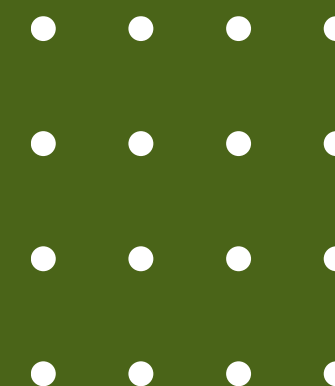


# Lending Case Club Study

GROUP FACILITATOR : CHARU TEWARI

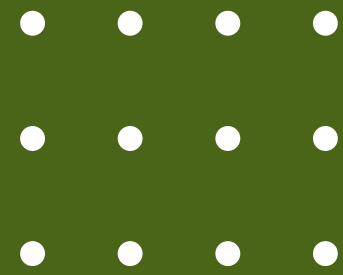


# COMPANY PROFILE

Lending Club is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures. Borrowers can easily access lower interest rate loans through a fast online interface.



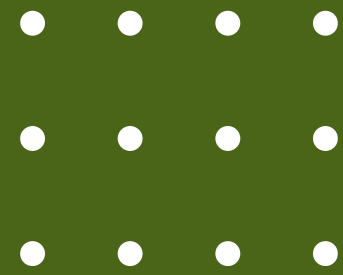
# Problem Statement



Lending loans to 'risky' applicants is the largest source of financial loss (called credit loss). The credit loss is the amount of money lost by the lender when the borrower refuses to pay or runs away with the money owed.



# Objective

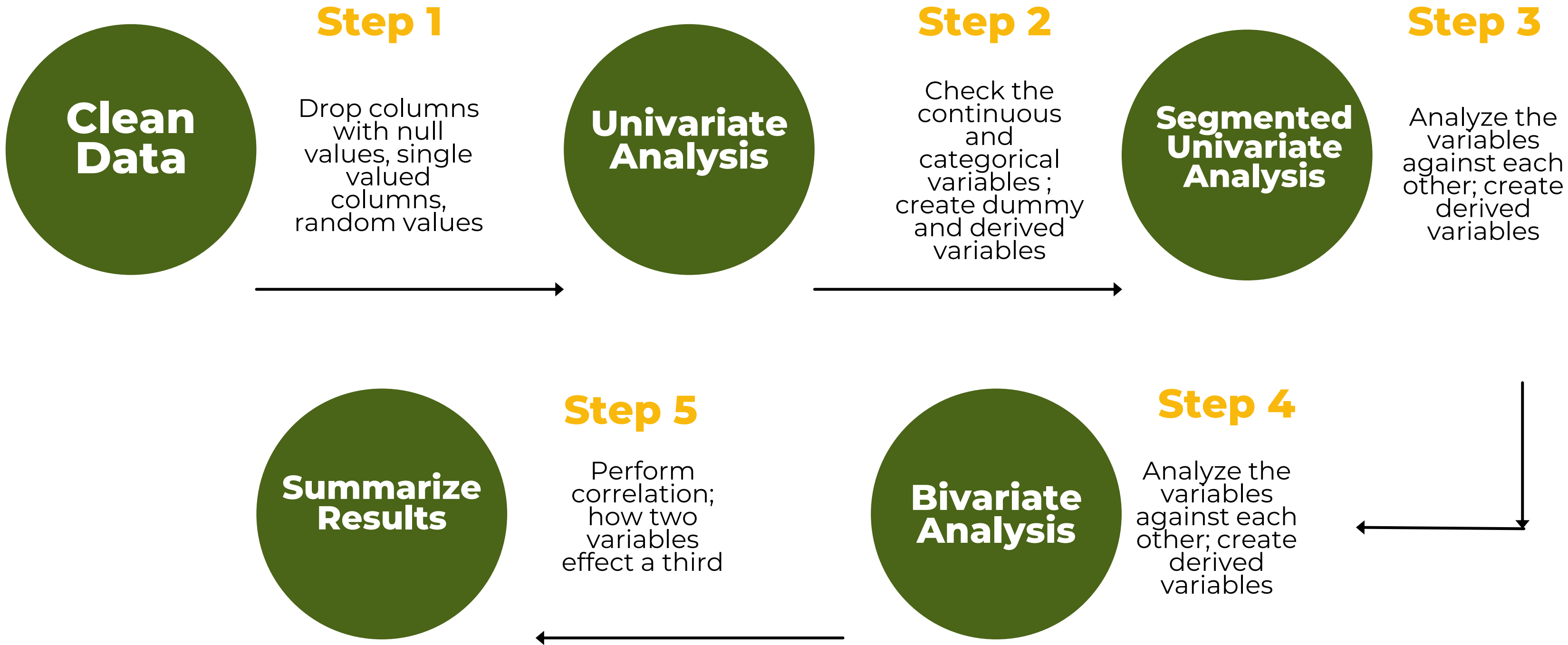
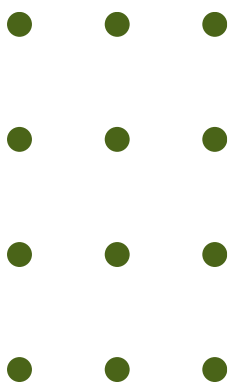


The main objective is to be able to identify these risky loan applicants, then such loans can be reduced thereby cutting down the amount of credit loss.

Identification of such applicants using EDA is the aim of this case study.



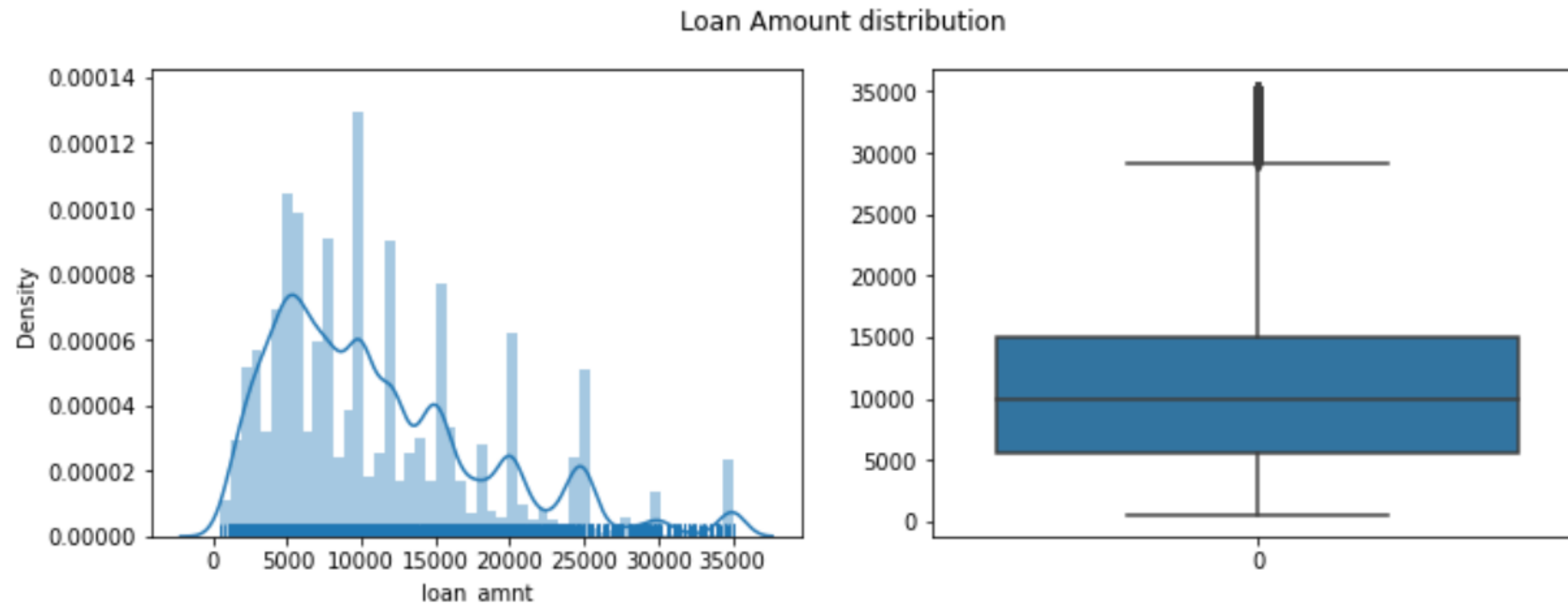
# Analysis Approach



# Univariate Analysis

# Loan Amount Distribution

Most of the individuals borrowed loan between **6000-15000**  
Only **25%** of the individuals borrowed loan more than 35000

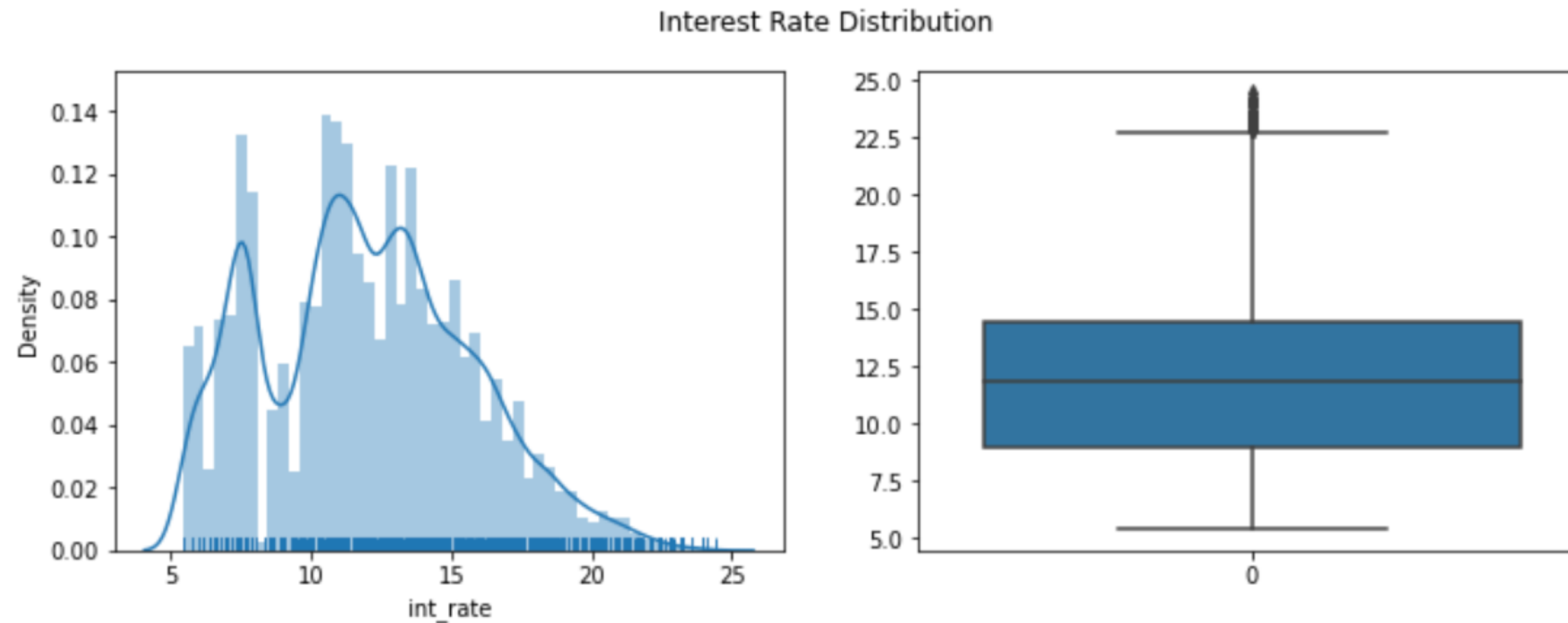


# Interest Rate Distribution

Interest Rate mostly lies in the range **9% to 14%**

Some individuals borrowed loan at **6%**

Some individuals borrowed loan at **22.5%**

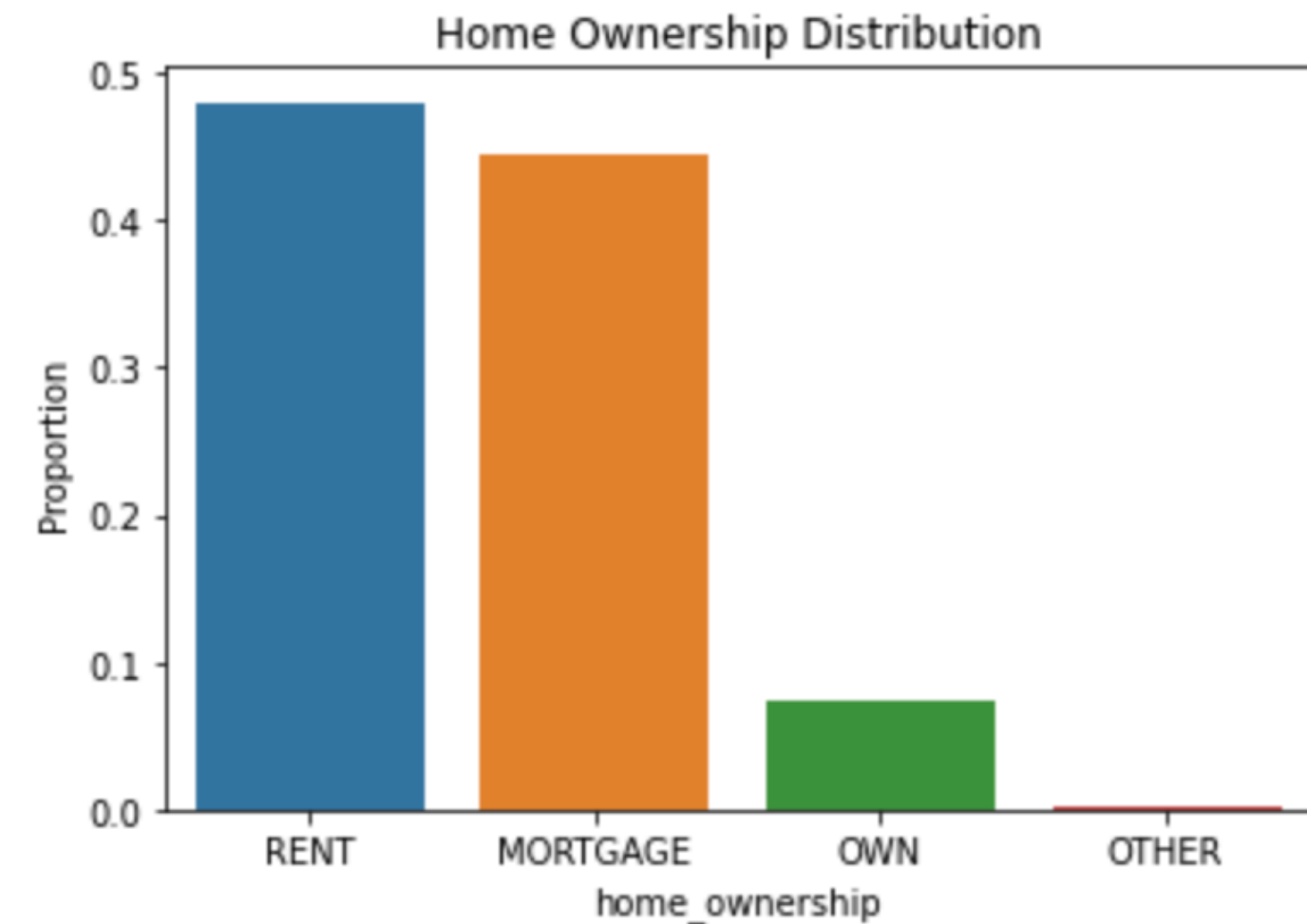
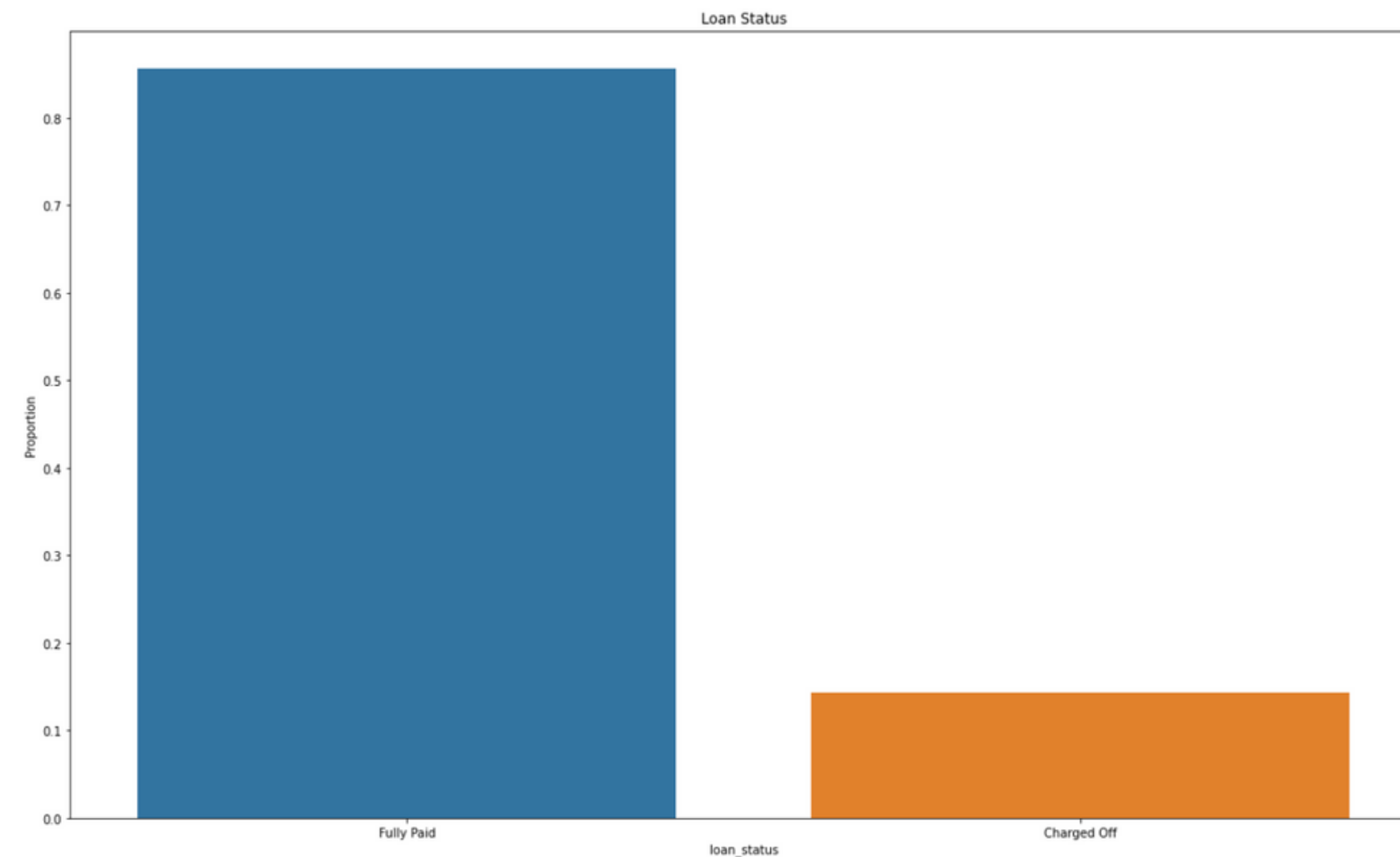




# Loan Status

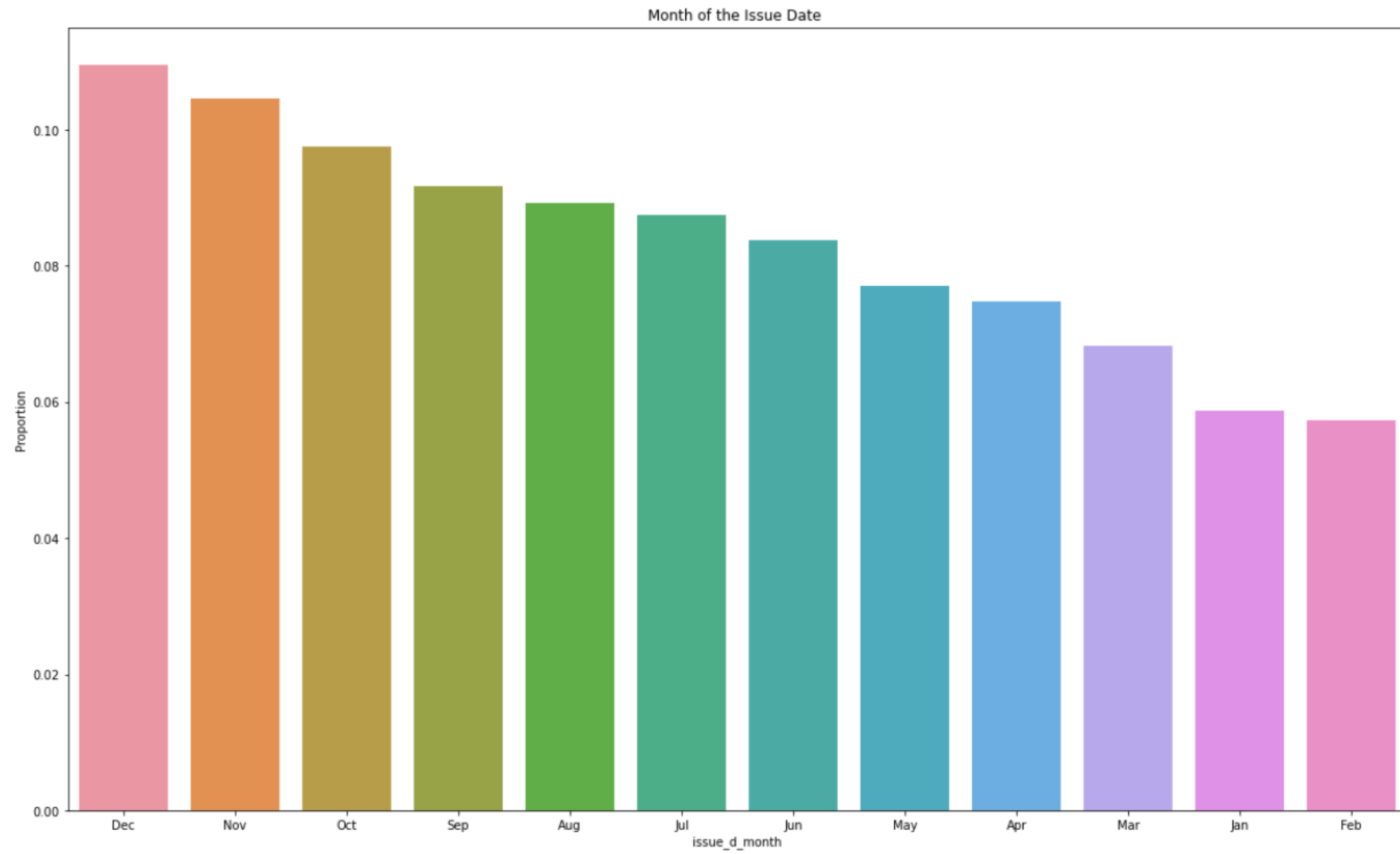
Almost **85%** of individuals have paid off their loans and **15%** of individuals have defaulted on their loans.

Maximum borrowers have rented home, followed by ones who mortgaged homes.



# Loans By Month

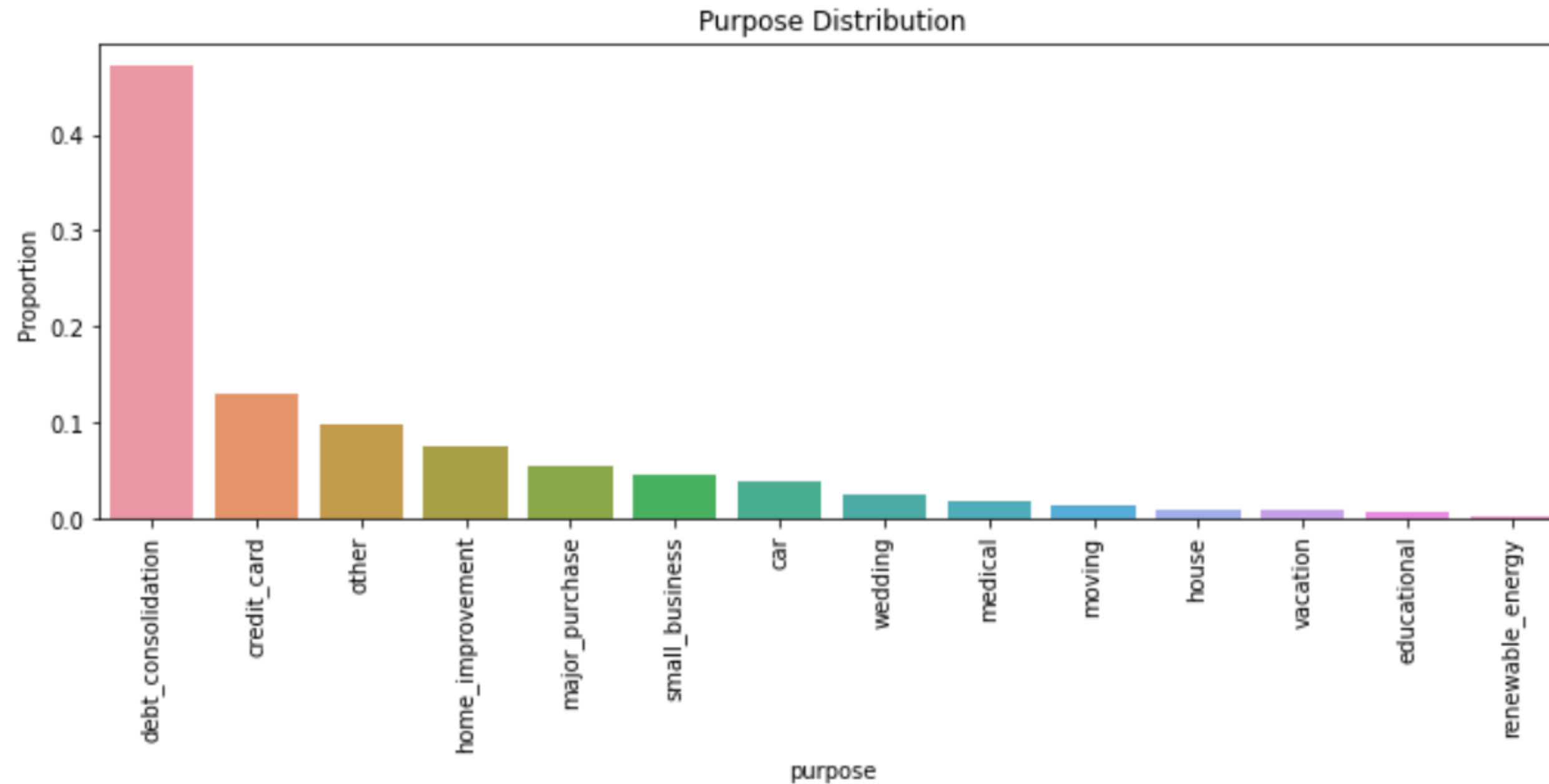
The year starts with low number of loans given, for months - Jan, Feb and March while it ends on a good note, with maximum number of loans given, for months - Sept, Oct, Nov and Dec.



# Purpose of Loan

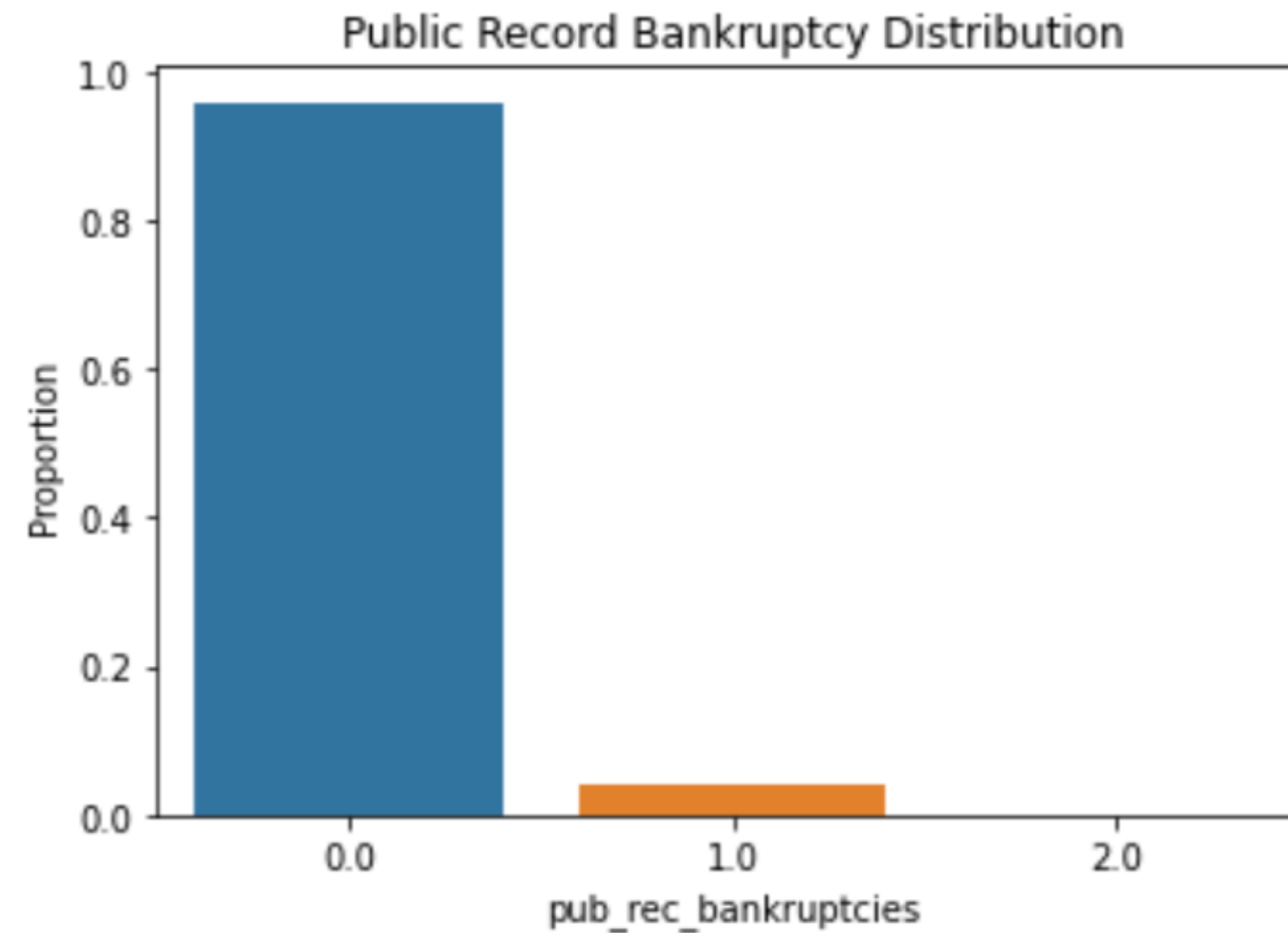
Most common reason to borrow a loan, is because of debt consolidation, followed by payment of credit card due payment.

The least common reason to borrow a loan, is because of renewable energy



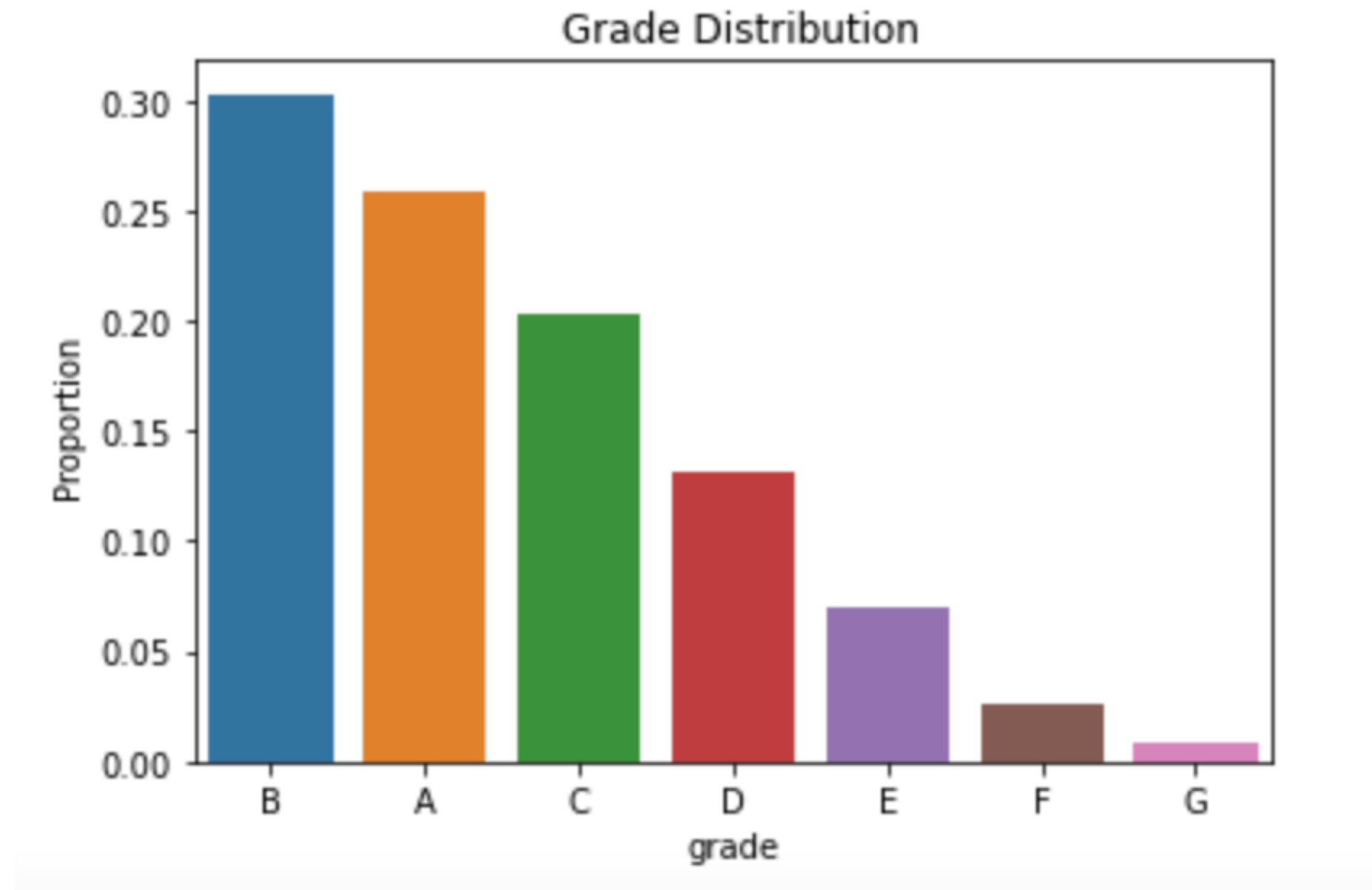
# Public Record Bankruptcy

99% of the individuals were not bankrupt  
Only 1% were.



# Grade Distribution

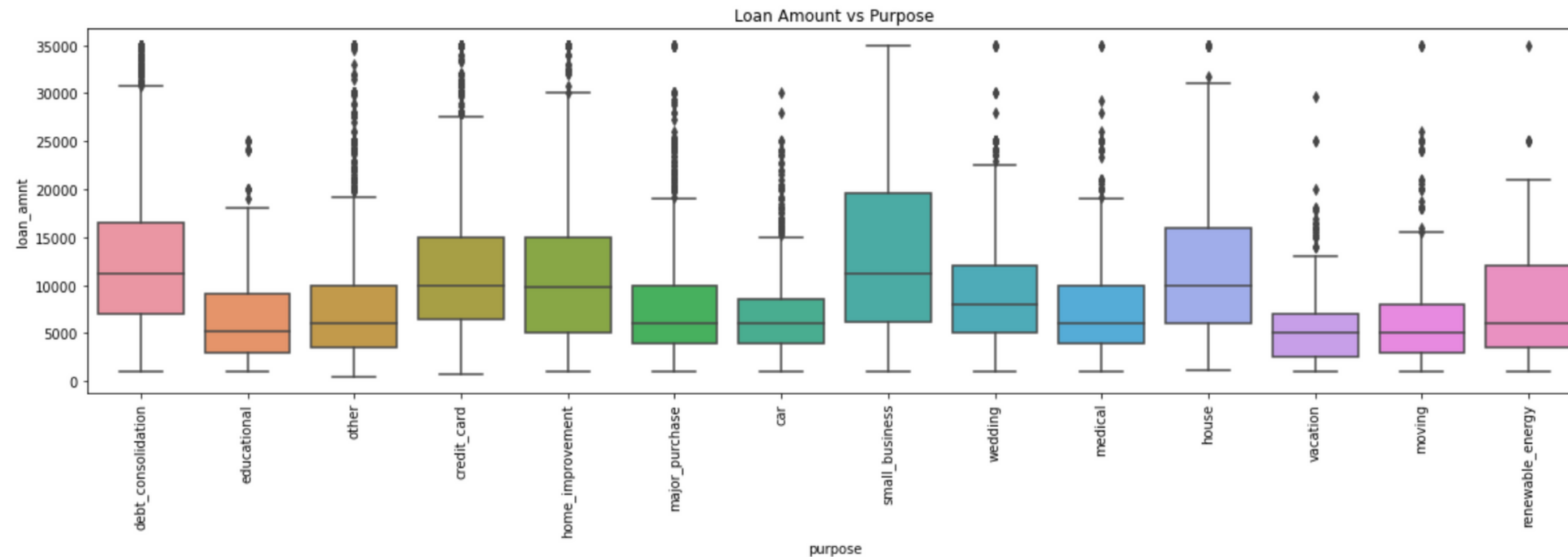
Majority of individuals belong to the B and A grades, followed by C grade



# Segmented Univariate Analysis

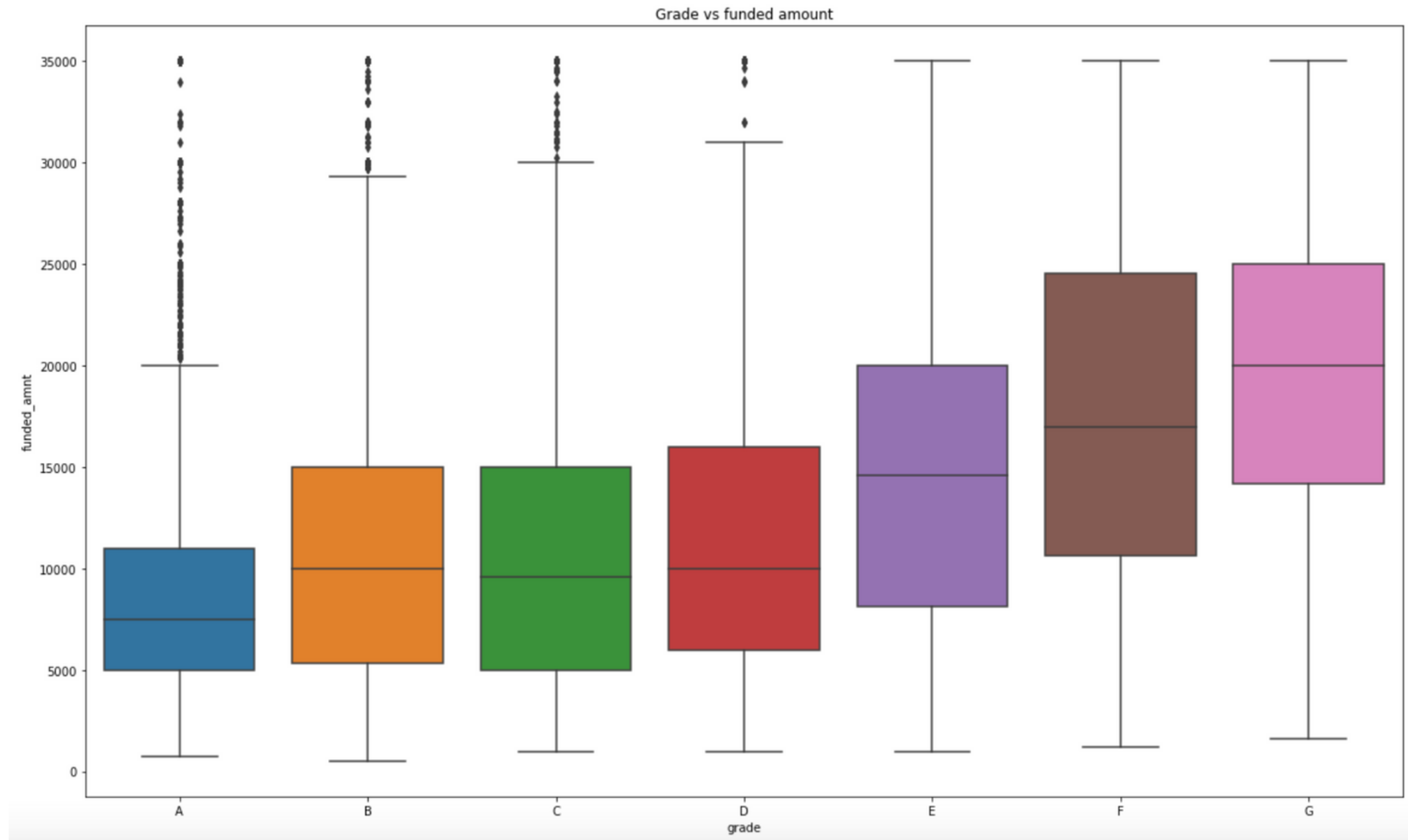
# Loan Amount vs Purpose

Individuals with small businesses take large amount of loans, followed by debt\_consolidation and home improvement.



# Grade

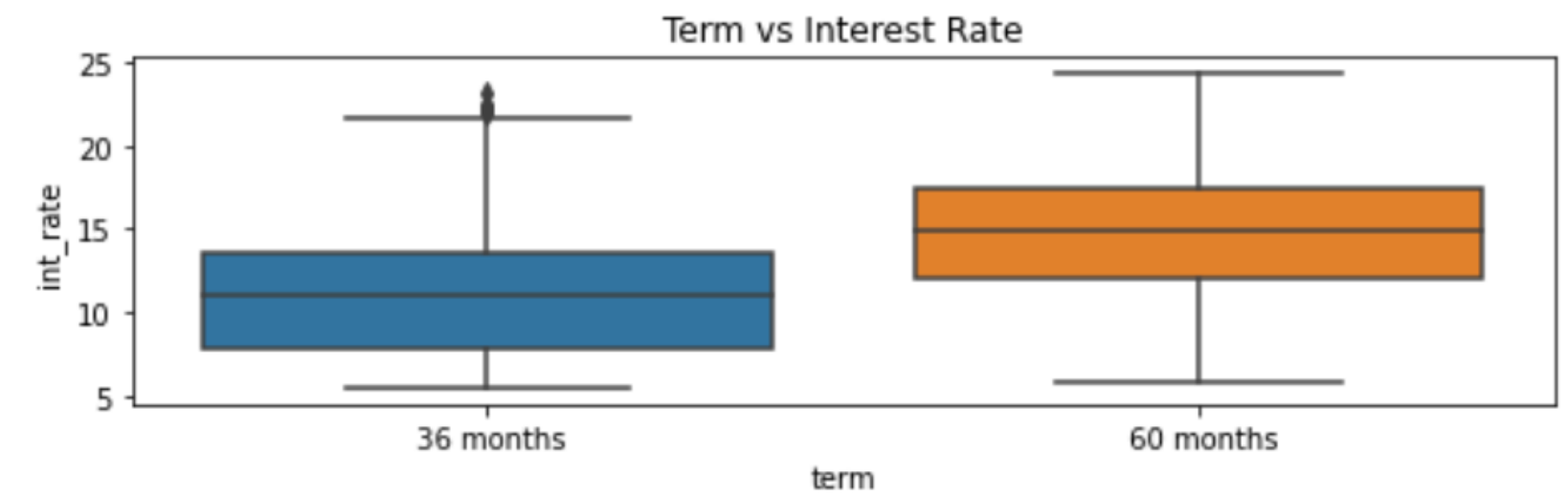
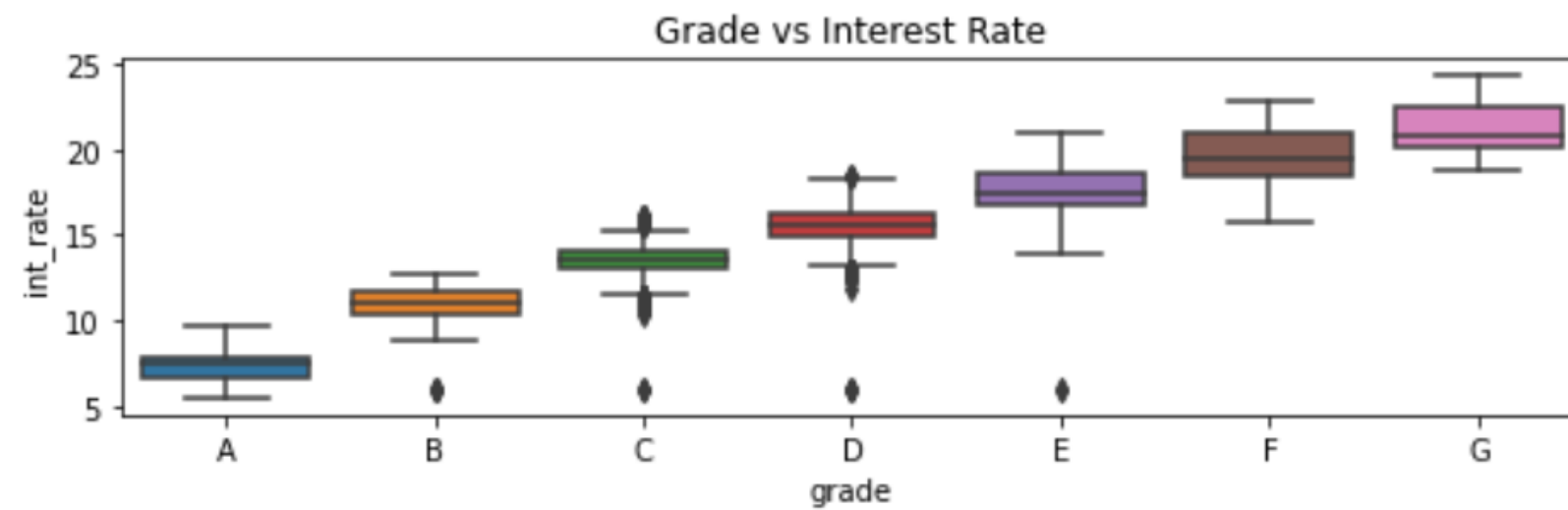
Loan amount has been funded highest for Grade G, followed by F and E.





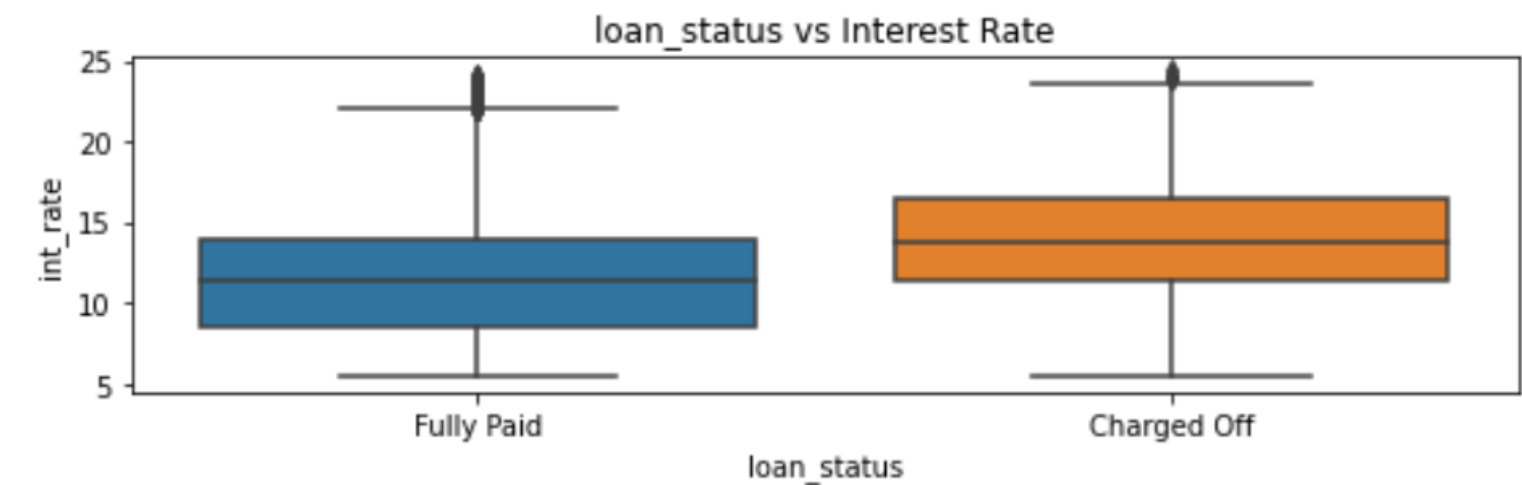
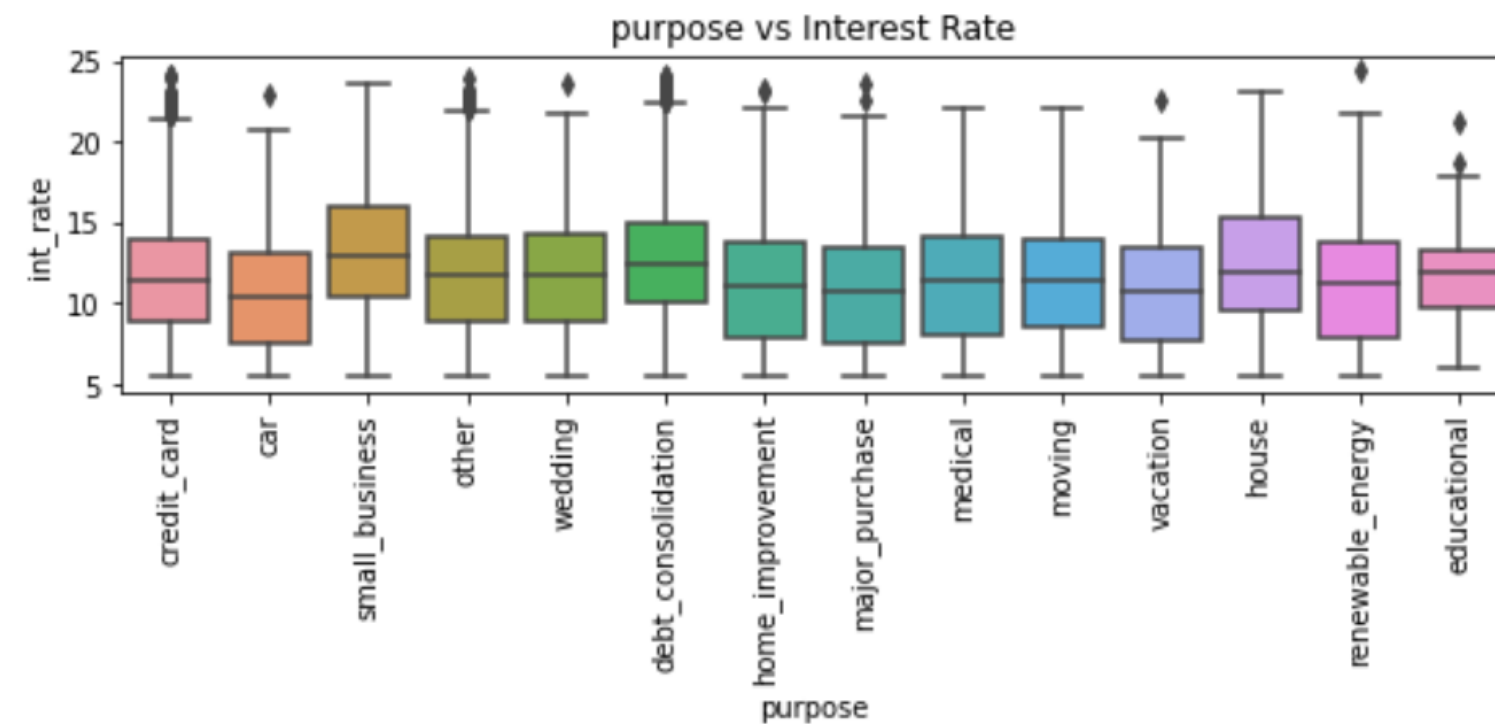
# Interest Rate vs Grade and Term

The int\_rate is higher for Grade G individuals, followed by grade F,E,D,C,B and A.  
The int\_rate is higher when the loan is borrowed for a period of 60 months



# Interest Rate vs Purpose and Loan status

Interest Rate is higher for small businesses purpose, followed by house purpose. And higher for Charged-off loans, as they have defaulted.

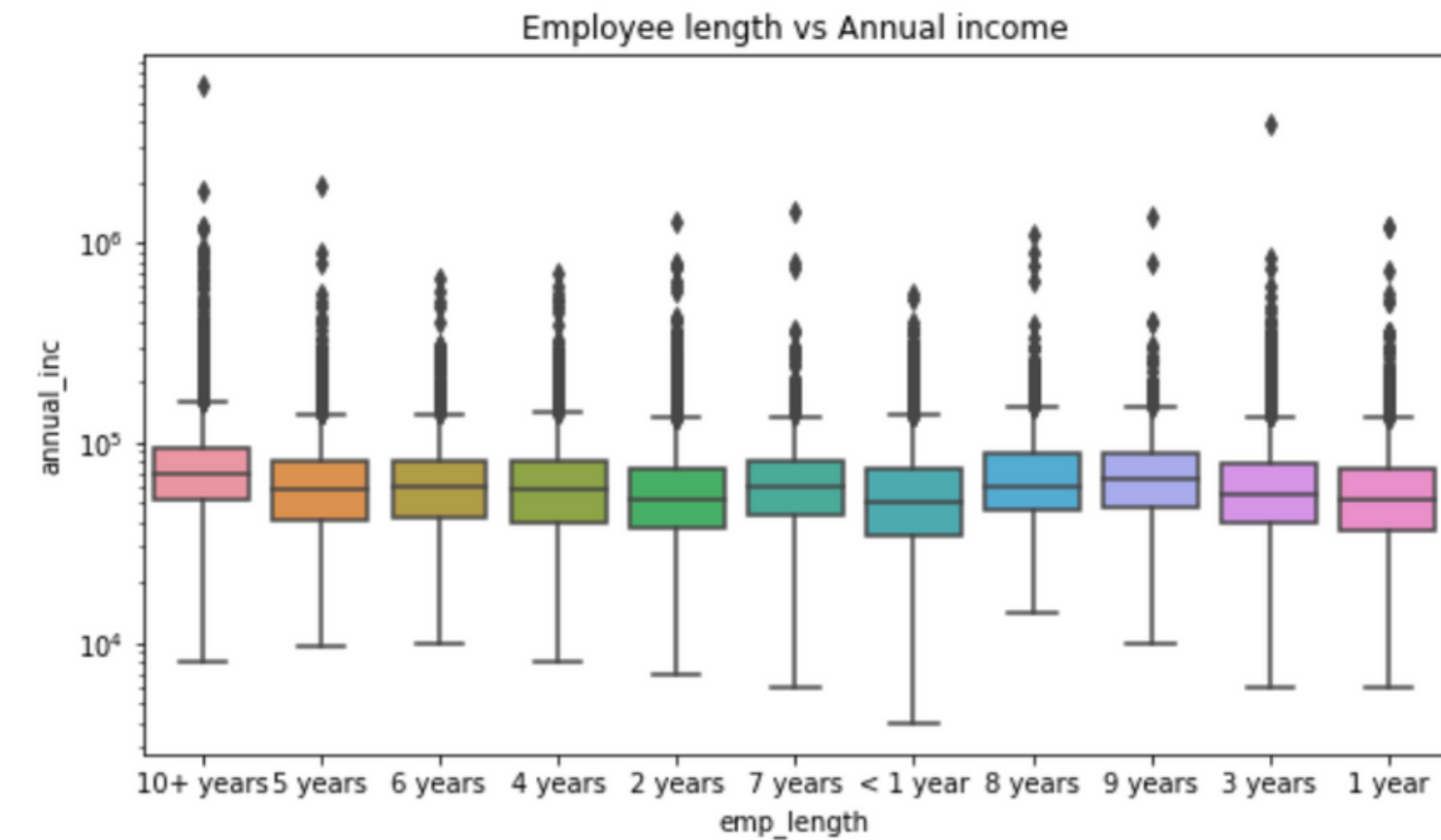
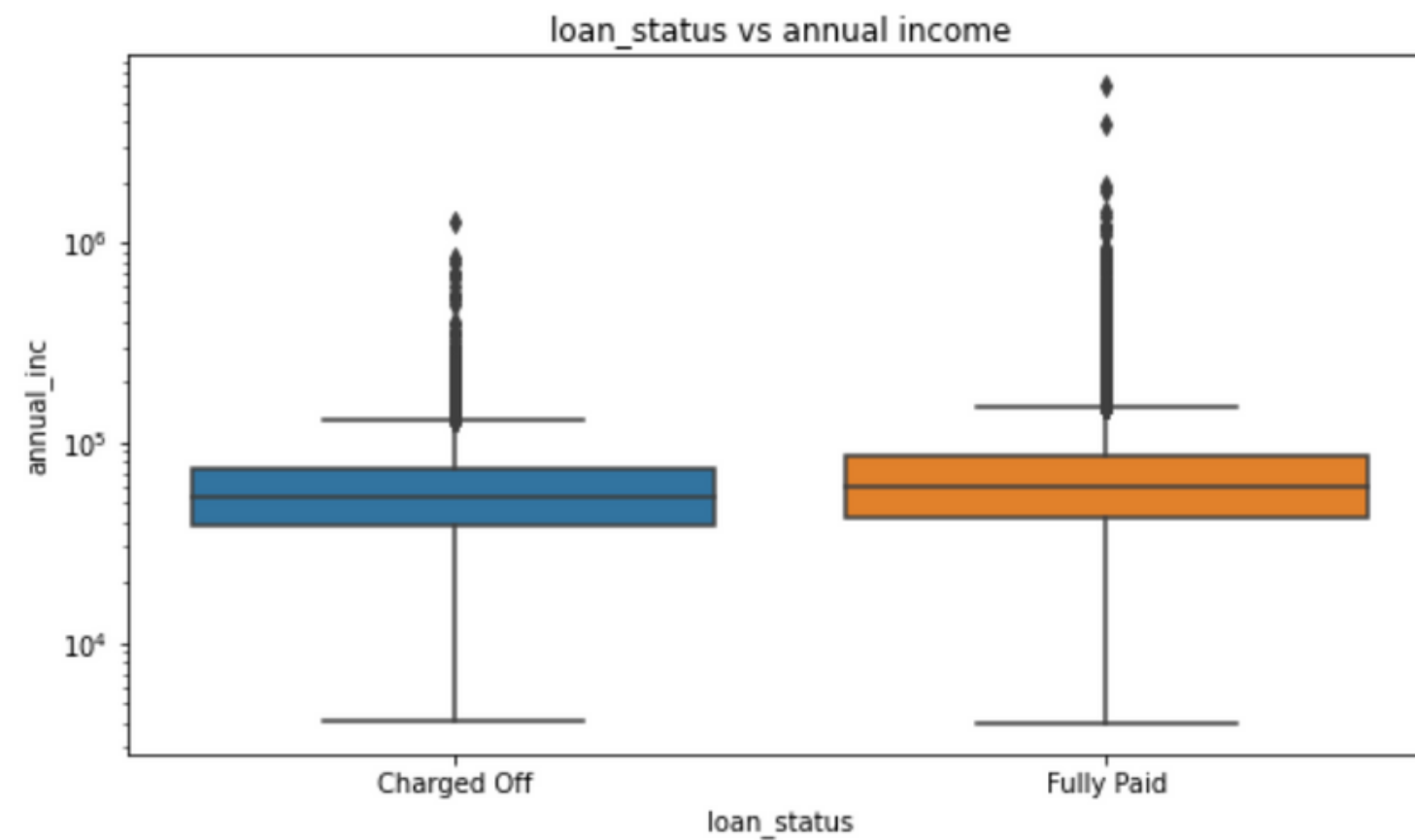


# Annual Income vs Loan status and Employment Length

Loans that have been Fully Paid, belong to individuals with higher annual income.

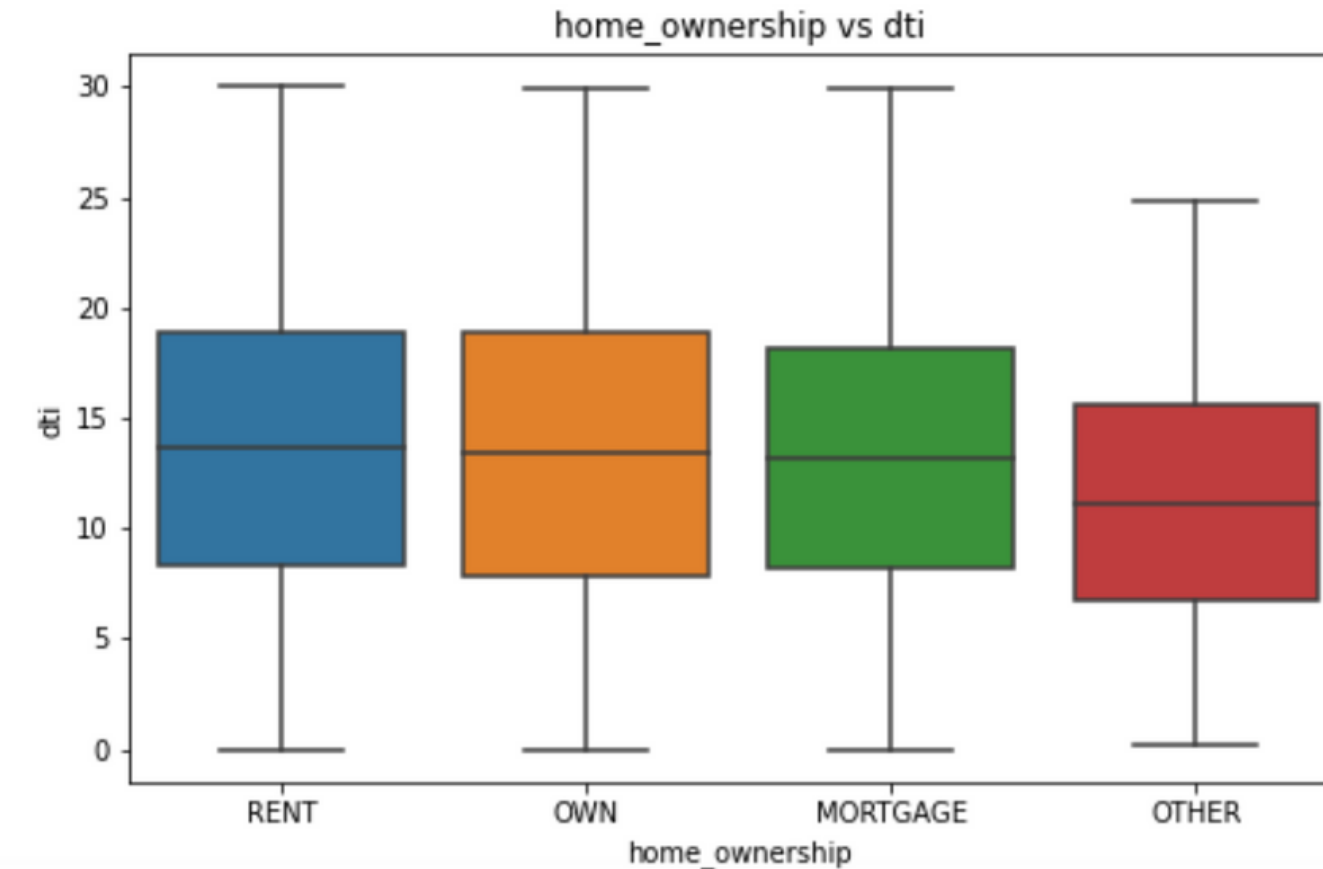
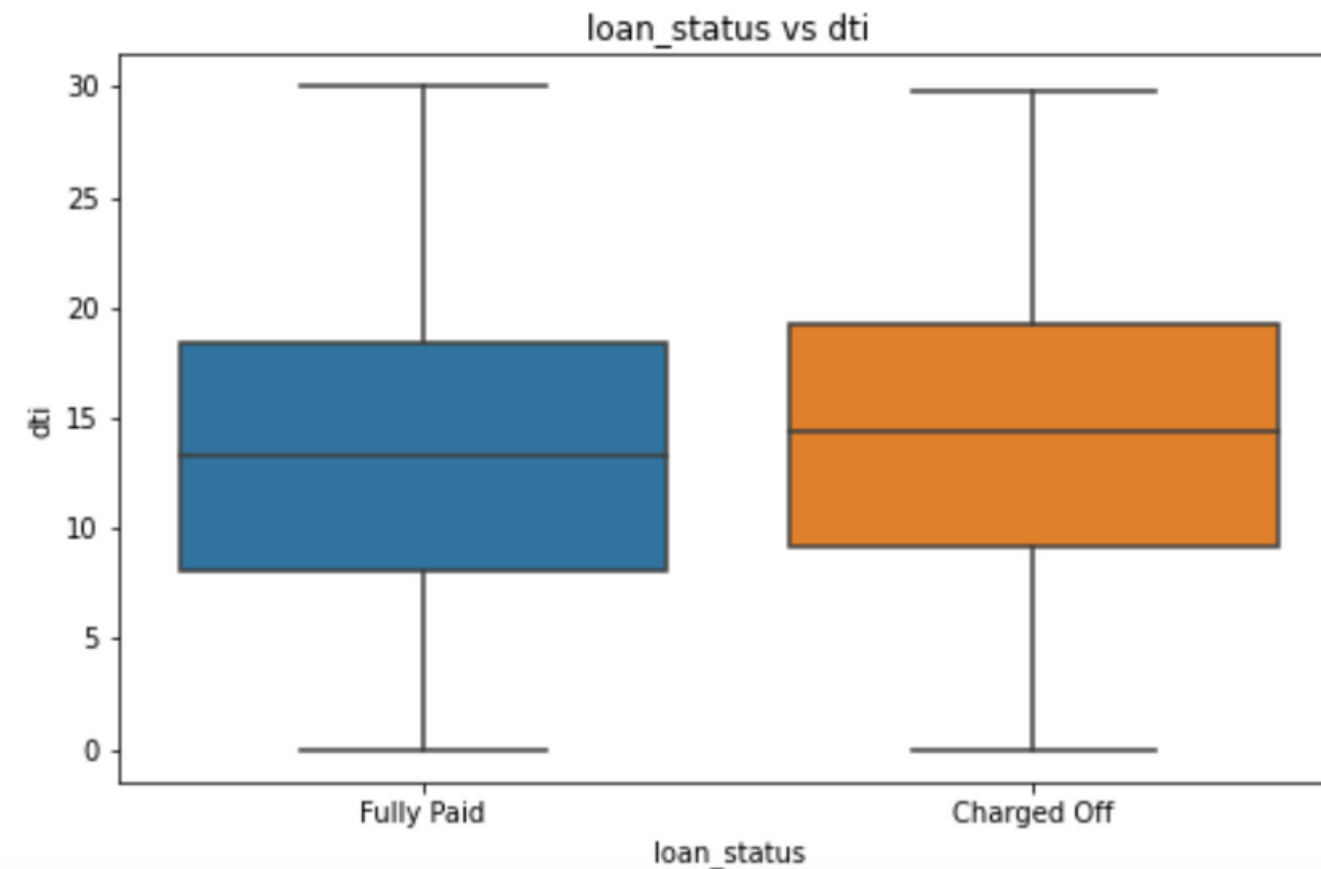
Loans that have been Charged-Off, belong to individuals with lower annual income.

Individuals with employment length of +10 years have higher annual income, followed by 9 and 8 years.



# Debt-to-income vs Loan status and Home ownership

Individuals that have charged-off have higher dti, in respect to those who have fully paid their loans  
Individuals who are in Other category of Home ownership have higher dti than others.

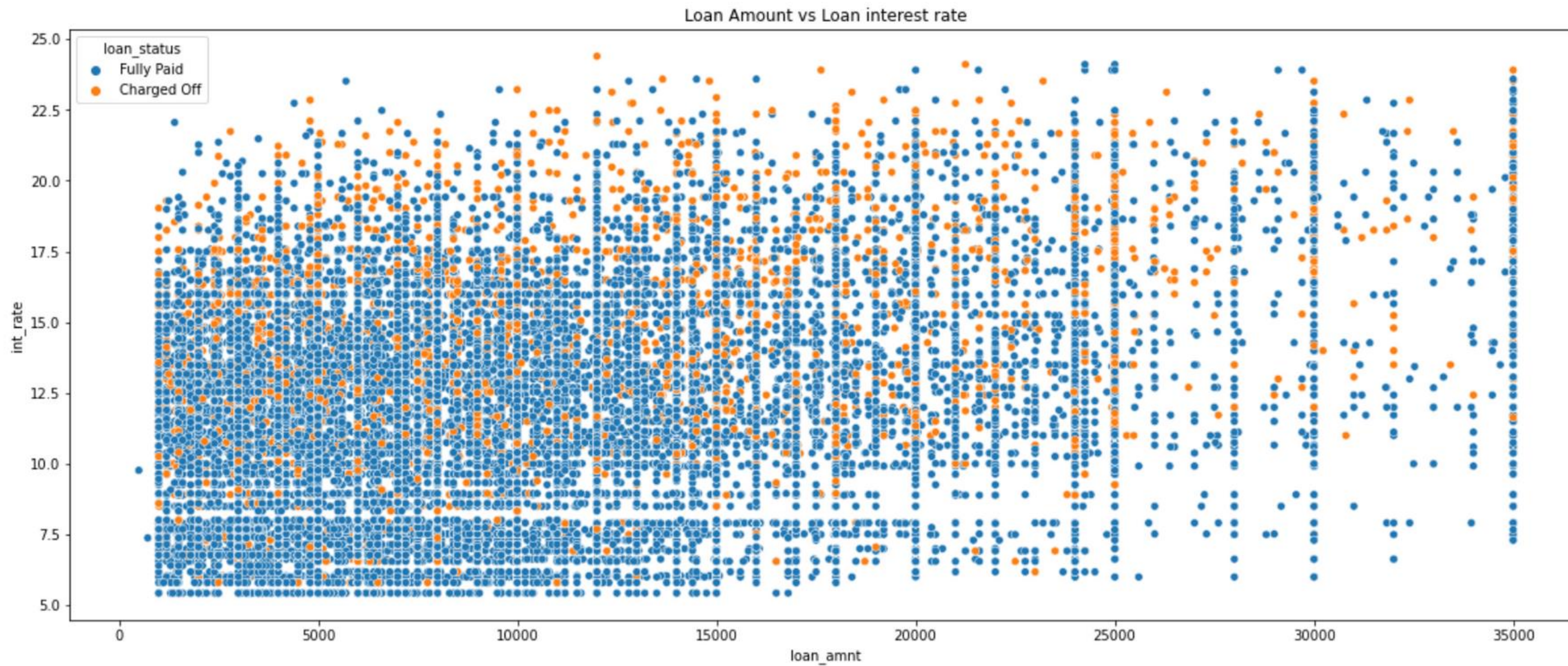


# Bivariate Analysis



# Loan Amount vs Interest Rate

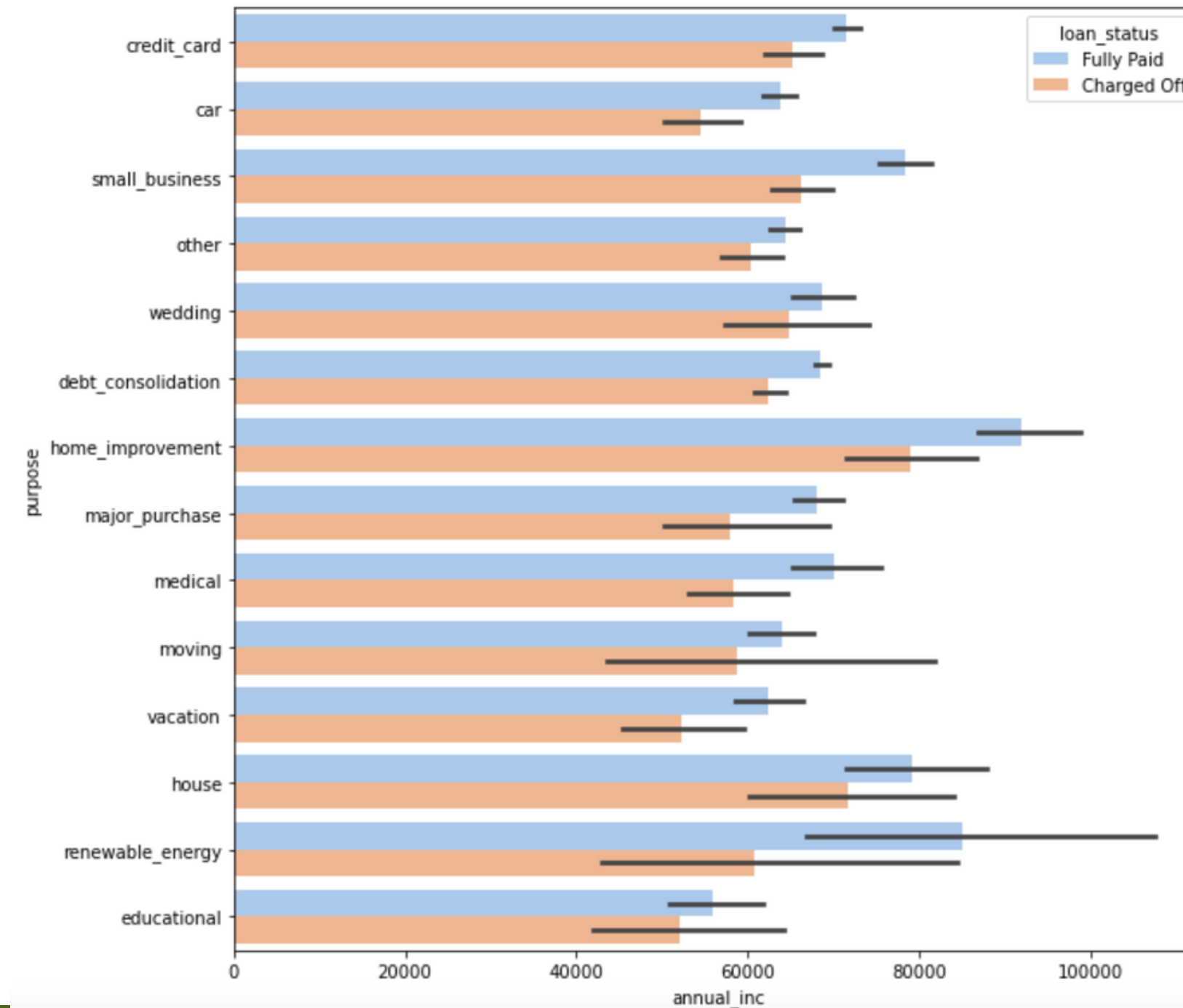
No definite pattern can be observed between Loan amount and Loan interest, we can say that, the interest is not heavily dependent on the Loan amount.



# Purpose vs Annual Income

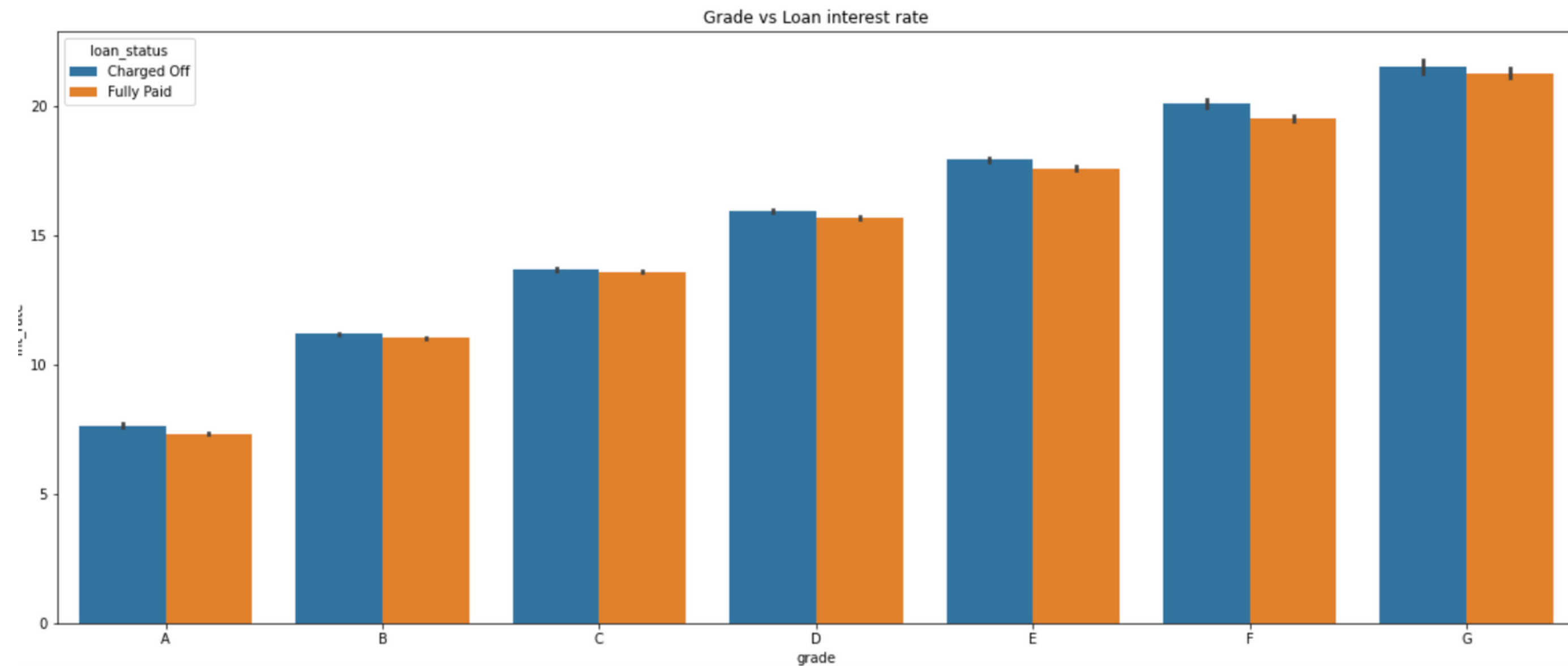
Individuals that have Fully Paid their loans, took loans for renewable energy and home improvement.

Individuals that have Charged Off, took loans for home improvement and house.



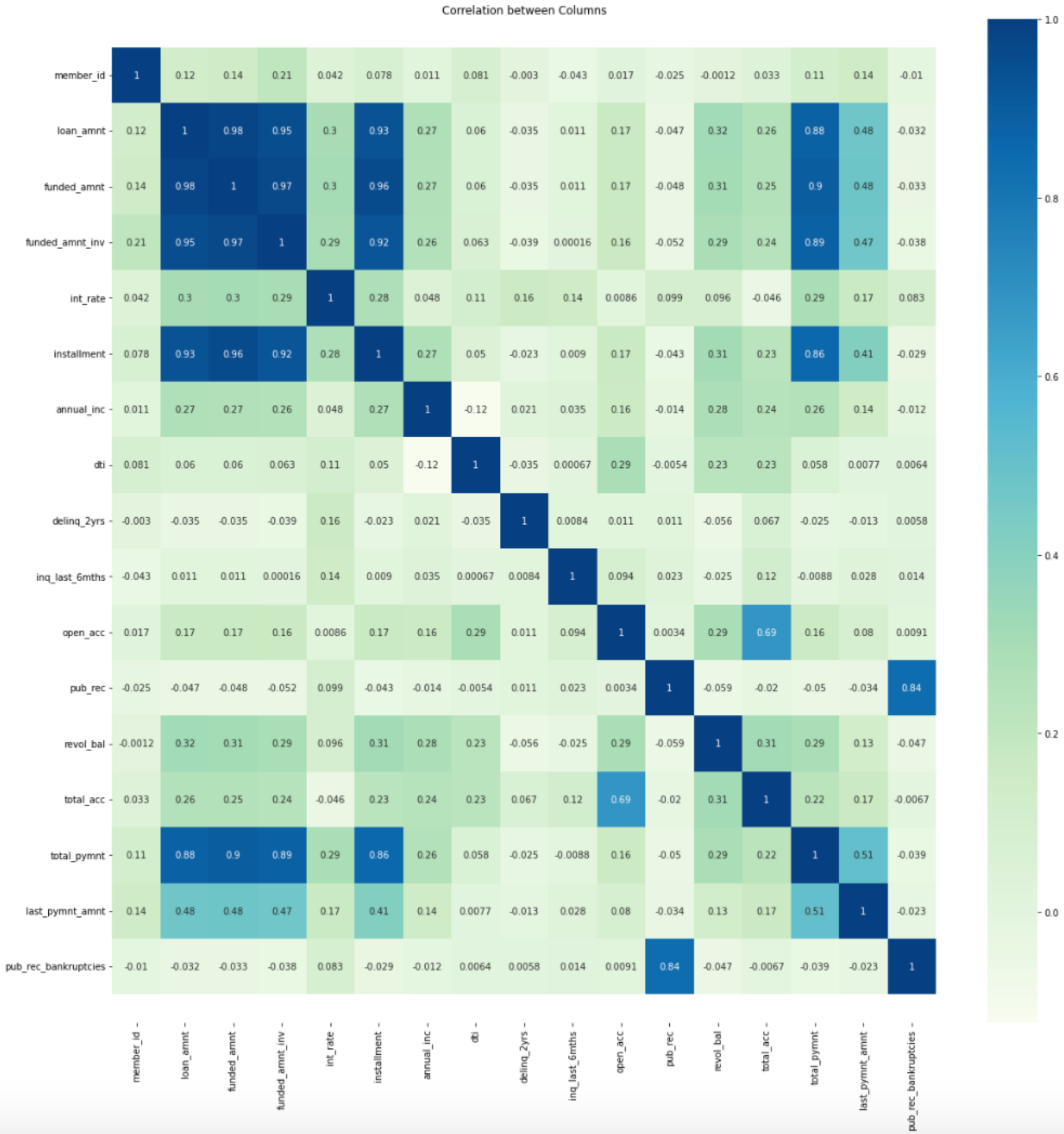
# Grade vs Interest Rate

For all the grades, the interest rate is higher for Charged off individuals than the ones who Fully Paid. There is a high interest rate for Grade G individuals, followed by Grades F and E.

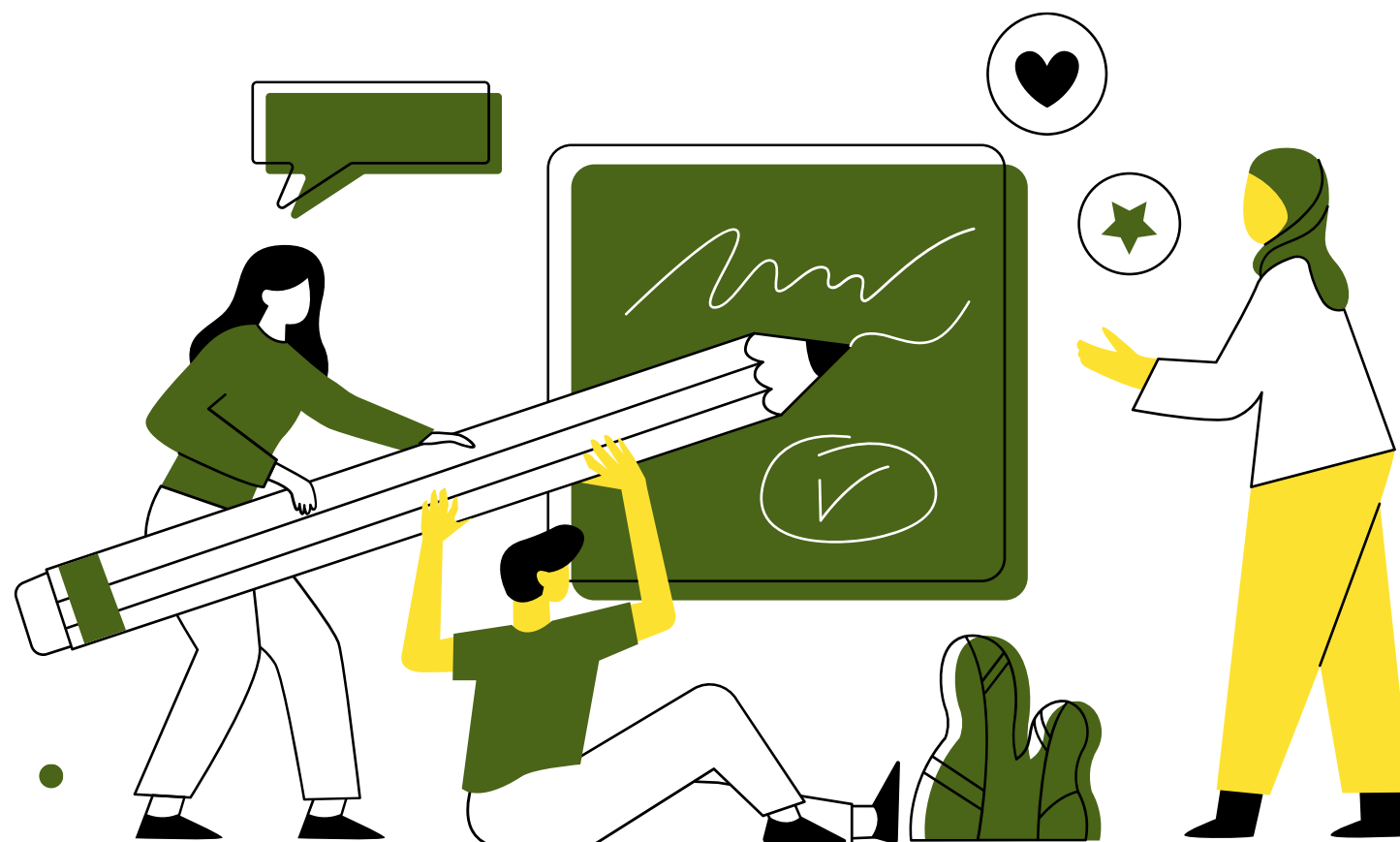




# Correlation

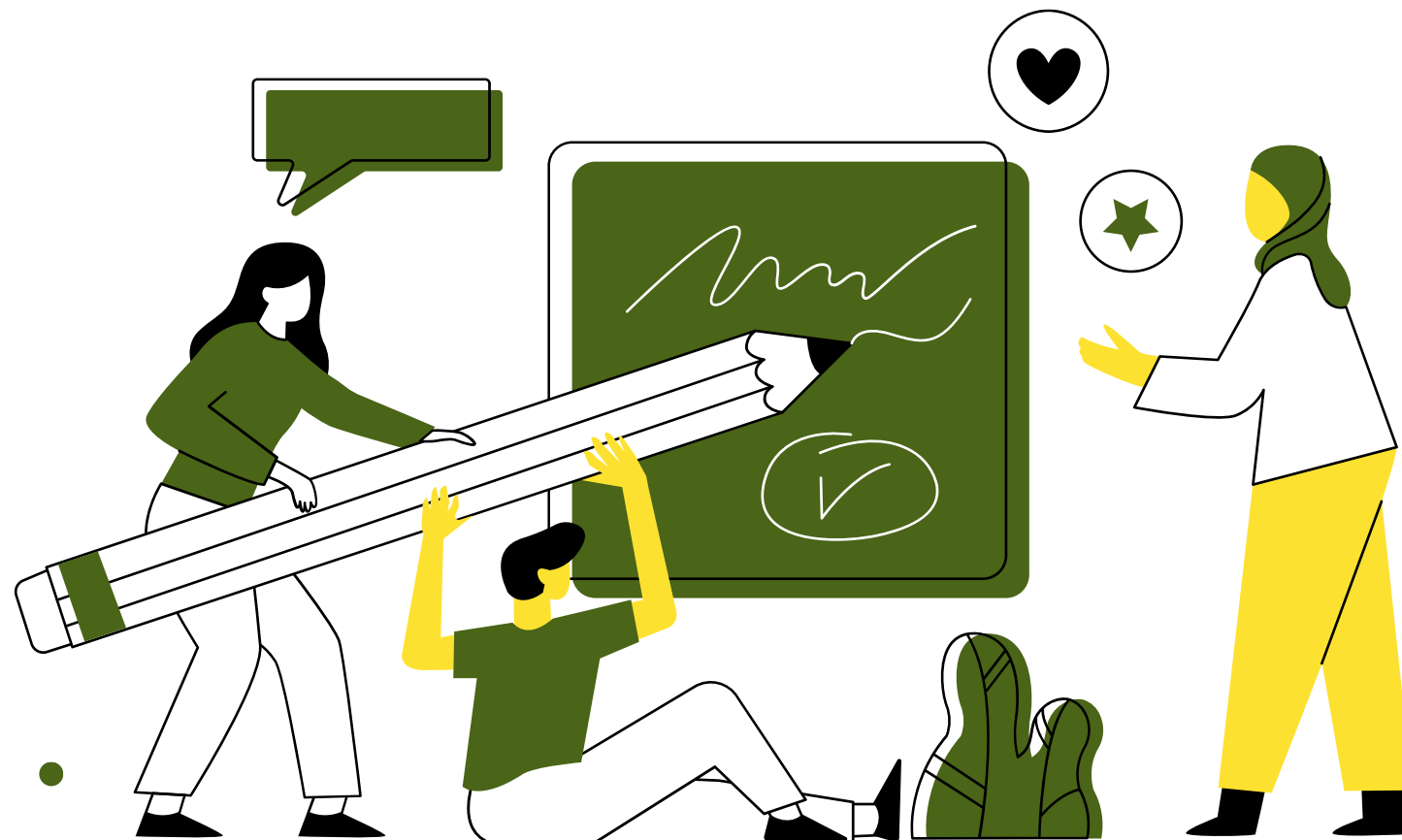


# Correlation Takeaways

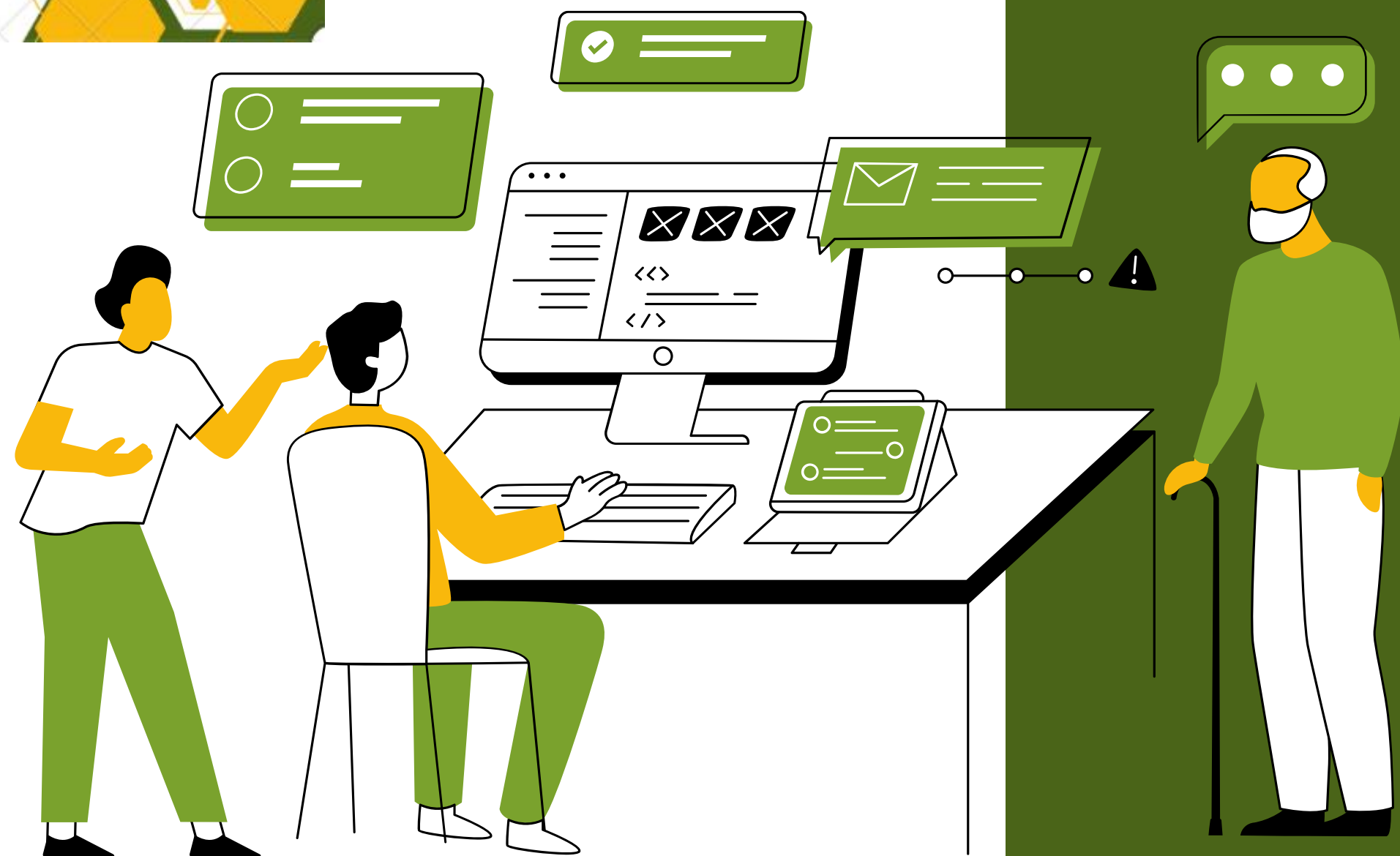


- Total payment column is highly and positively correlated with installment column.
- Total payment column is highly and positively correlated with total amount column.
- Public derogatory records column is highly and positively correlated with public bankruptcies records column
- A high and positive correlation between Loan amount column and Funded amount suggests that, the amount asked and the amount funded by the lending club are almost same.

# Recommendations



- Loan should not be approved for individuals without complete verification.
- Reduce the number of Loan approvals where the purpose is small businesses.
- Reduce/Stop approving loans to individual with bad Public derogatory record and public bankruptcies record.
- Stop giving Loan of high amount to individual with low income, as they are likely to default.



THANK  
YOU

