

EDA GROUP CASE STUDY

SUBMISSION

BY

GROUP MEMBERS (JUNE 2018 PGDDS):

1. ASHUTOSH GAIHA
2. DEEPANSH KHURANA
3. HEMANT KASHYAP
4. GAURAV AGRAWAL



Introduction (A case of Consumer Finance Company)

- ▶ This case contains a consumer finance company which specialises in lending various types of loans to urban customers. When the company receives a loan application, the company has to make a decision for loan approval based on the applicant's profile. Two types of risks are associated with the bank's decision:
 1. If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company
 2. If the applicant is not likely to repay the loan, i.e. he/she is likely to default, then approving the loan may lead to a financial loss for the company



Objective of Analysis

Our objective is to identify person who are likely to defaulted, which can be resulted into denying the loan, reducing the amount of loan, lending (to risky applicants) at a higher interest rate, etc..

Strategy

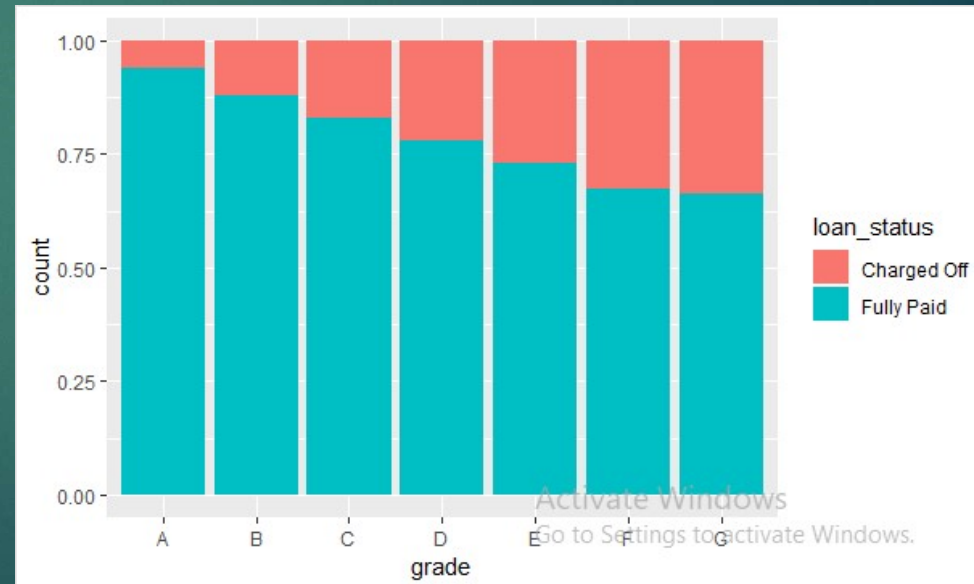
Our Over all strategy is based on below analysis:

1. Univariate Analysis
2. Segmented Univariate Analysis
3. Bivariate Analysis
4. Correlation Matrix

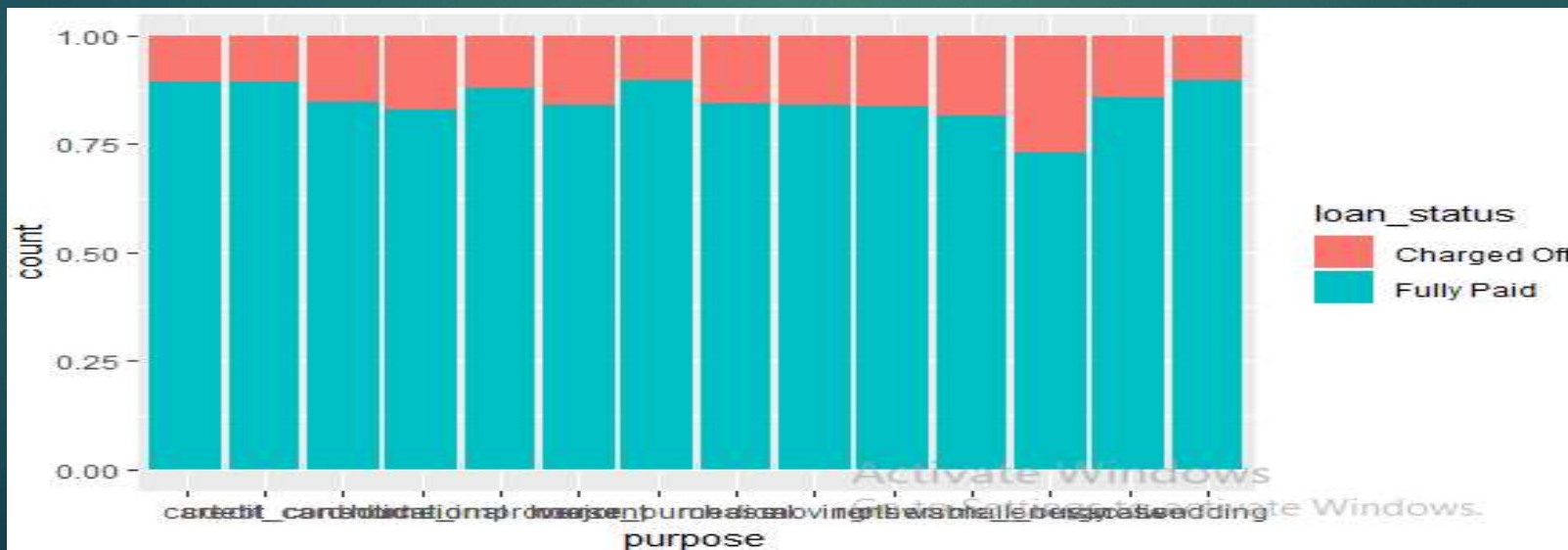


Bivariate Analysis

- ▶ Grade assigned to the loan by the LC is based on various factors and could impact loan status.
- ▶ Clearly shown that Grade-A people have less defaulted as comparison to Grade-G.



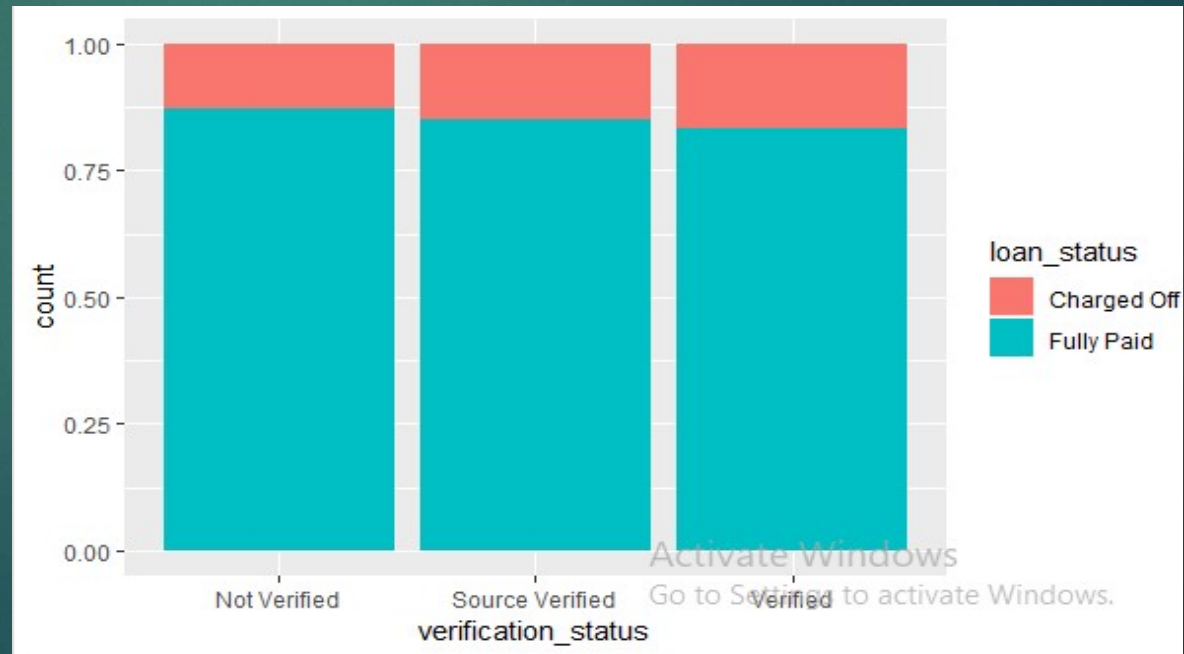
- ▶ Purpose can impact loan status and could help company to understand which loans are likely to be charged off.
- ▶ Small business loans are the top defaulters amongst other purpose loans.
- ▶ Company should concentrate on loan provided for Wedding, Major purchases, Card and credit card loan as these are the loans where the defaulters are very less as compared to other type of loan.





Bivariate Analysis

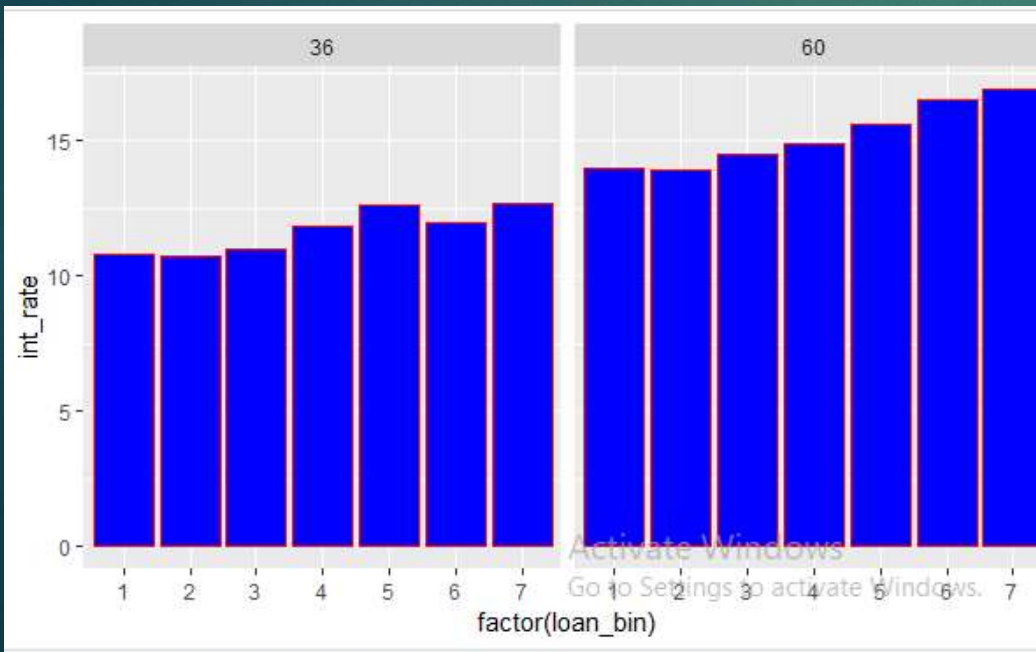
- ▶ Clearly shown from the below graph that verified sources have the most loan defaulters .
- ▶ Company needs to improve there verification process for loan application.





Bivariate Analysis

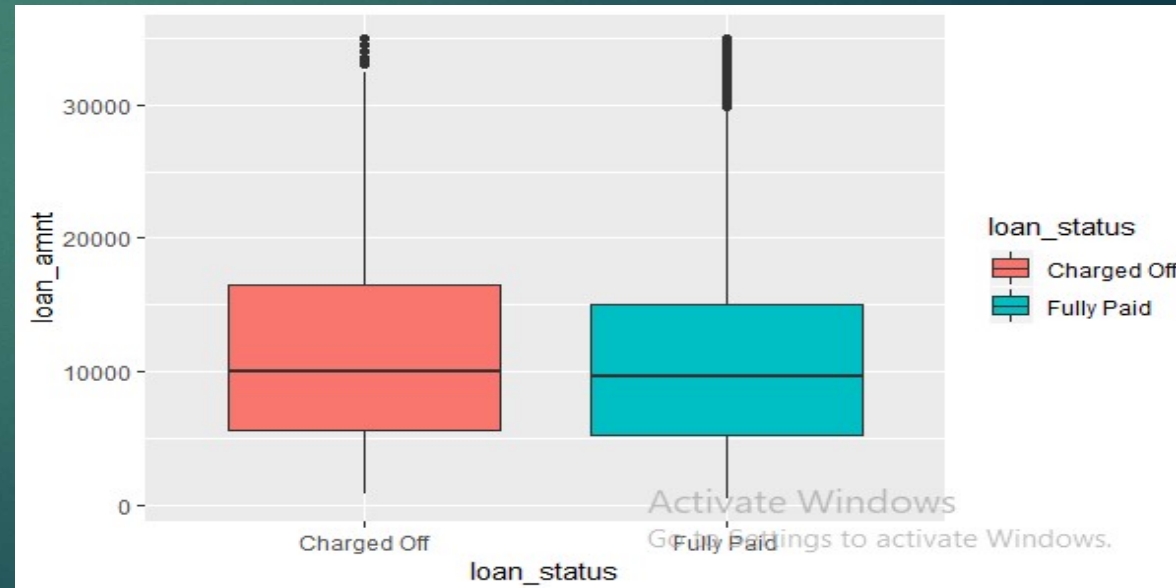
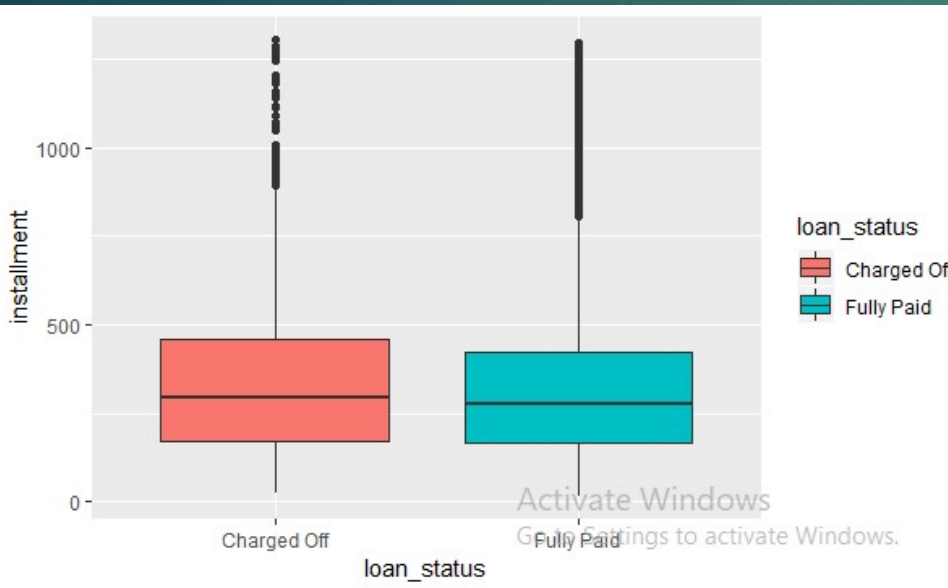
- ▶ Interest rates are higher for loan period of 60 months and less for 36 months.
- ▶ Borrowers with higher interest rates will have difficulties paying the loans back. Interest rate could impact loan status.





Bivariate Analysis

- ▶ The higher the loan amount, the difficult it is to repay. We could see loan amounts is impacting the loan status.
- ▶ Similarly instalment amount also having direct impact on charge off loans.

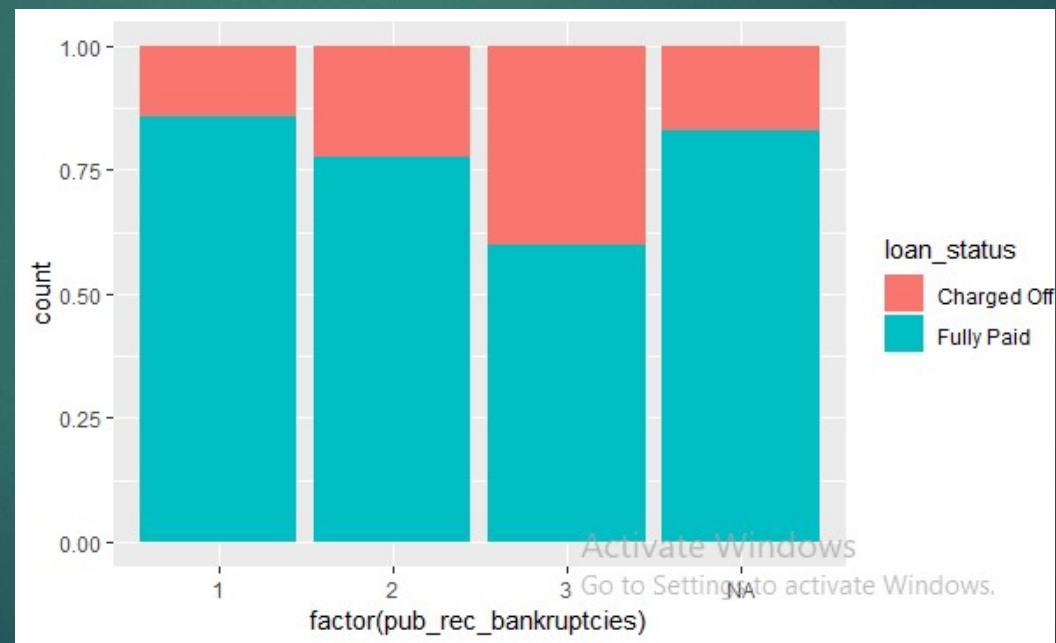




Bivariate Analysis

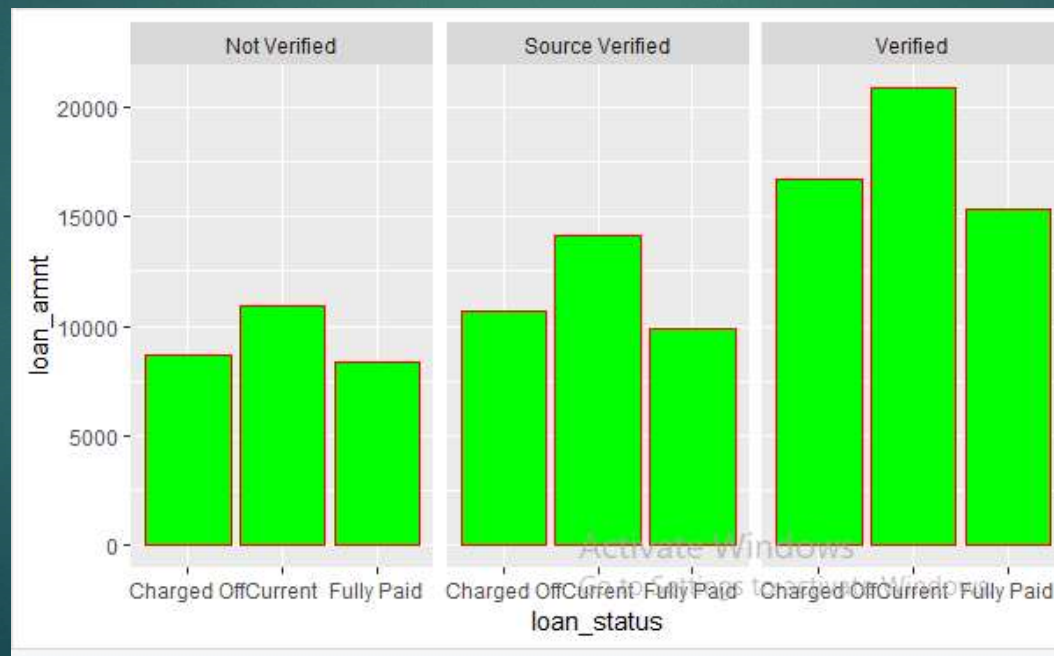


- ▶ People with public record of bankruptcy are the most loan defaulters.



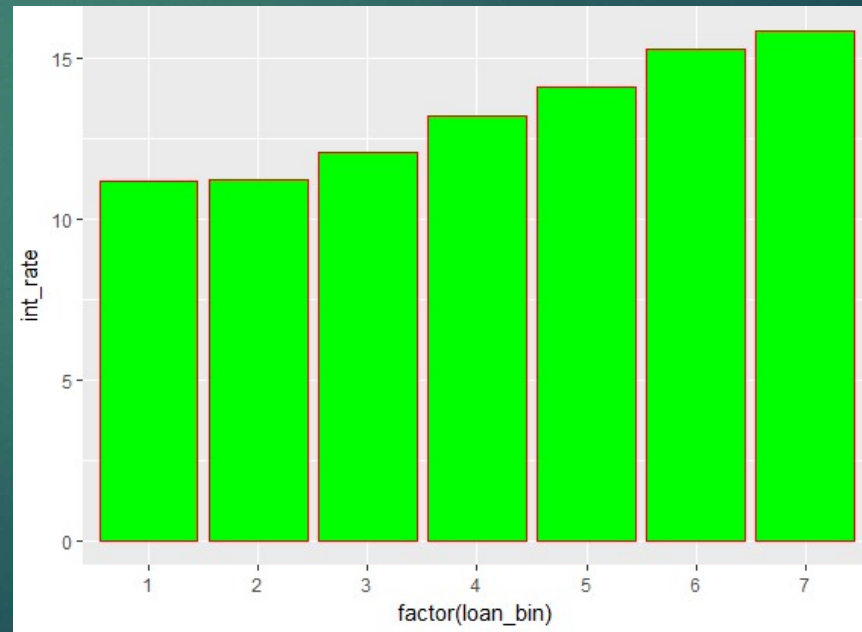
Univariate Analysis

- ▶ It is seen that verified applicants are the higher loan defaulters then others and loan amount granted are also higher to these applicants.
- ▶ Company needs to check and improve the document verification process.



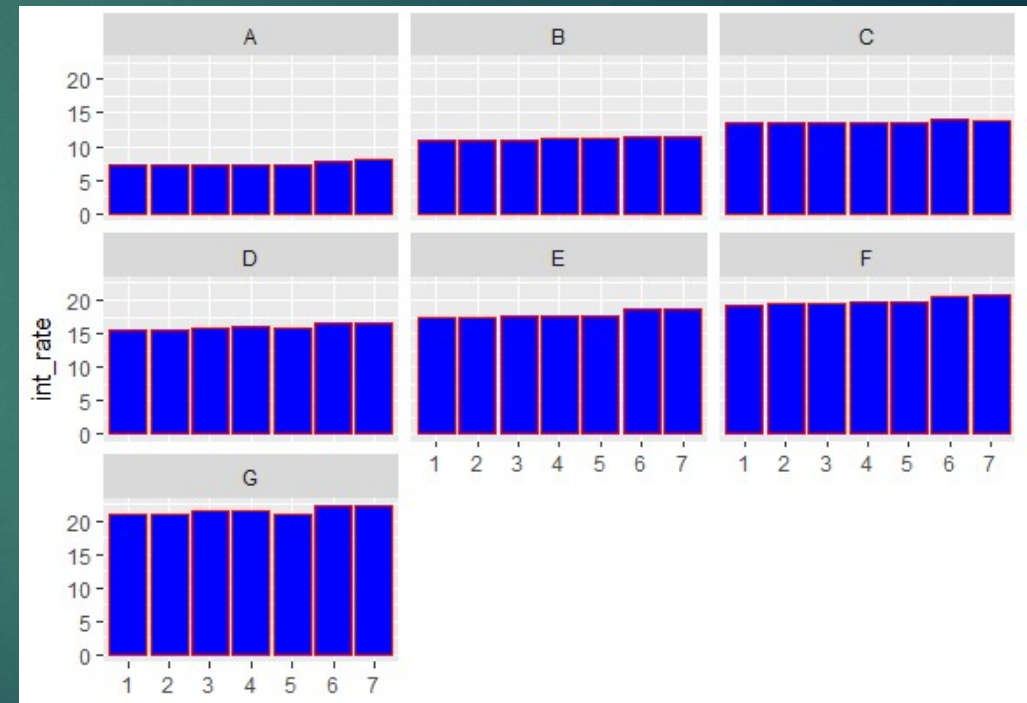
Segmented Univariate Analysis

- ▶ Loan amount is divided into bins of 5000 each for proper analysis. Bin 1 means 0-5000, bin 2 means 5000-10000 and so on.
- ▶ Its clearly seen as amount rises, mean interest rate also rises



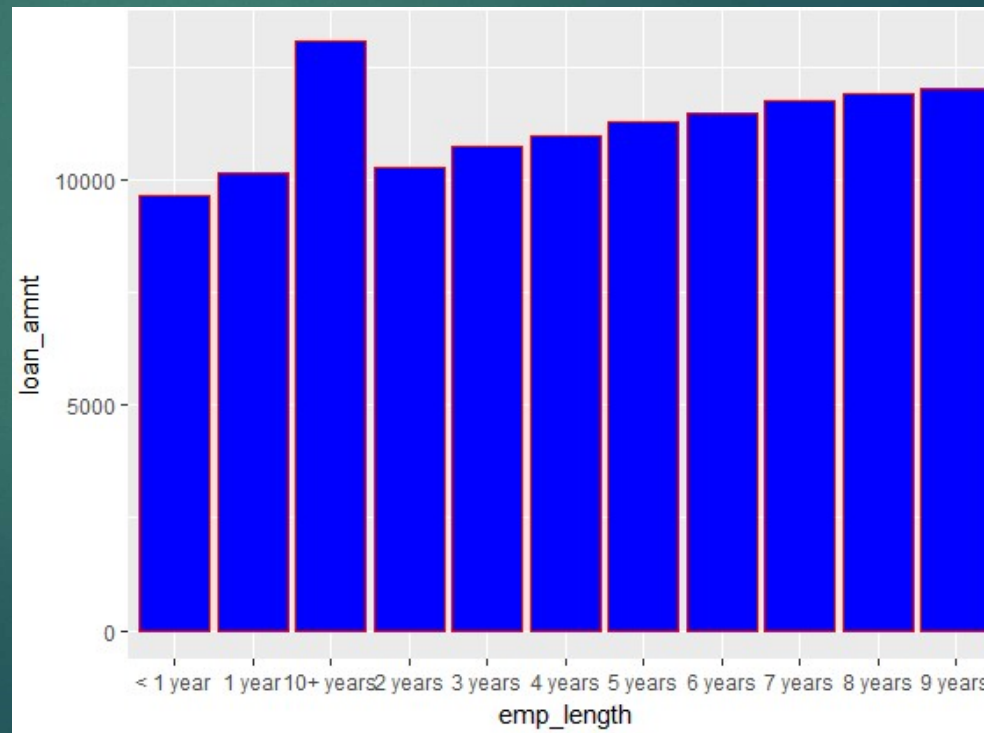
Segmented Univariate Analysis

- ▶ Grade A is provided with lowest interest rate loans and grade G with highest. Meaning that loans which have highest probability of recovery are provided with lowest interest rates
- ▶ However this is a wrong policy in terms of revenue earned. Grade A loans should have higher rates as they can be recovered easily.
- ▶ While Grade G should be provided on lower interest rates so that they are not charged off.



Segmented Univariate Analysis

- Mean Loan amount increases with employment period of a person.
This is a right strategy.



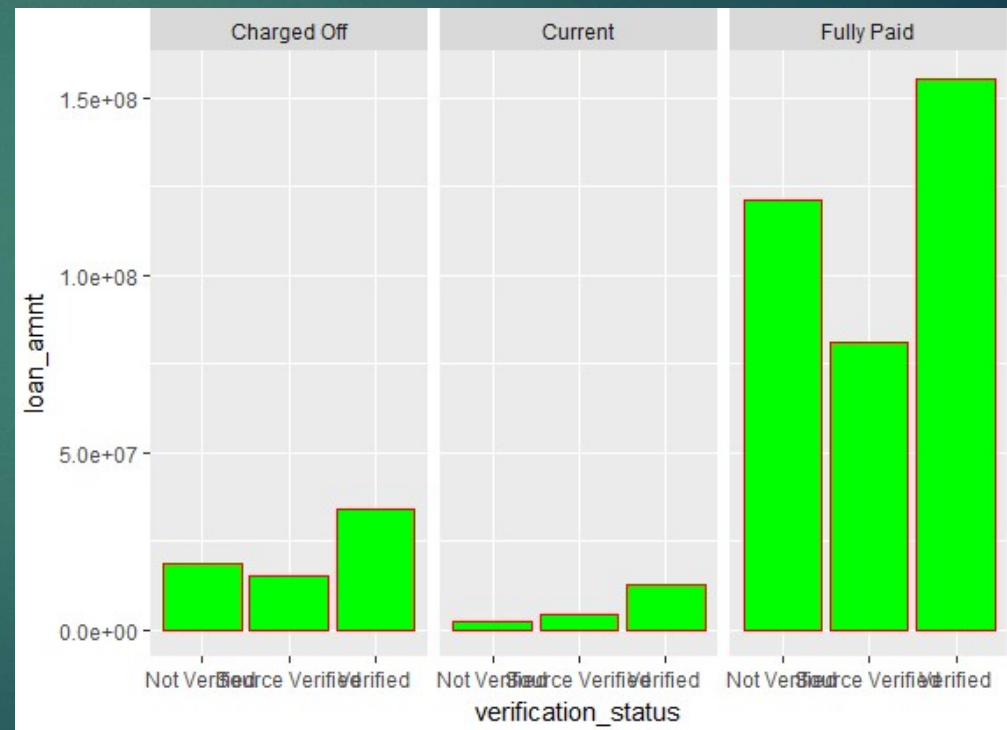
Segmented Univariate Analysis

- ▶ Loan default (Charged off) in mortgage is highest as they already have put collateral of house for loans.
- ▶ So mortgage loans should have strict verification policies.



Segmented Univariate Analysis

- ▶ Verified loans have highest loan defaults.
- ▶ This is really a cause of concern.
- ▶ Verification process should be made more stringent.





Conclusion



- ▶ Grade, purpose and verification status seem to have strong correlation with loan status.
- ▶ It is seen that verified applicants are the higher loan defaulters then others and loan amount granted are also higher to these applicants.
- ▶ Homeownership doesn't seem to have a pronounced correlation.
- ▶ Interest rate and instalment amount seems to have a clear impact on the charged off loans.
- ▶ Bankruptcies - This is an odd case, while the correlation is visible. Visually, it is quite clear that there is an effect on the loan status with increasing public bankruptcies.



Recommendations



- ▶ Median and mean both indicate lowering the interest rates could help in decreasing charged off loans.
- ▶ Company needs to check and improve the document verification process as it is seen that verified applicants category have maximum number of loan defaulters then others and loan amount granted is also higher to this category.
- ▶ Company can focus on small loans like wedding, Cards, Credit Cards and purchases.
- ▶ Mortgage loans should have strict verification policies.



THANK YOU