LENDING CLUB
CASE STUDY

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Abstract:

- We have been provided with the data of consumers of the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures.
- Lending clubs faces loss if their consumers are unable to repay the loan.
- So, the aim of this case study is to analyze the data provided by the company using EDA and predict which customers are likely to default.
- After our analysis the company can use our conclusions in future to avoid giving loans to customers who are likely to default.
- This analysis will help the company to reduce the risk of facing credit loss to a great extent.

Proposed Methodology:

Step1: Data Sourcing

Step2: Data Cleaning

Step3: Segmentation

Step4: Univariate Analysis

Step5: Segmented Univariate Analysis

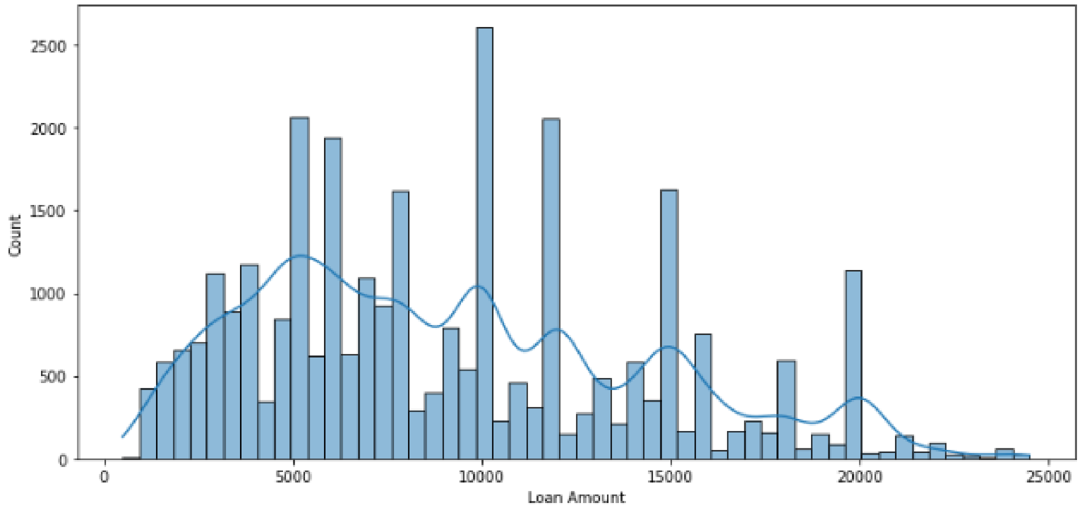
Step6: Bivariate Analysis

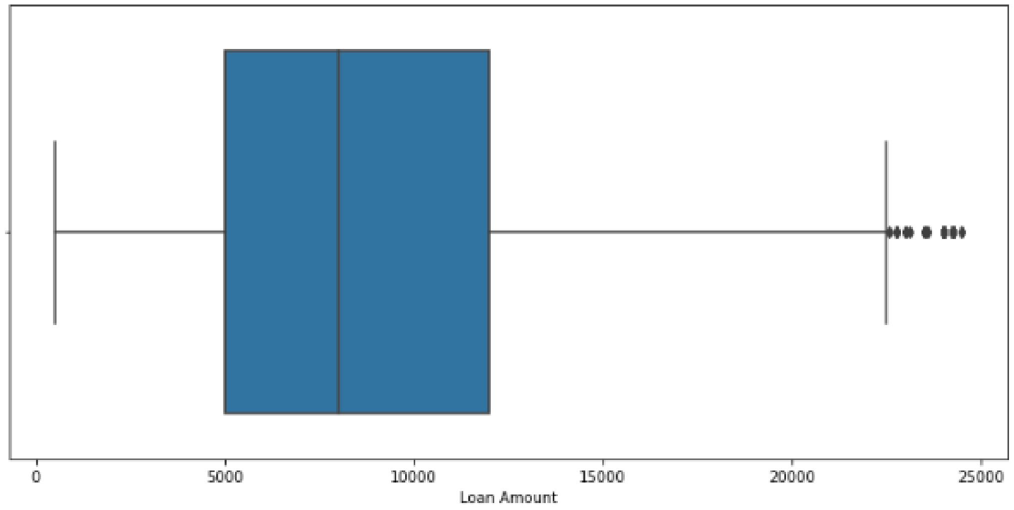
Step7: Multivariate Analysis

Step8: Recommendations/Conclusions

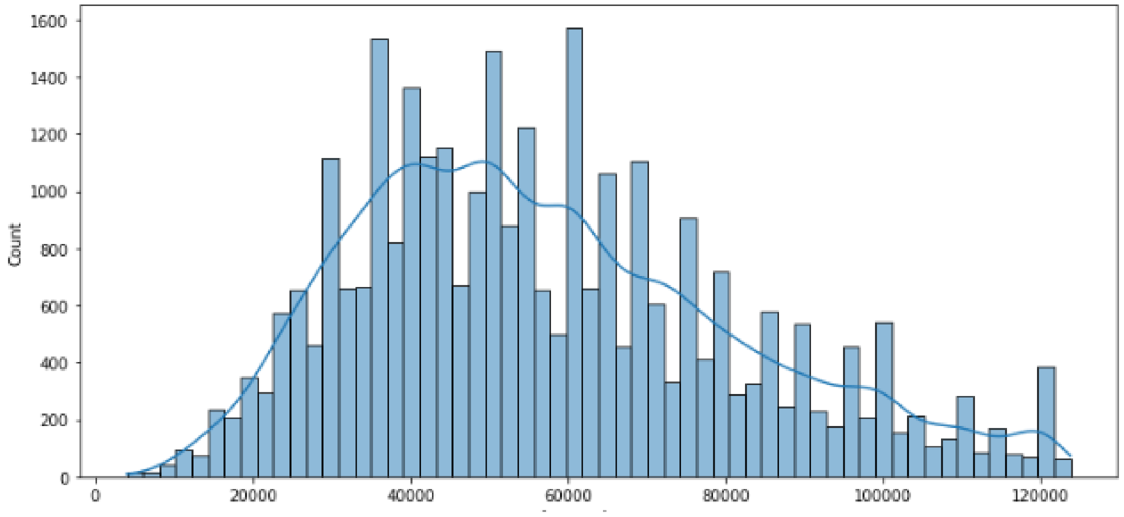
Univariate Analysis

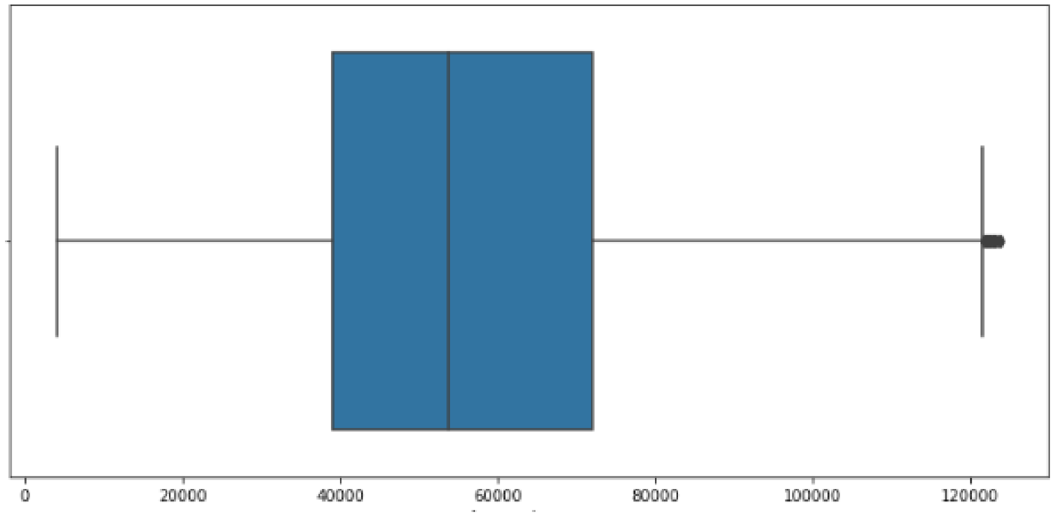
- Most of the loan amount applied were in the range of 5k-13k.
- Maximum Loan amount applied was ~25k.



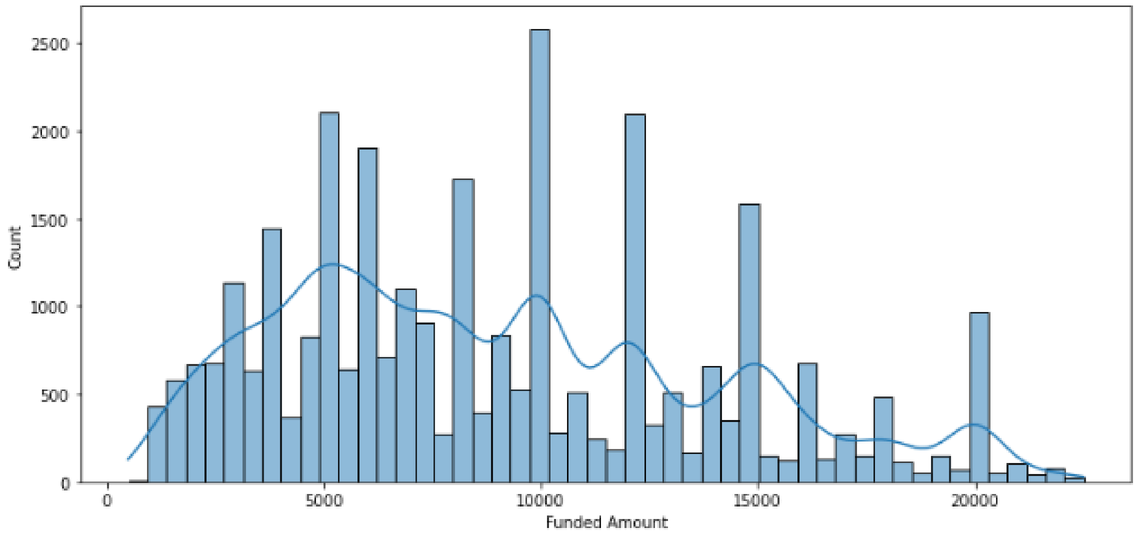


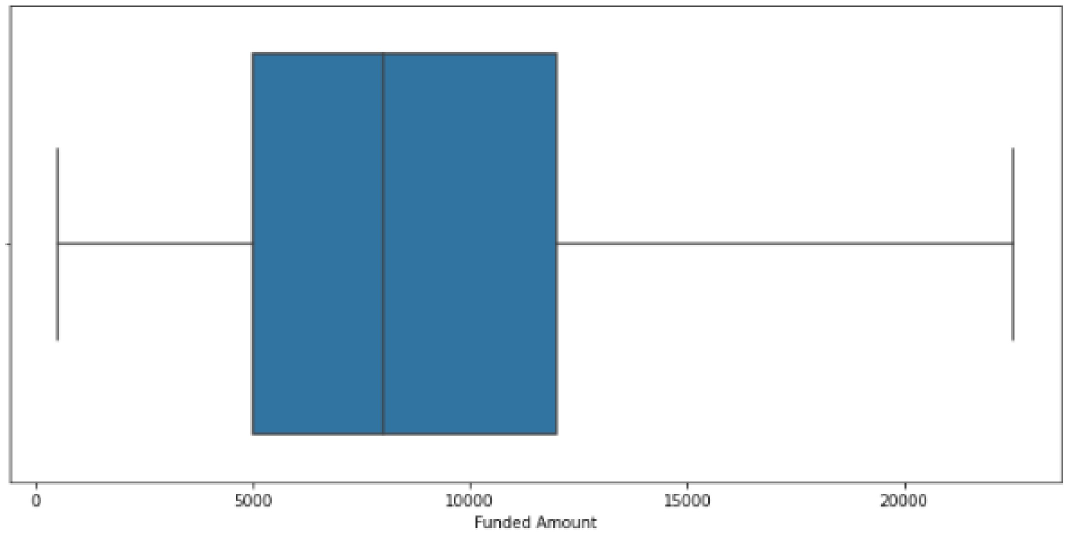
- The Annual income of most if applicants lies between 39k-73k.
- Average Annual Income is 57175.0



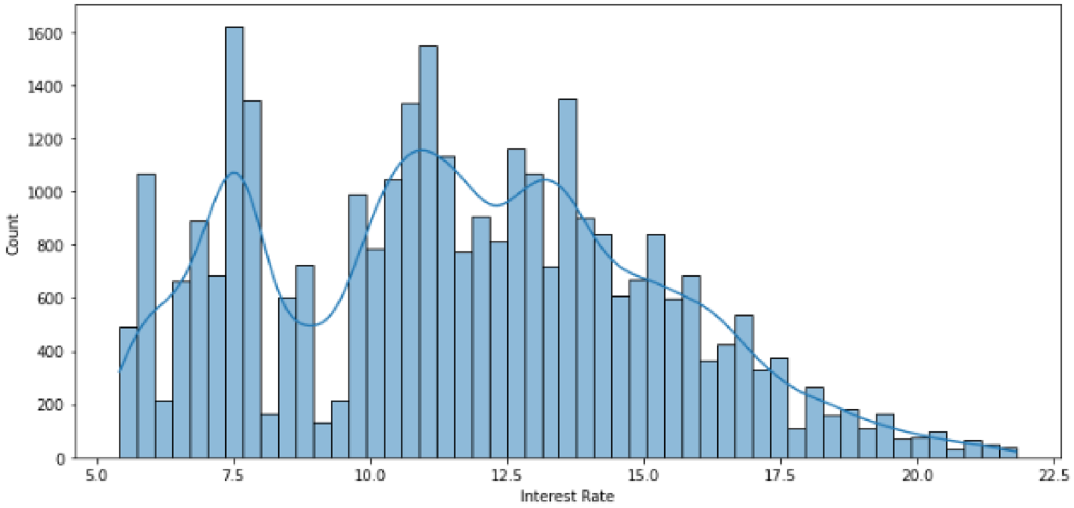


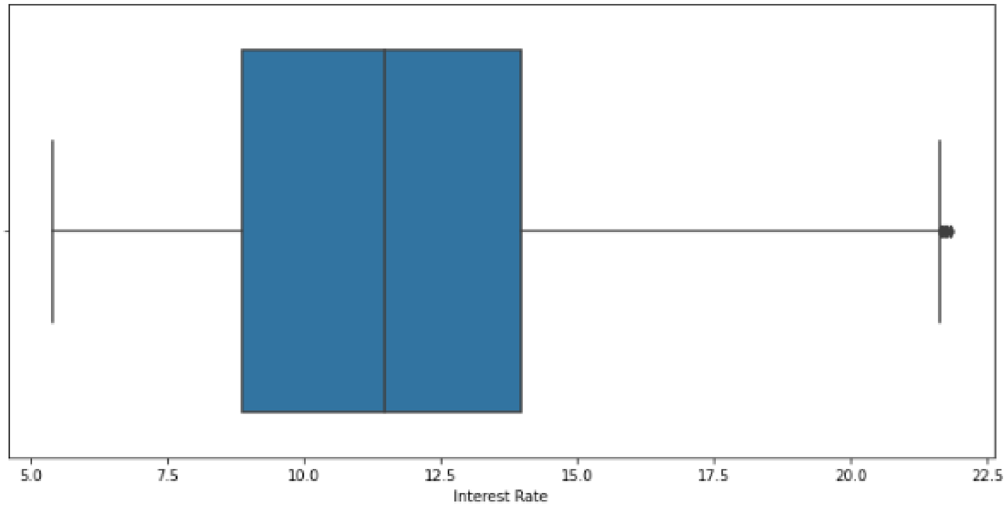
- Maximum funded amount is 22500
- Most funded amounts are in range 5K-13K





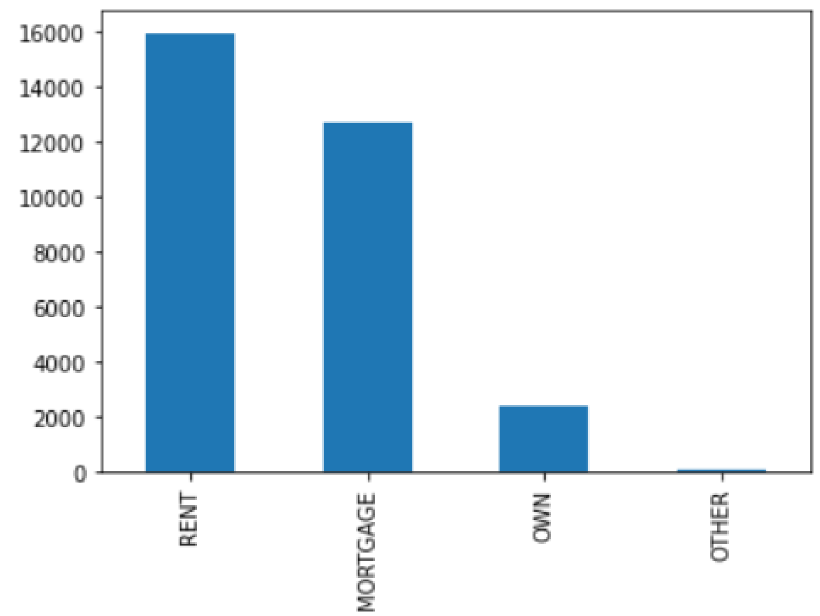
- Rate of intrest for most applicants is 8%-14%.
- Average Rate of interest of rate is 11.7 %



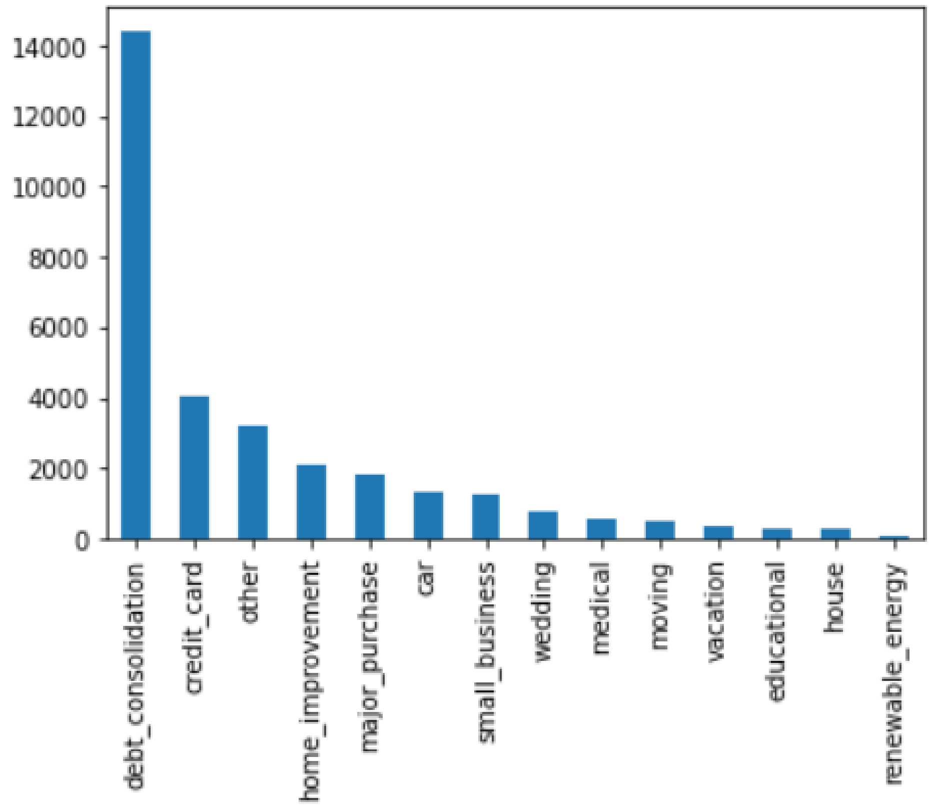


Unordered Categorical Variable Analysis

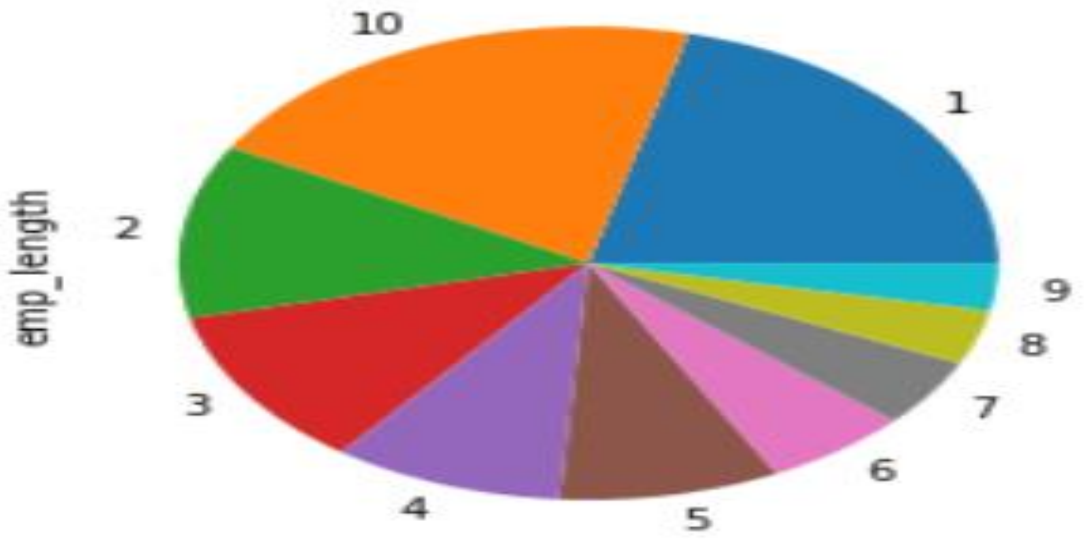
- Majority of loan applicants are either living on Rent or on Mortgage



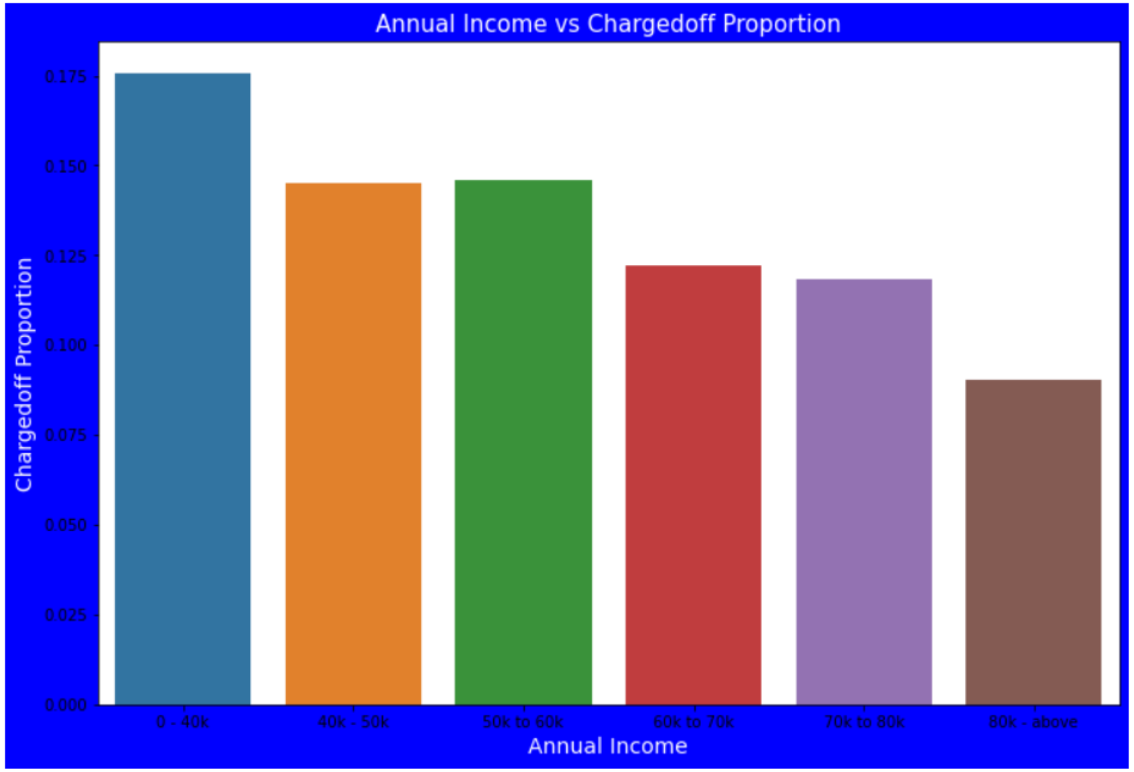
- Most of the loan applicants are for debt_consolidations.



Most of the applications are having 10+ yrs of Exp.

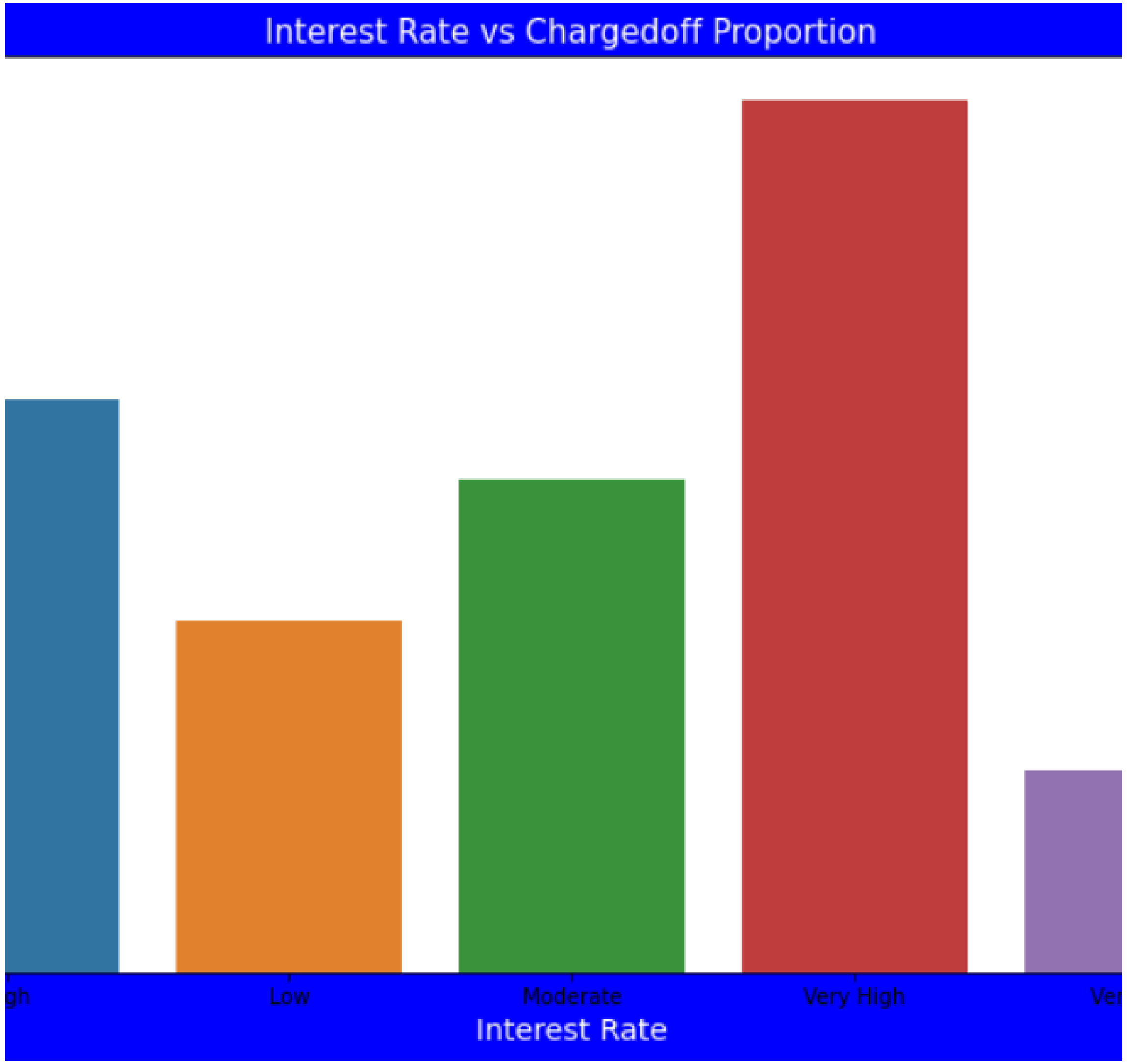


Bivariate Analysis

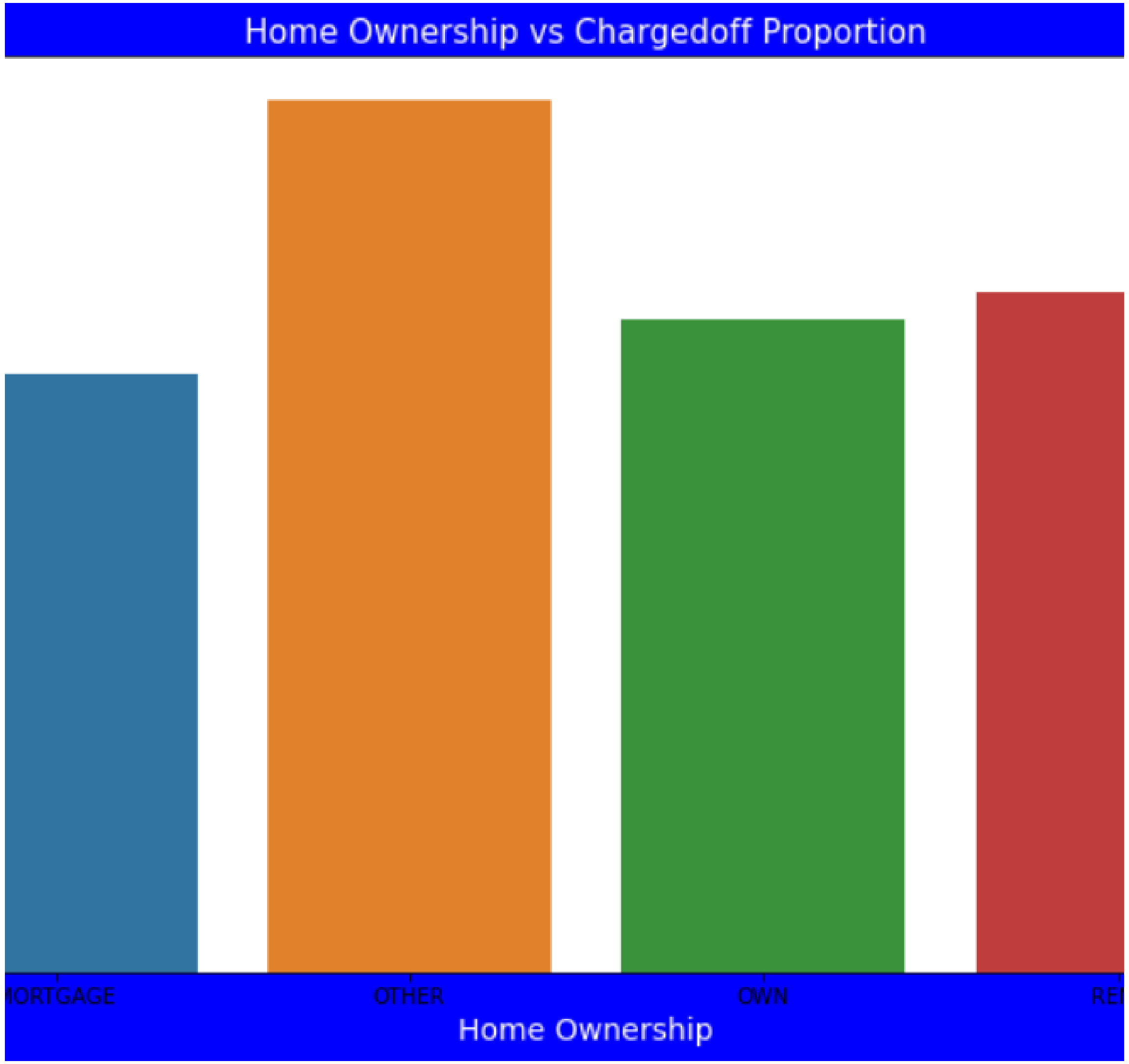


Higher income groups are less likely to default

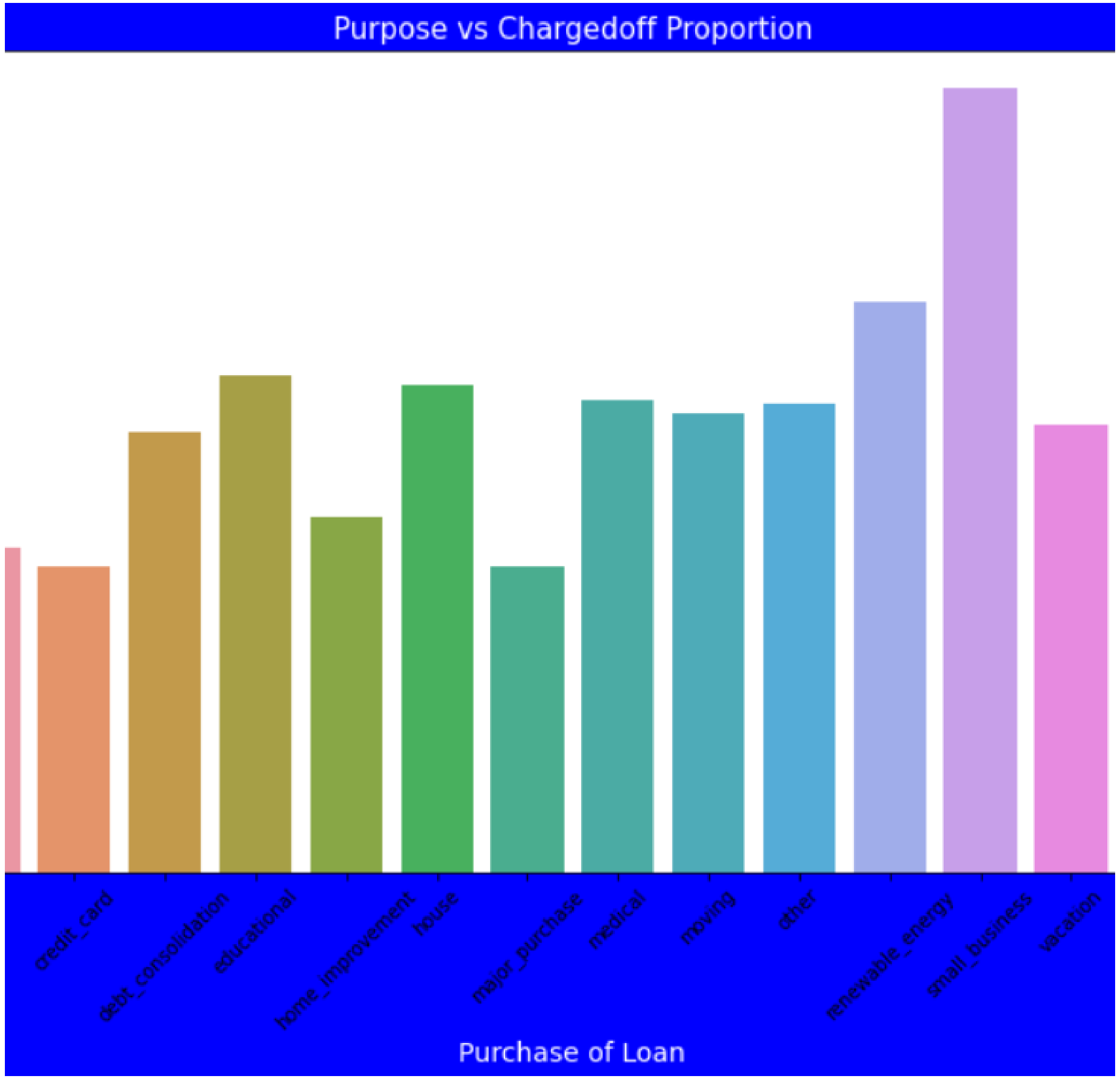
- Interest rate less than 10% or very low has very less chances of charged off.



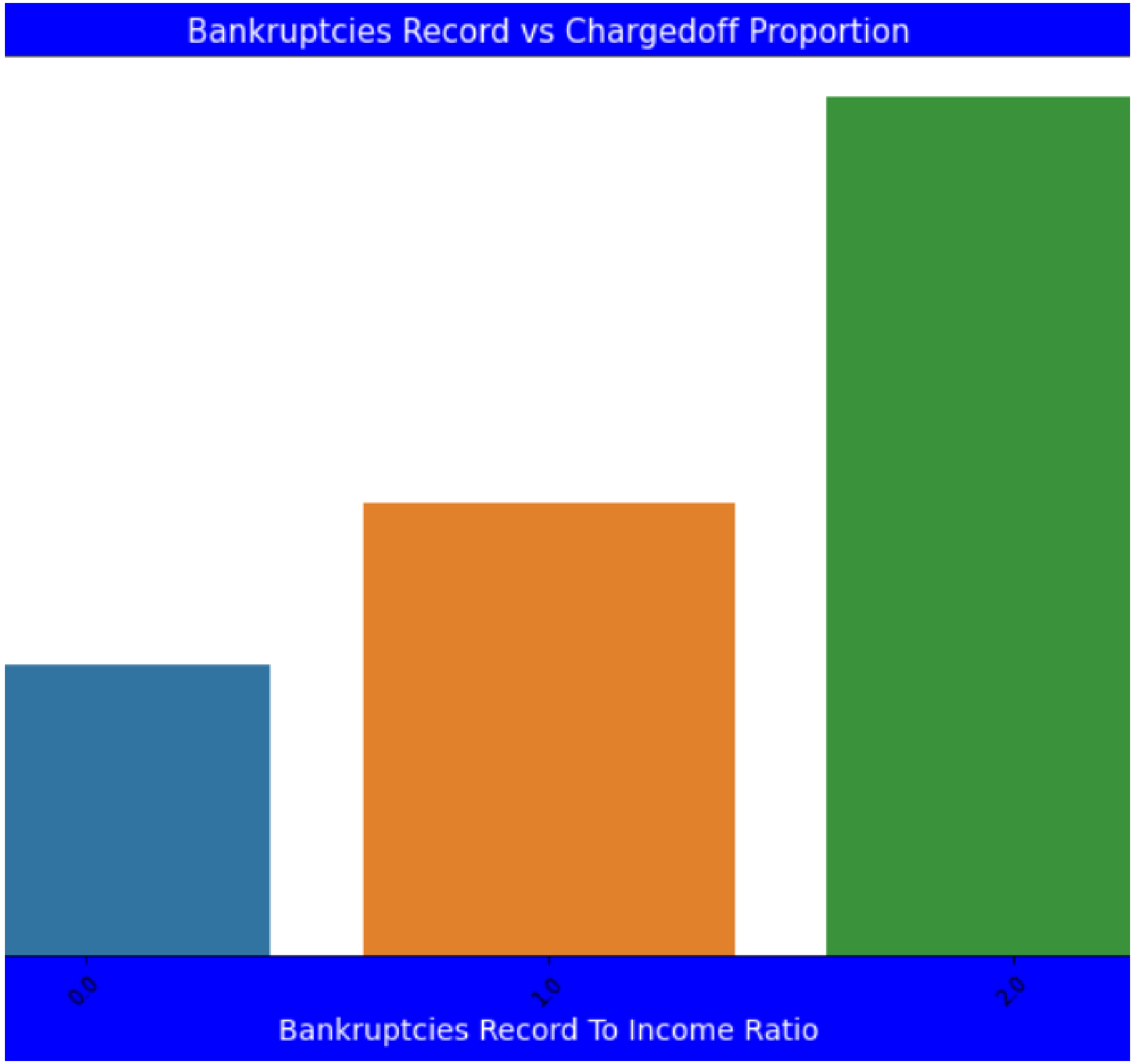
- Those who are not owning the home is having high chances of loan defaults



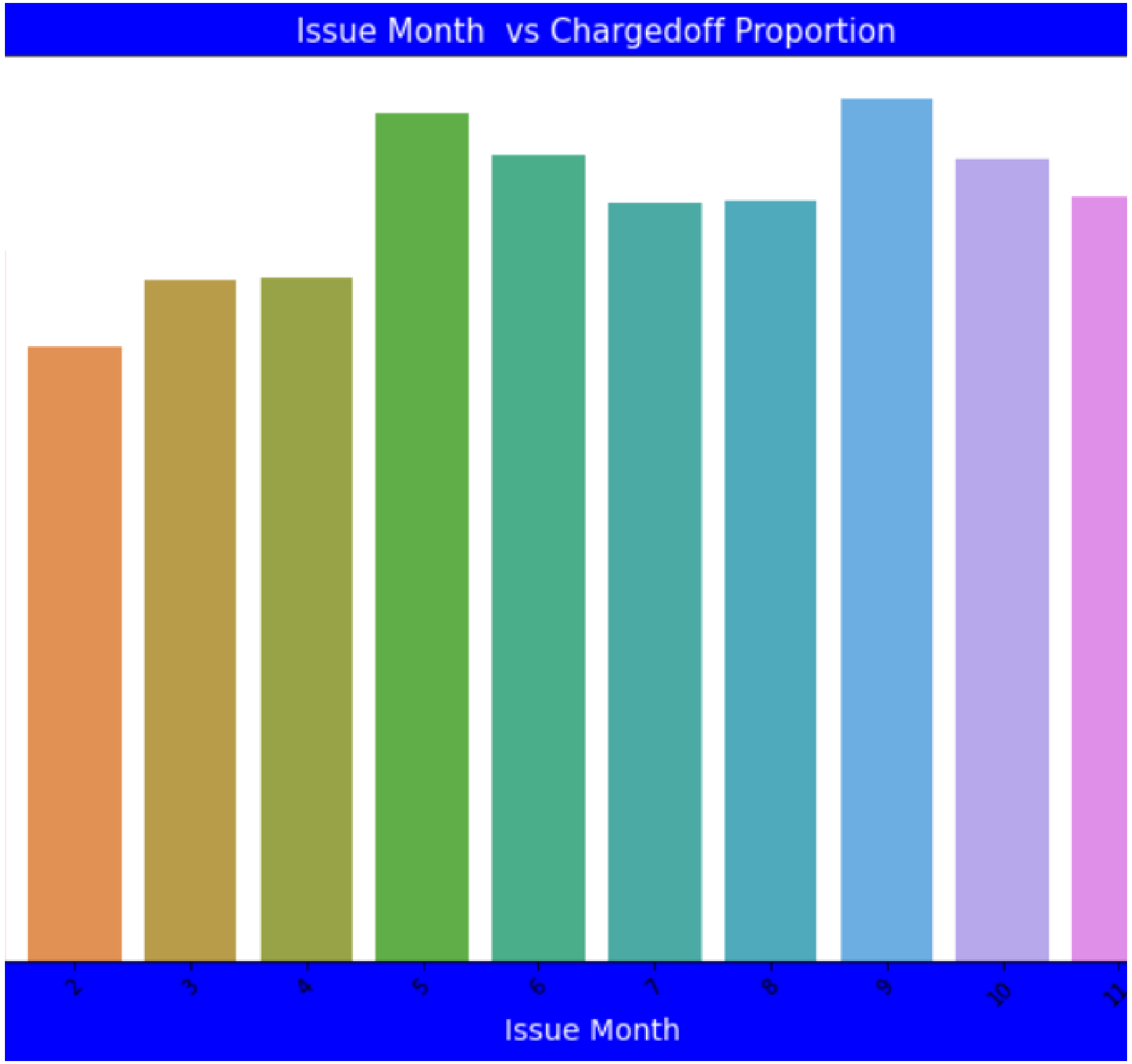
- Those applicants who is having home loan is having low chances of loan defaults.
- Those applicants having loan for small business is having high chances for loan defaults.



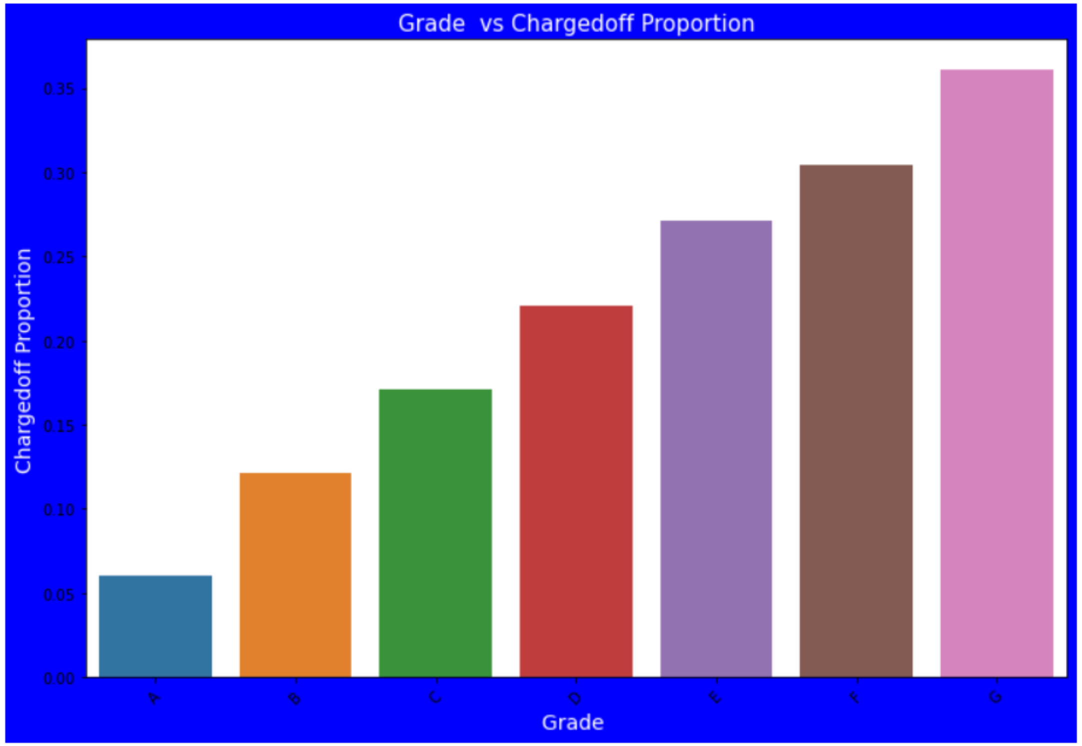
- Lower the Bankruptcies lower the risk.



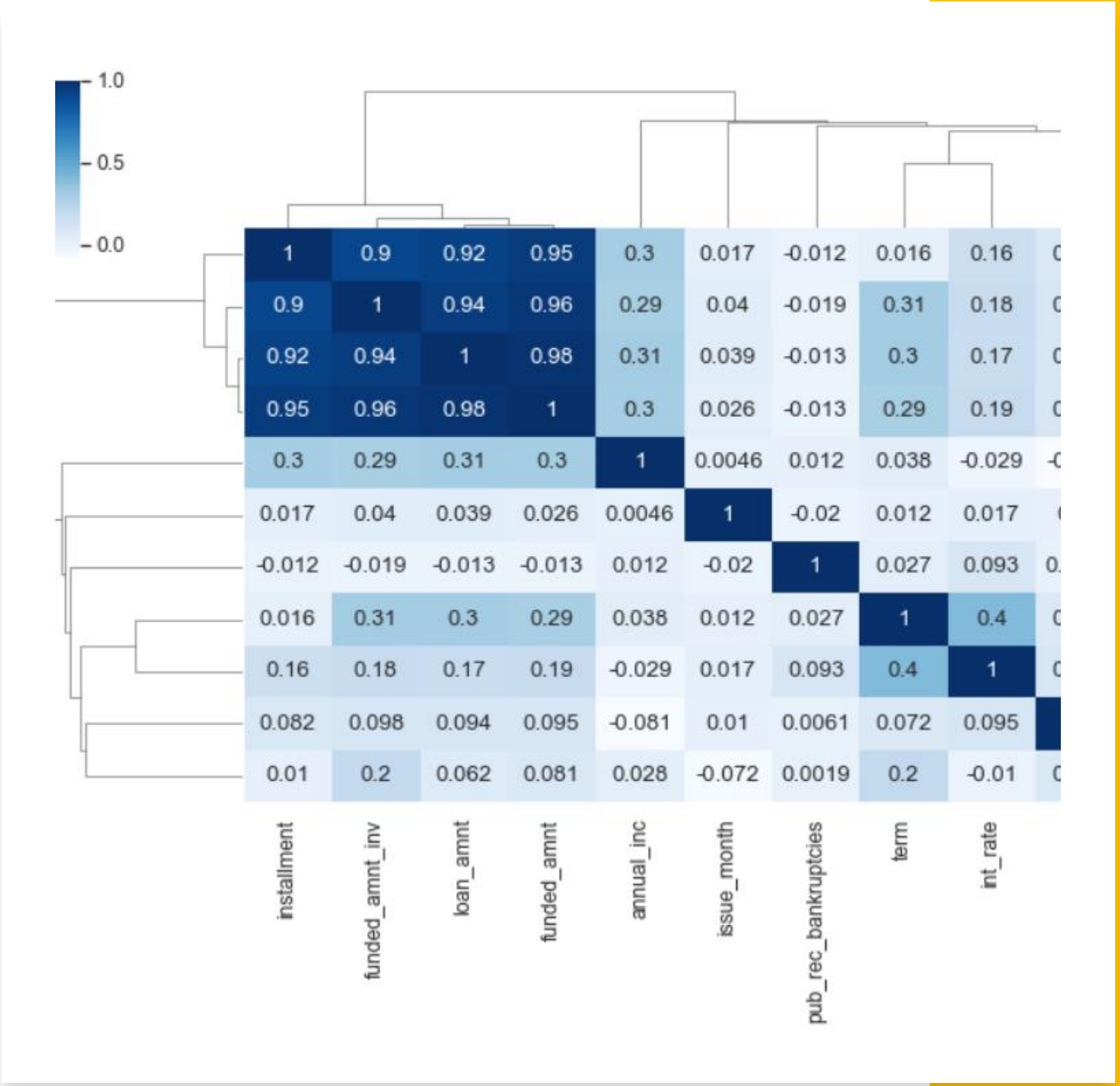
- Those loan has been issued in May, September and December is having high number of loan defaults
- Those loan has been issued in month of February is having high number of loan defaults



- The Loan applicants with loan Grade G is having higest Loan Defaults.
- The Loan applicants with loan A is having lowest Loan Defaults.



- **Correlation Analysis**



Negative Correlation:

- loan_amnt has negative correlation with pub_rec_bankrupticies
- annual income has a negative correlation with dti

Strong Correlation:

- term has a strong correlation with loan amount
- term has a strong correlation with interest rate
- annual income has a strong correlation with loan_amount

Conclusions:

- Higher income groups are less likely to default.
- Interest rate less than 10% or very low has very less chances of defaulting.
- Those who are not owning the home is having high chances of loan defaulting.
- Those applicants who is having home loan is having low chances of loan defaults.
- Those applicants having loan for small business is having high chances of defaulting.
- Lower the Bankruptcies lower the risk of defaulting.
- The Loan applicants with loan Grade G is having highest Loan Defaults.
- The Loan applicants with loan A is having lowest Loan Defaults.