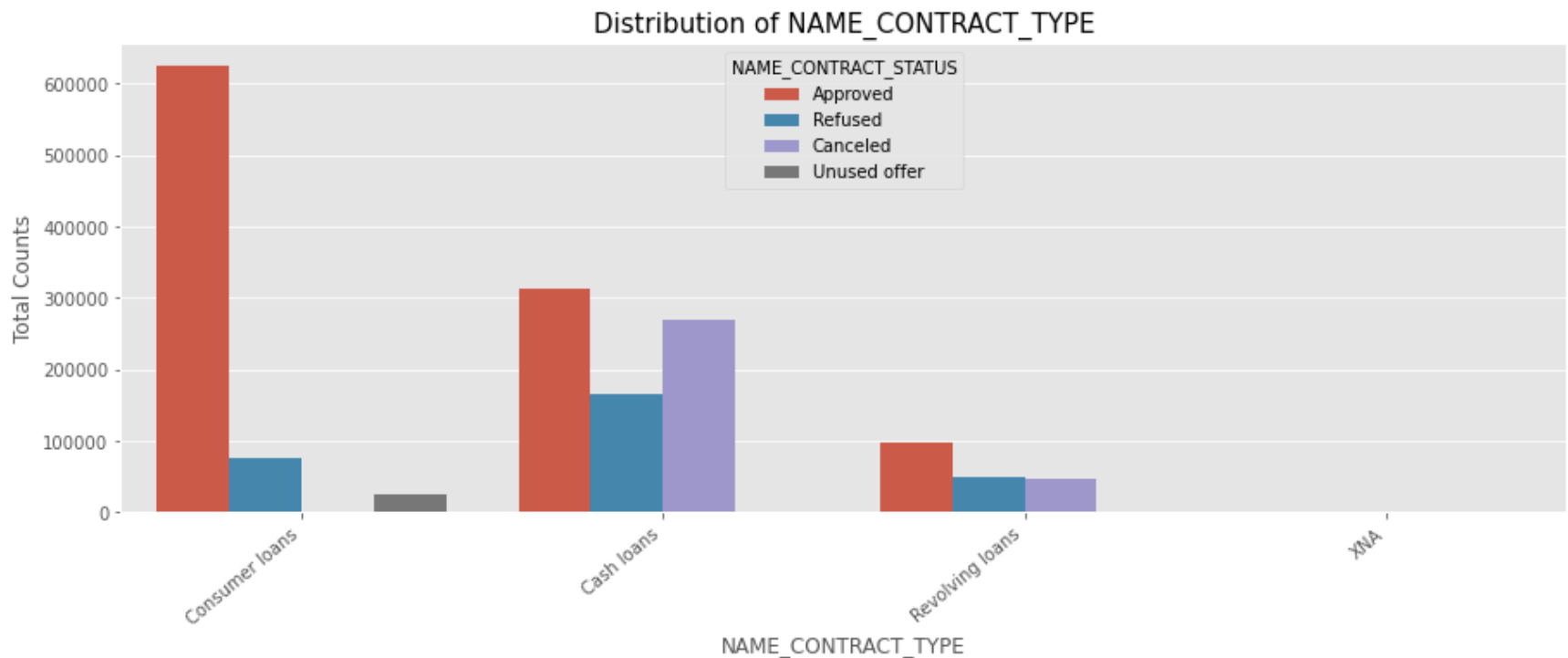
The Very High income group tend to default less often. They contribute 12.4% to the total number of defaulters, while they contribute 15.6% to the Non-Defaulters, which also tells us that there are less number of very high income range people who apply for loans.

# Relationship between Educational Qualification and Defaulter



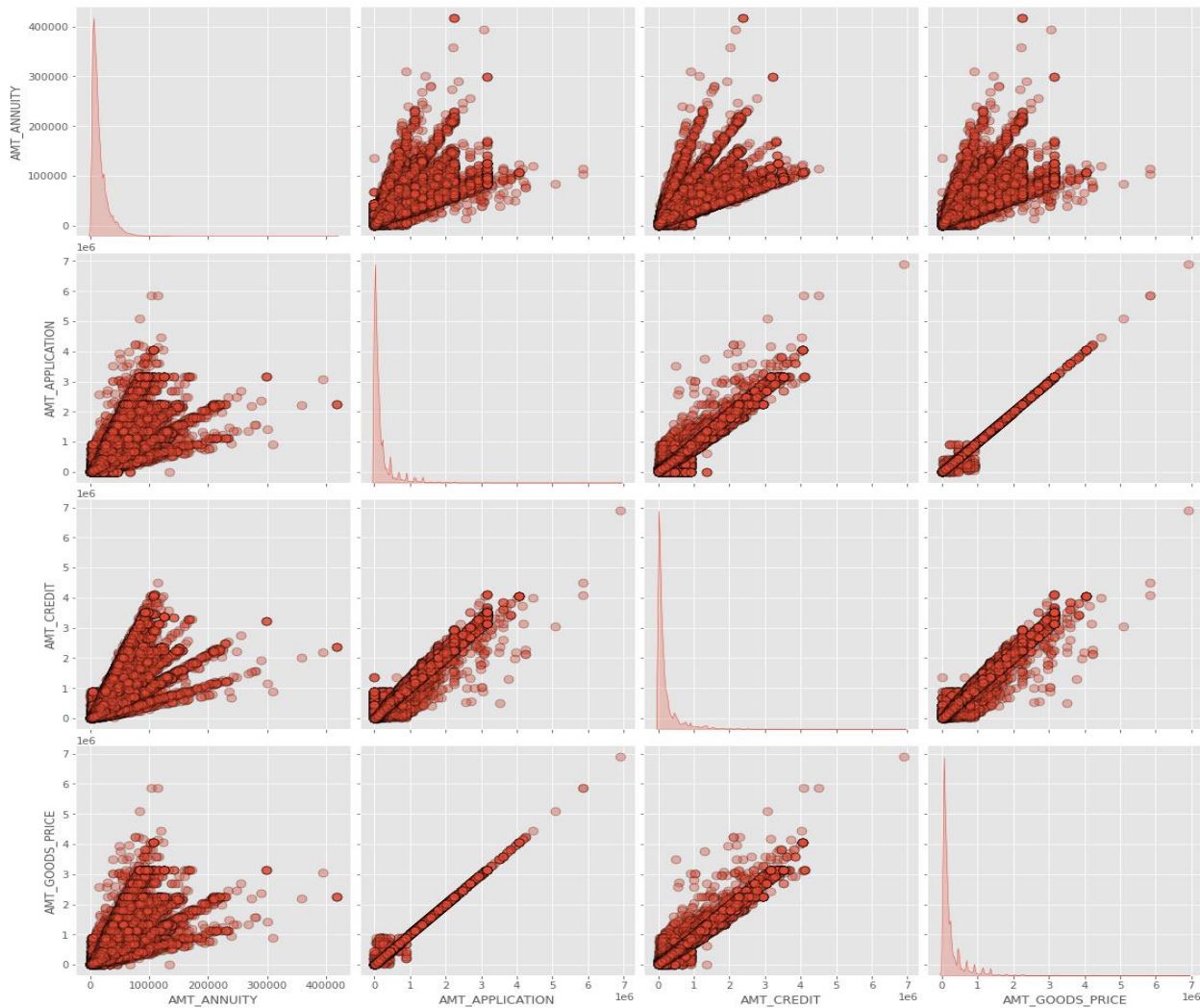
People with Secondary education tend to apply for loans more than others. People with Secondary education and higher education tend to default more, this could also be because there are more applicants with secondary education.

# Types of Loan



From the above chart, we can infer that, most of the applications are for 'Cash loan' and 'Consumer loan'. Although the cash loans are refused more often than others.

# Relationship between AMT\_ANNUITY, AMT\_APPLICATION,AMT\_CREDIT, AMT\_GOODS\_PRICE



# Some insights from previous plot:

- Annuity of previous application has a very high and positive influence over: (Increase of annuity increases below factors)
  - (1) How much credit did client asked on the previous application
  - (2) Final credit amount on the previous application that was approved by the bank
  - (3) Goods price of good that client asked for on the previous application.
- For how much credit did client ask on the previous application is highly influenced by the Goods price of good that client has asked for on the previous application
- Final credit amount disbursed to the customer previously, after approval is highly influence by the application amount and also the goods price of good that client asked for on the previous application.



# CONCLUSION

# Default cases in approved variables:

## Default High:

1. 'INCOME\_GROUP' - Medium income
2. 'AGE\_GROUP' - 25-35, followed by 35-45
3. 'NAME\_INCOME\_TYPE' – Working
4. 'OCCUPATION\_TYPE' - Laborers 31%
5. 'ORGANIZATION\_TYPE' - Business type 3
6. 'OWN\_CAR\_flag' - 31% don't have car
7. 'OWN\_REALTY\_flag' - 70% don't have own home

# **CASE SUMMARY**

# Defaulter's demography

All the below variables were established in analysis of Application dataframe as leading to default. Checked these against the Approved loans which have defaults, and it proves to be correct.

- Medium income
- 25-35 years olds , followed by 35-45 years age group
- Male
- Unemployed
- Laborers, Salesman, Drivers
- Business type 3
- Own House - No
- Other important factors to be considered
- Days last phone number changed
- Lower figure points at concern
- No of Bureau Hits in last week. Month etc – zero hits is good
- Amount income not correspondingly equivalent to Good Bought – Income low and good value high is a concern
- Previous applications with Refused, Cancelled, Unused loans also have default which is a matter of concern. This indicates that the financial company had Refused/Cancelled previous application but has approved the current and is facing default on these.

# Credible applications refused

- -Unused applications have lower loan amount. Is this the reason for no usage?
- -Female applicants should be given extra weightage as defaults are lesser.
- -60% of defaulters are Working applicants. This does not mean working applicants must be refused. Proper scrutiny of other parameters needed
- -Previous applications with Refused, Cancelled, Unused loans also have cases where payments are coming on time in current application. This indicates that possibly wrong decisions were done in those cases.