Lending Club Case Study

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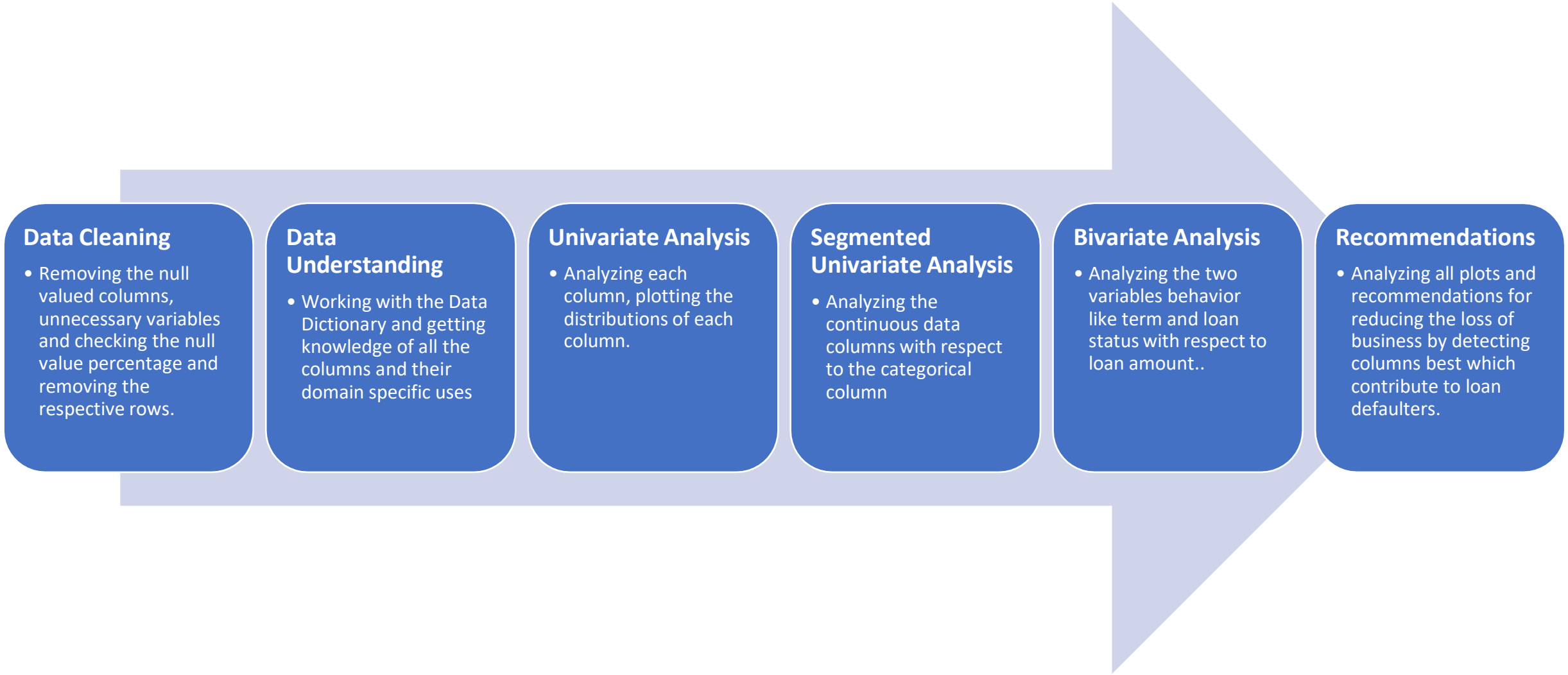
What is Lending Club Case Study

Lending Club is a marketplace for personal loans that matches borrowers who are seeking a loan with investors looking to lend money and make a return.

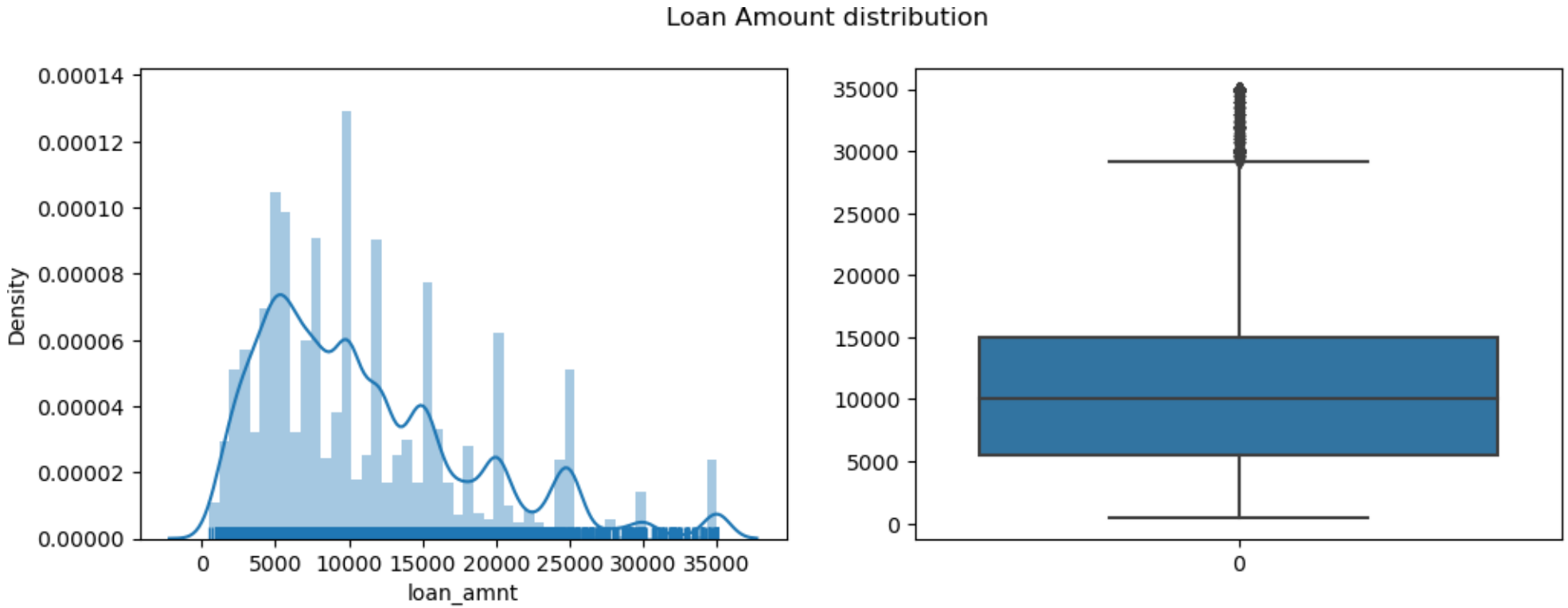
Abstract

- 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.
- The objective of analysis is to use the information about past loan applicants and find whether they ‘defaulted’ or not.

Problem solving methodology



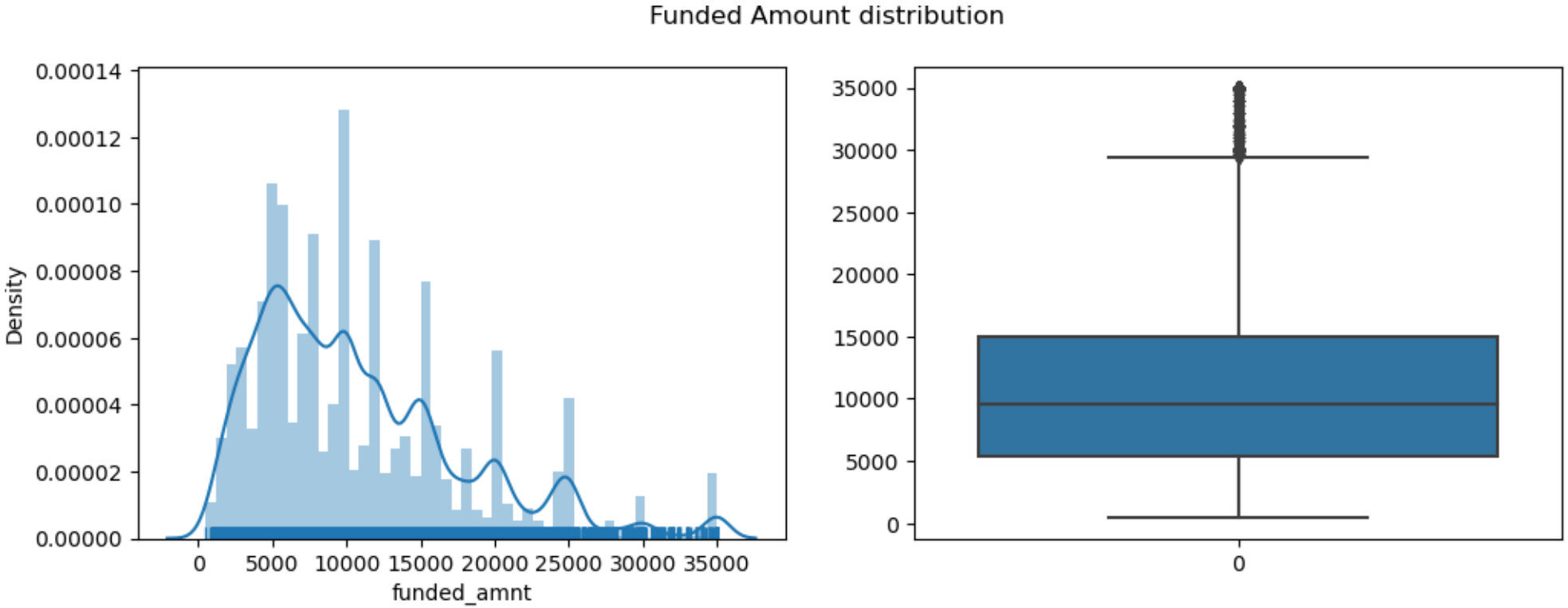
Analysis



Observations:

From the above plots, a greater number of people took loan amount of 10000, and also median ofdistribution is 10000. And very few people took more than 30000 loan amounts.

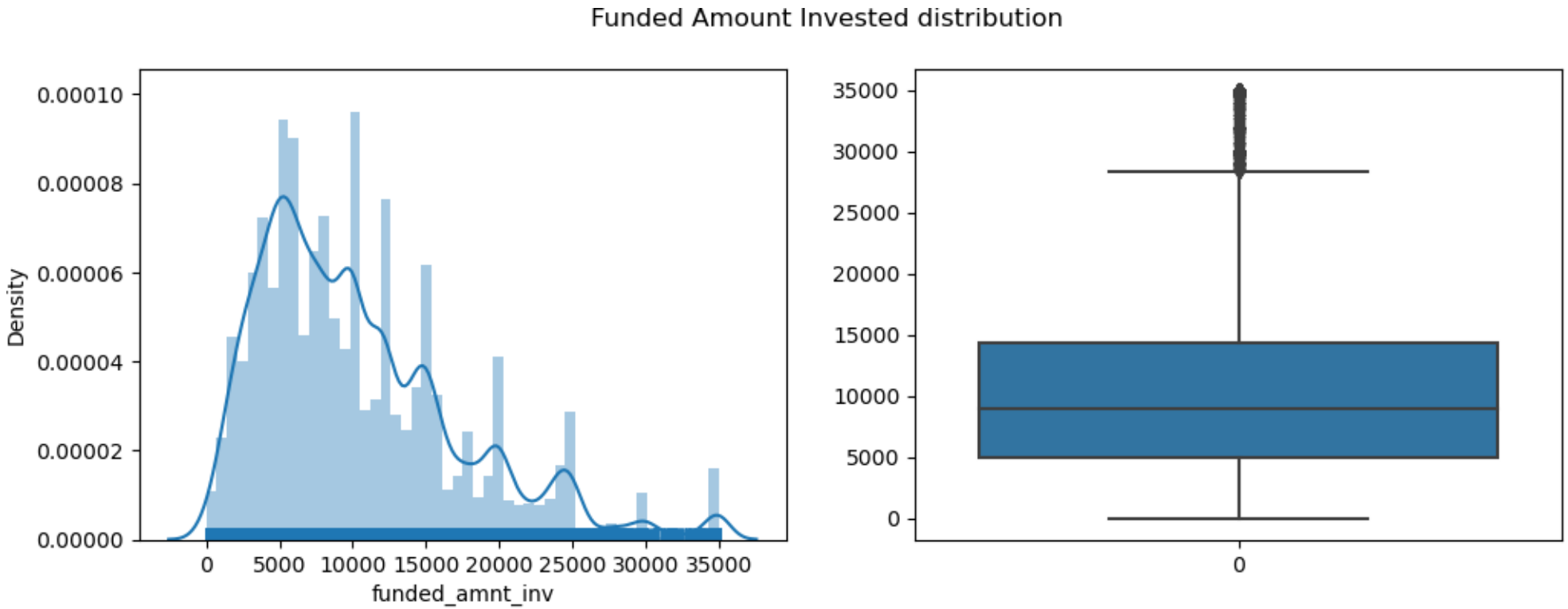
Analysis



Observations:

Funded amount data behaves similar to loan Amount, which tells us that Lending club approved most of Applied loan amount.

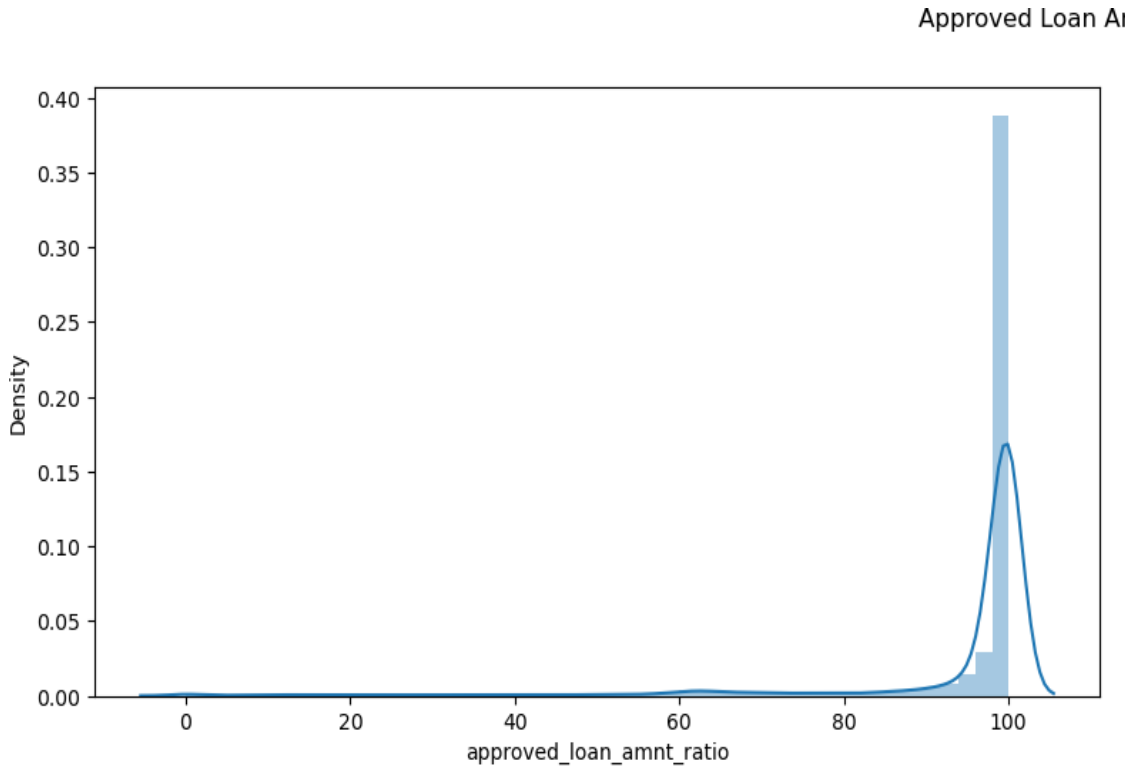
Analysis

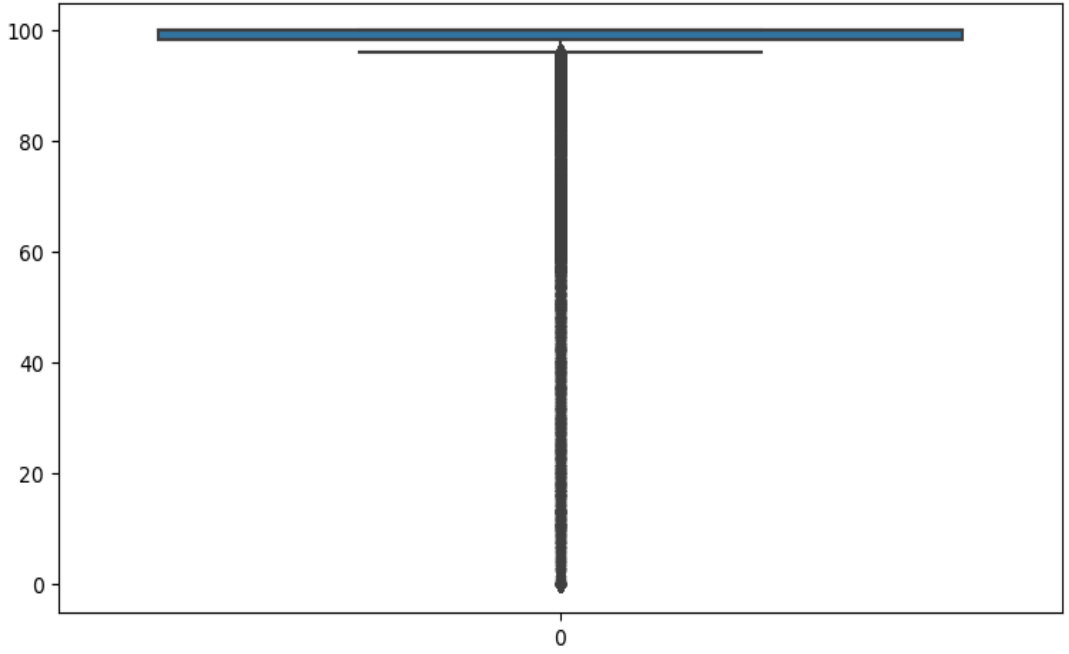


Observations:

Funded amount investment data behaves similar to loan Amount, which tells us that Lending club approved at most of Applied loan amount.

Analysis

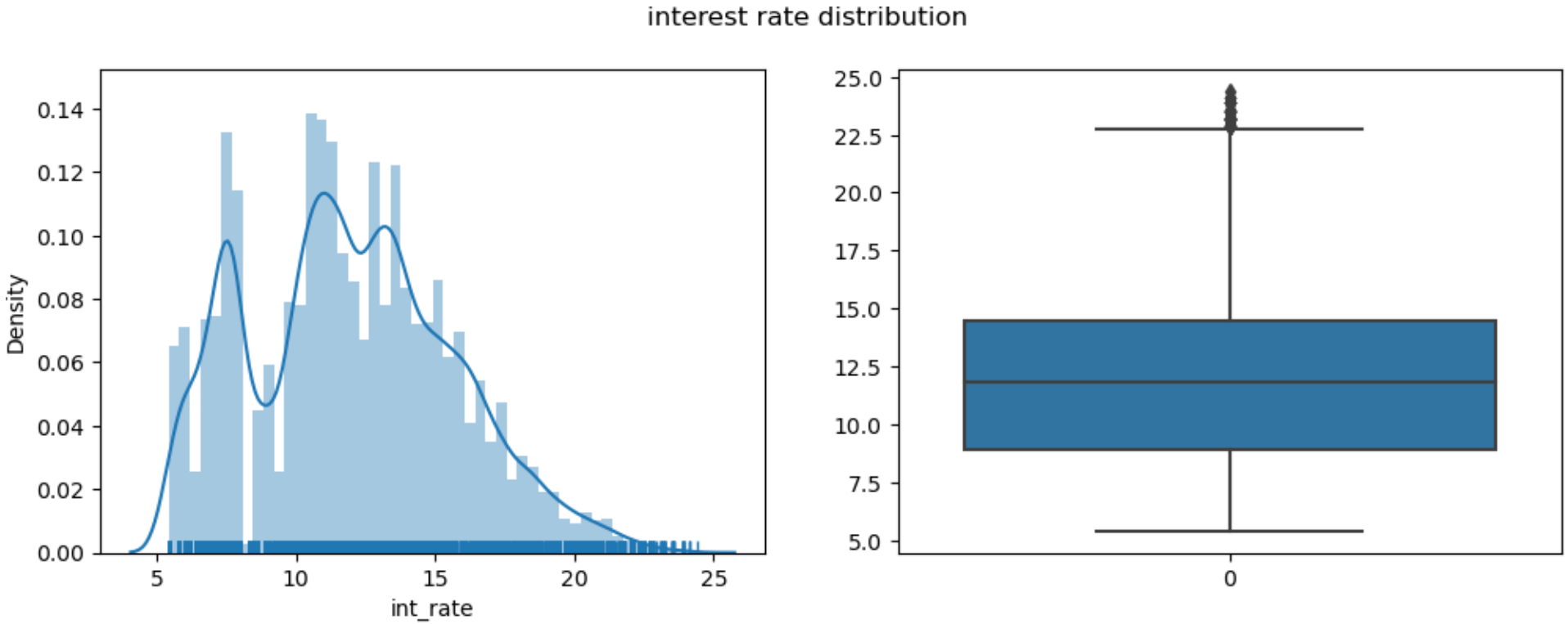




Observations:

70% of Borrowers got 100% loan amount from investors.

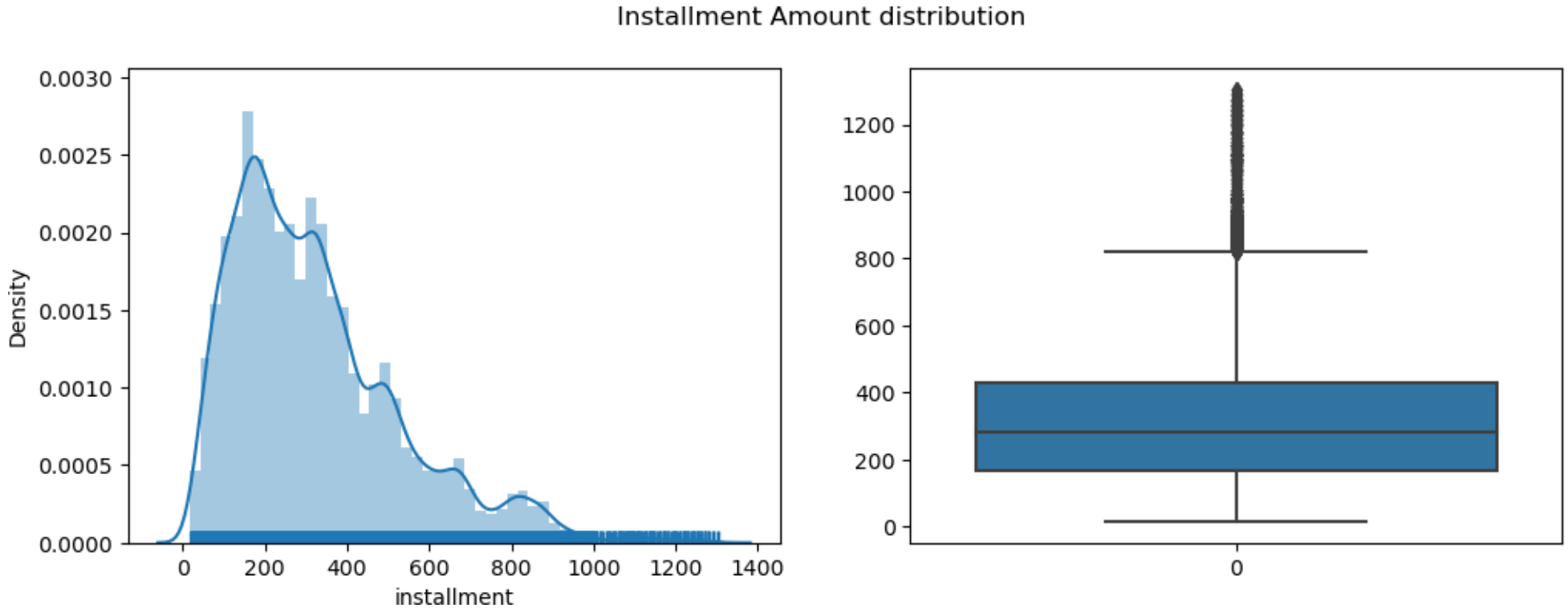
Analysis



Observations:

From the above 2 plots and statistics of interest rates we can conclude that most of the interest rates lies between **9% to 14.5%**. Some people took loan at higher rates of interest i.e., **22.5%**

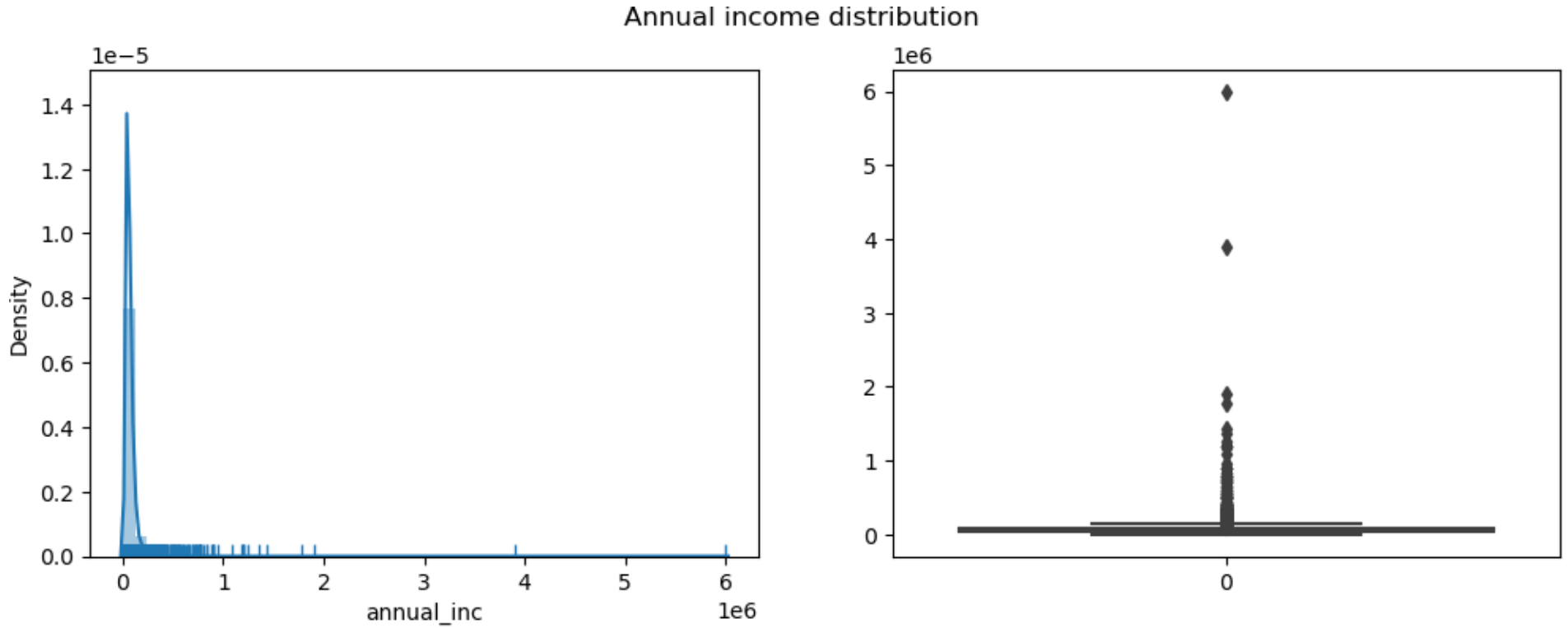
Analysis



Observations:

The Most representative value of Installment amount in around 280.

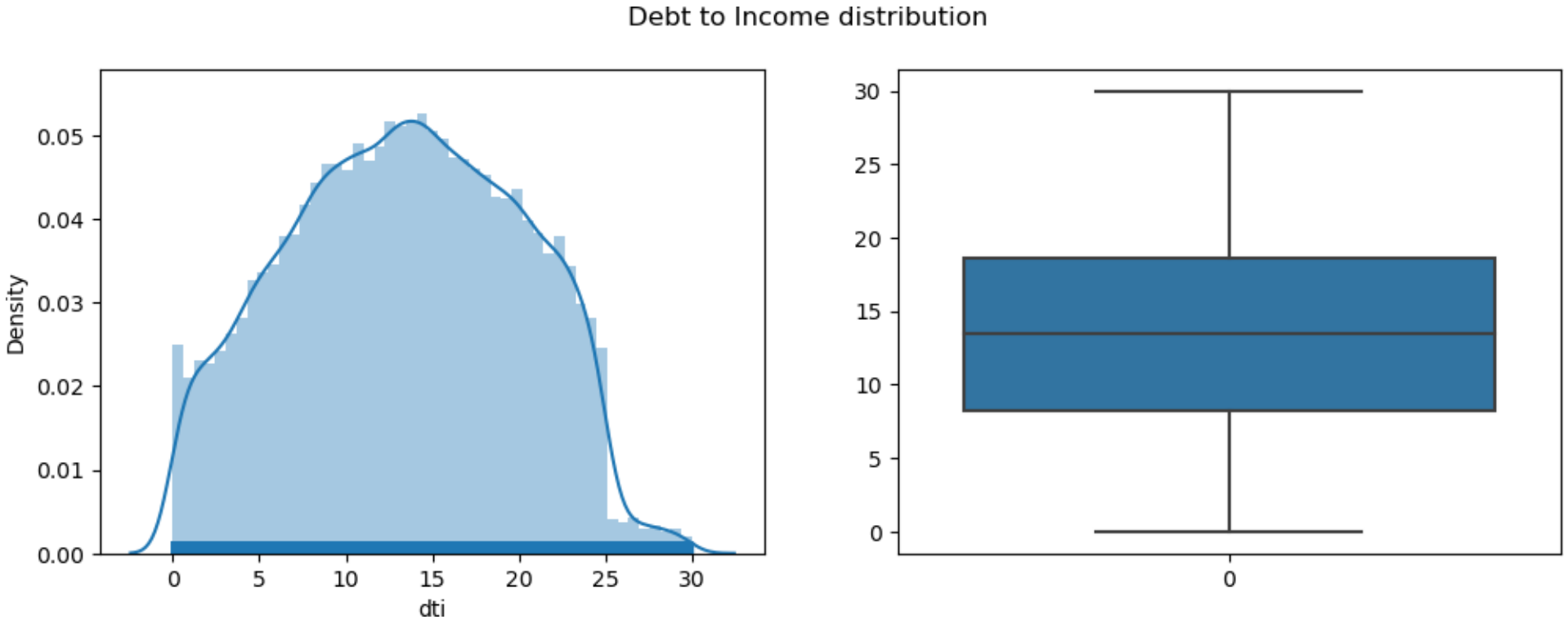
Analysis



Observations:

Around 361 people are having more the 235000 annual income. and 99% of people are having incomes below 235000.

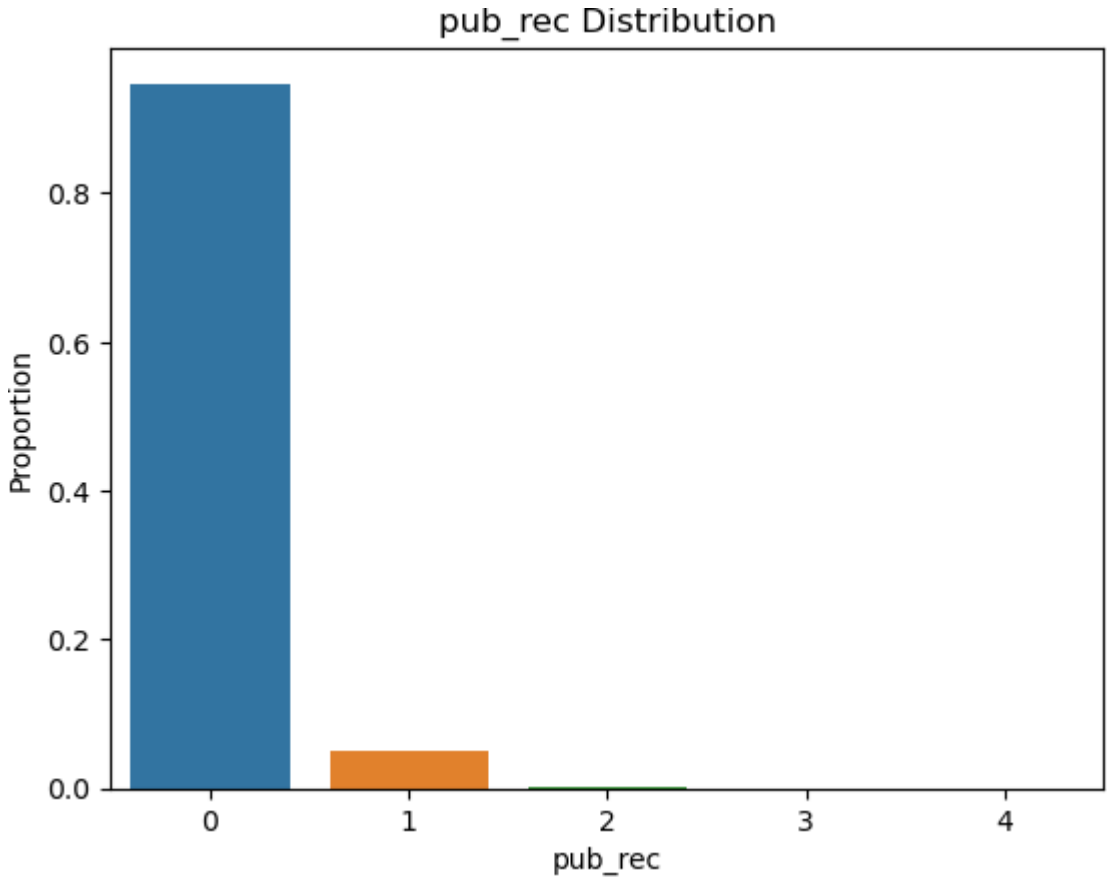
Analysis



Observations:

Looks like there are no outliers and the distribution is very much similar to normal distribution. This is good sign that all the loans are given to barrower's who have Debt to Income ration less than 30.

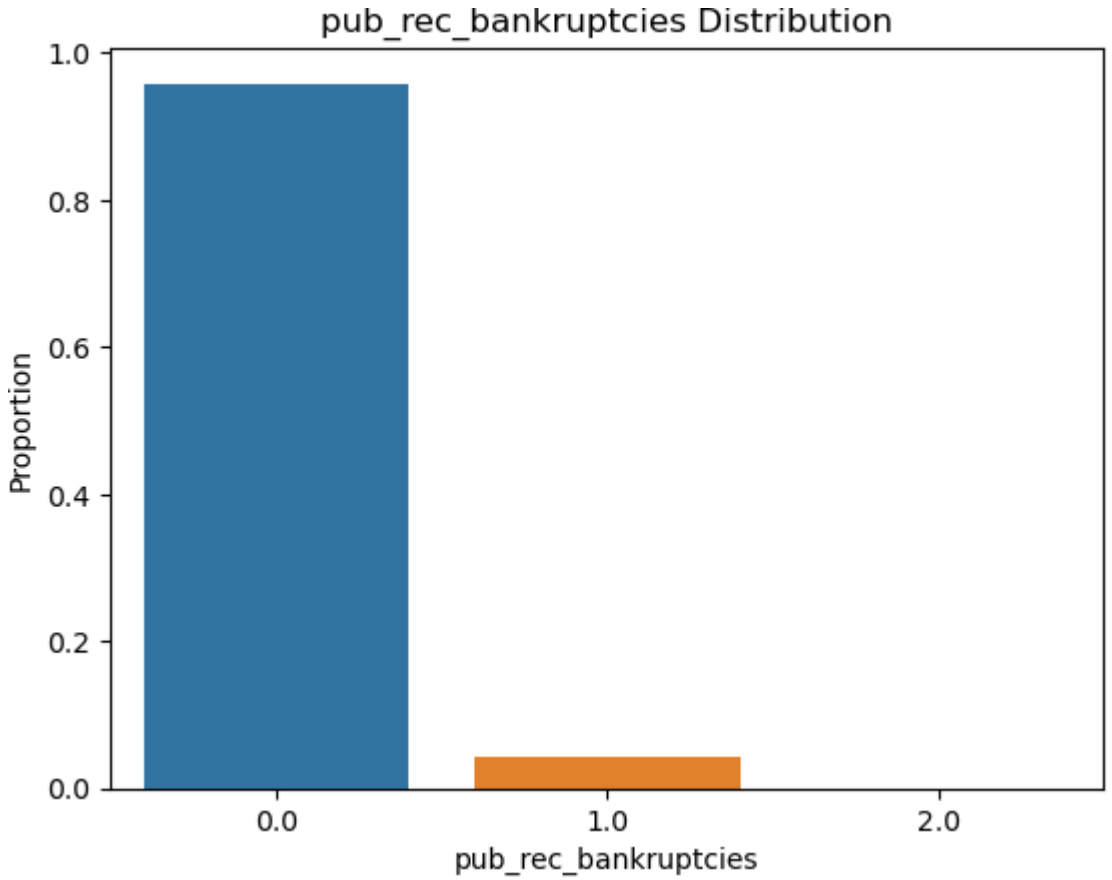
Analysis



Observations:

Around 90% borrowers are having no public derogatory records.

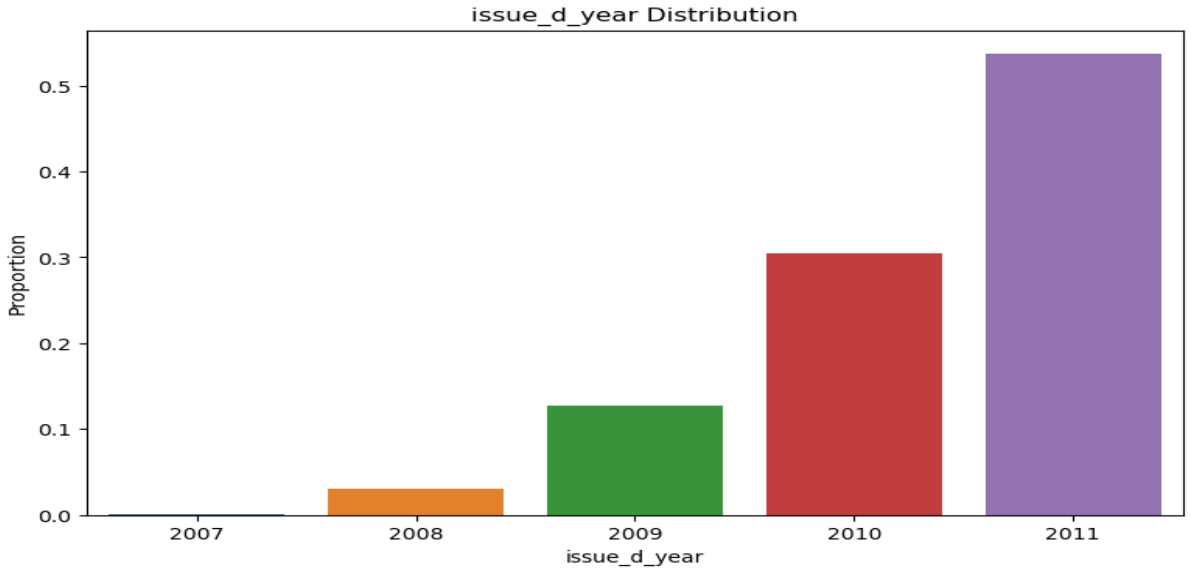
Analysis

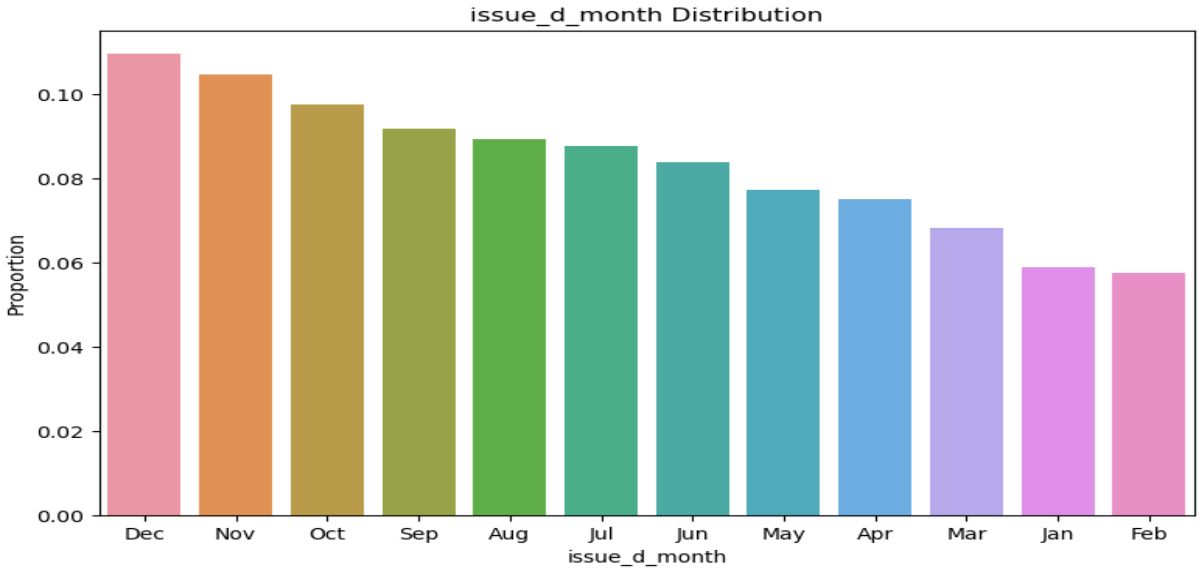


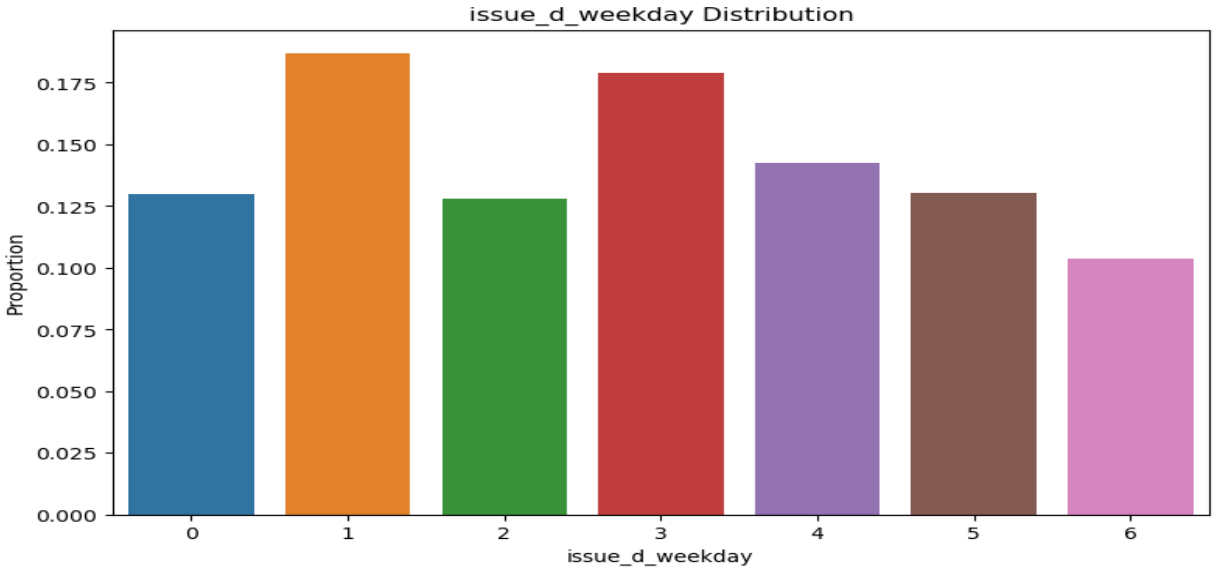
Observations:

Around 99% people have not went bankrupt.

Analysis







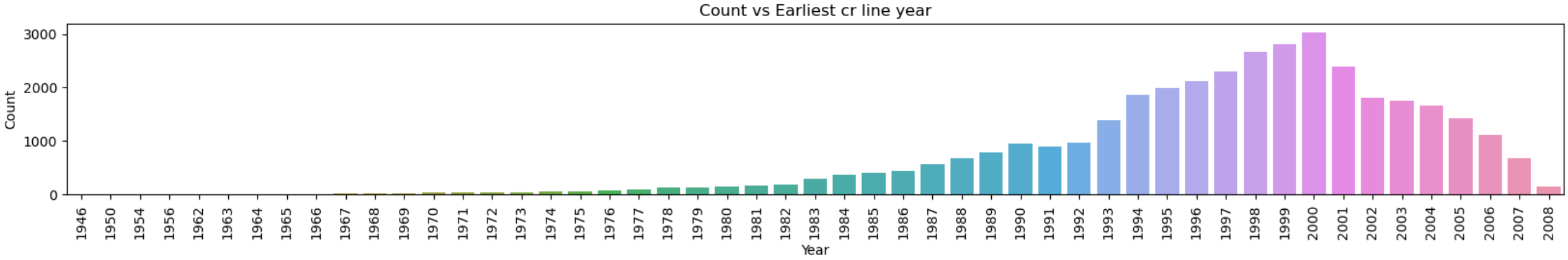
Observations:

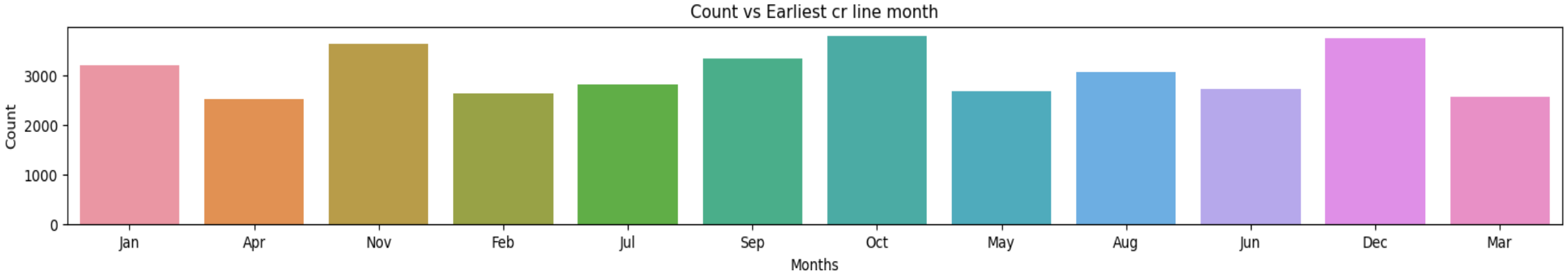
The lending club (LC) has doubling loan issues everyyear.

There are more issues of loan in last 3 months every end of the ear i.e., Oct, Nov and Dec.

LC has issued more loans on Tuesday and Wednesday than other week-days.

Analysis

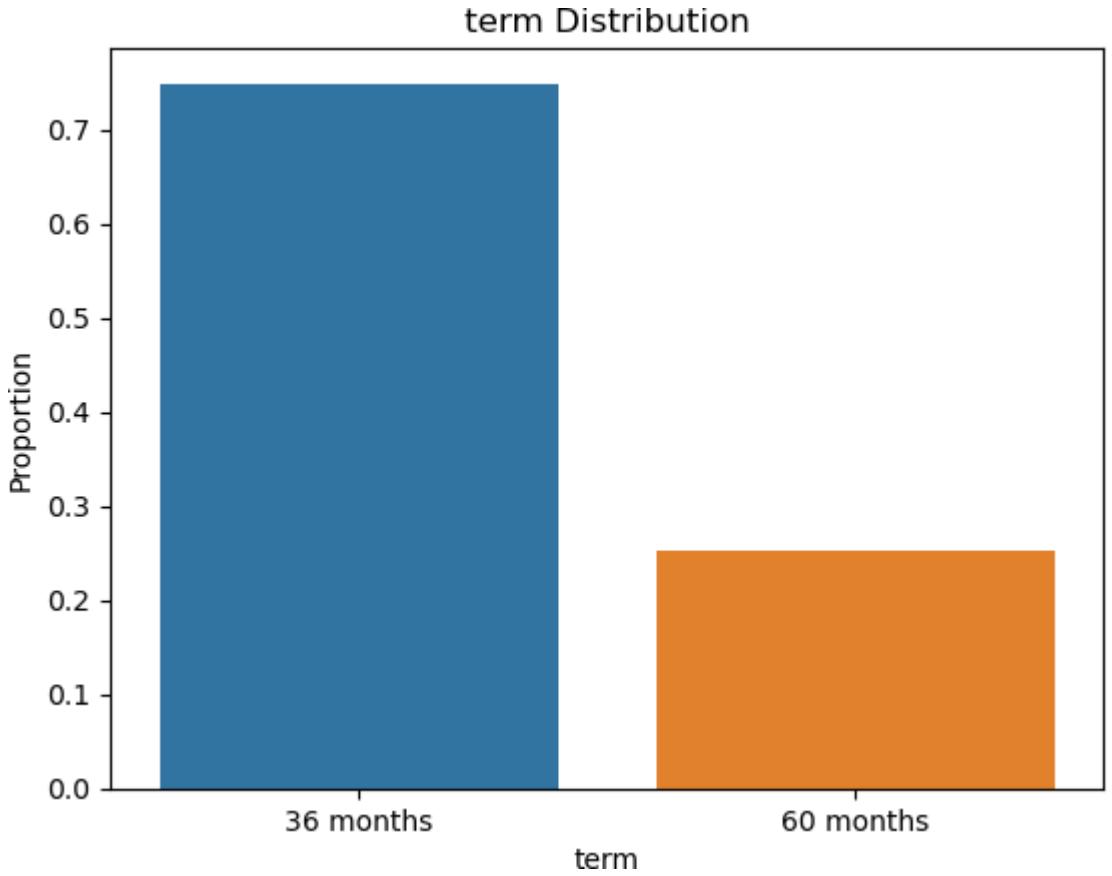




Observations:

Many of Loan borrowers of LC have got earlier credit line in 2000 year, and also most have got earlier credit line on end of the year i.e., Oct, Nov, Dec

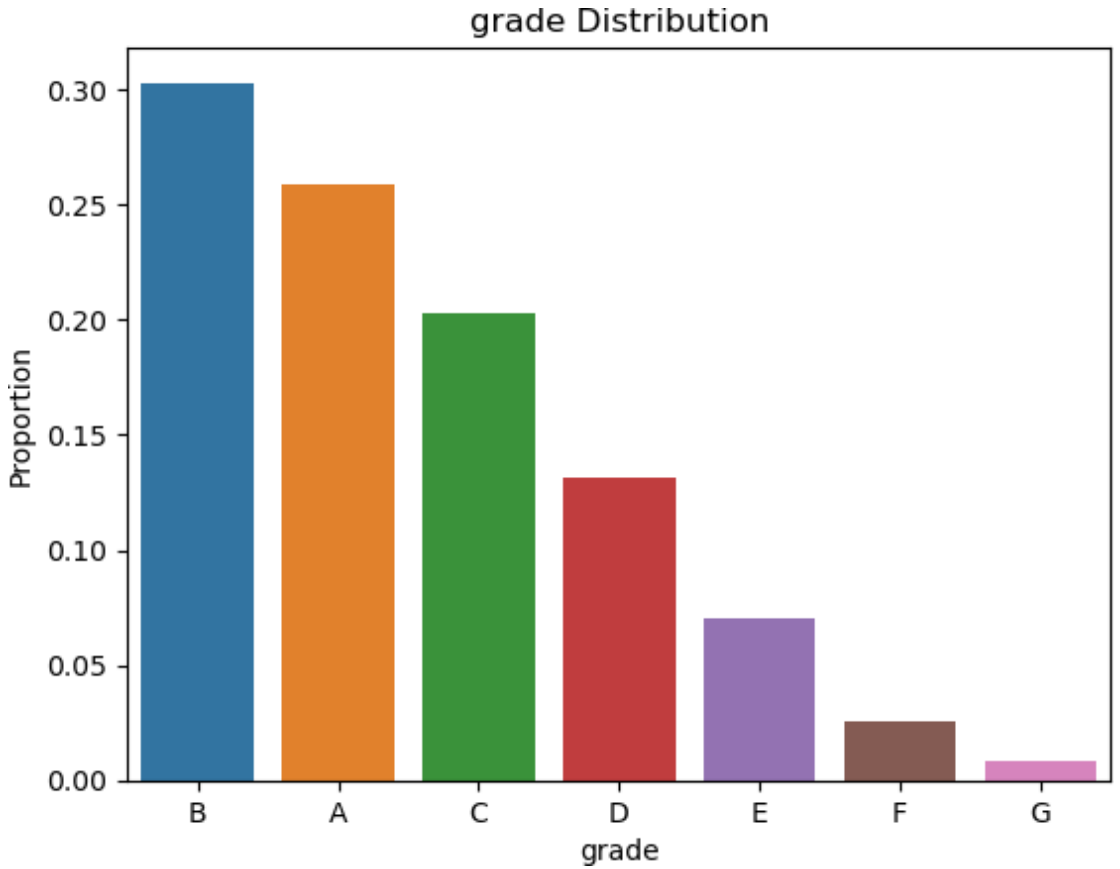
Analysis



Observations:

Barrows have taken 36 months tenure more than 60 months.

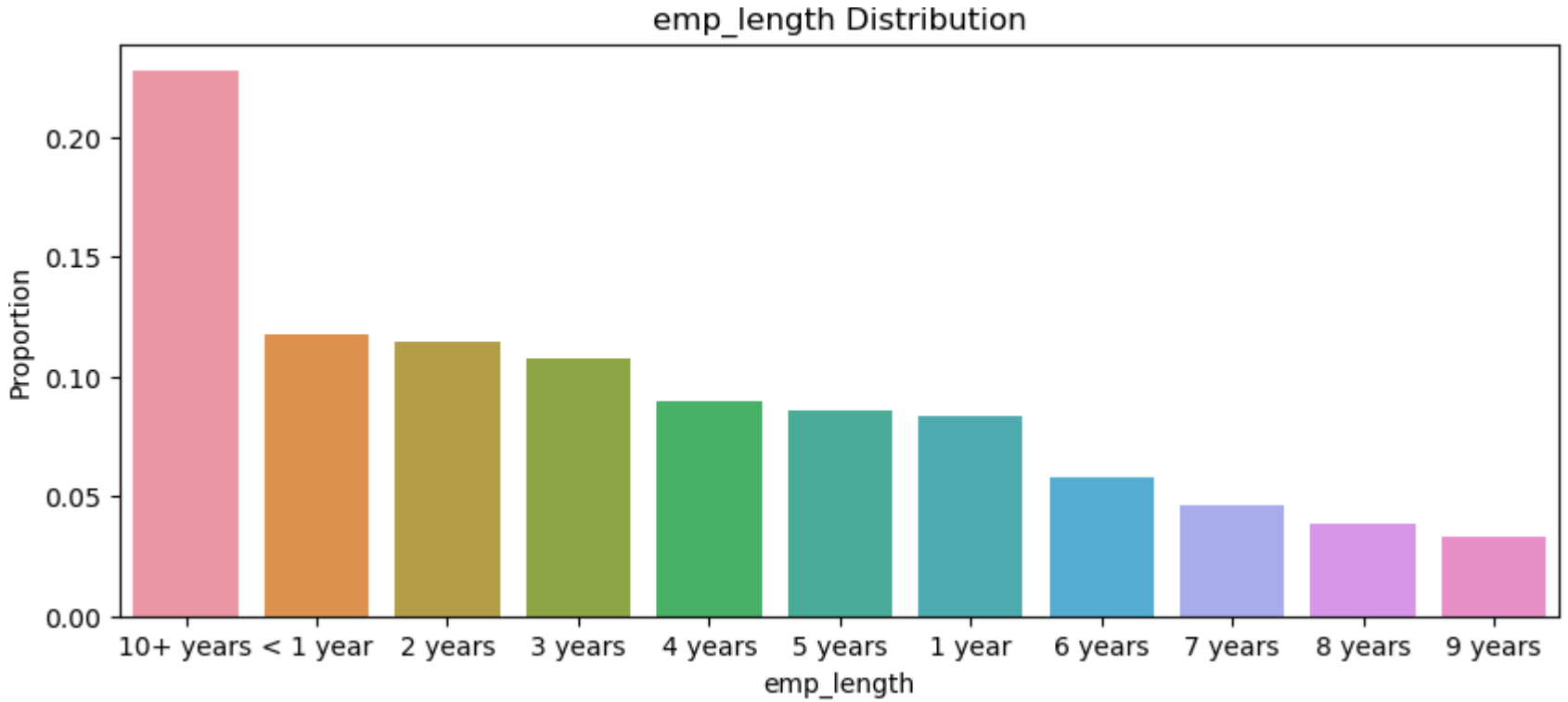
Analysis



Observations:

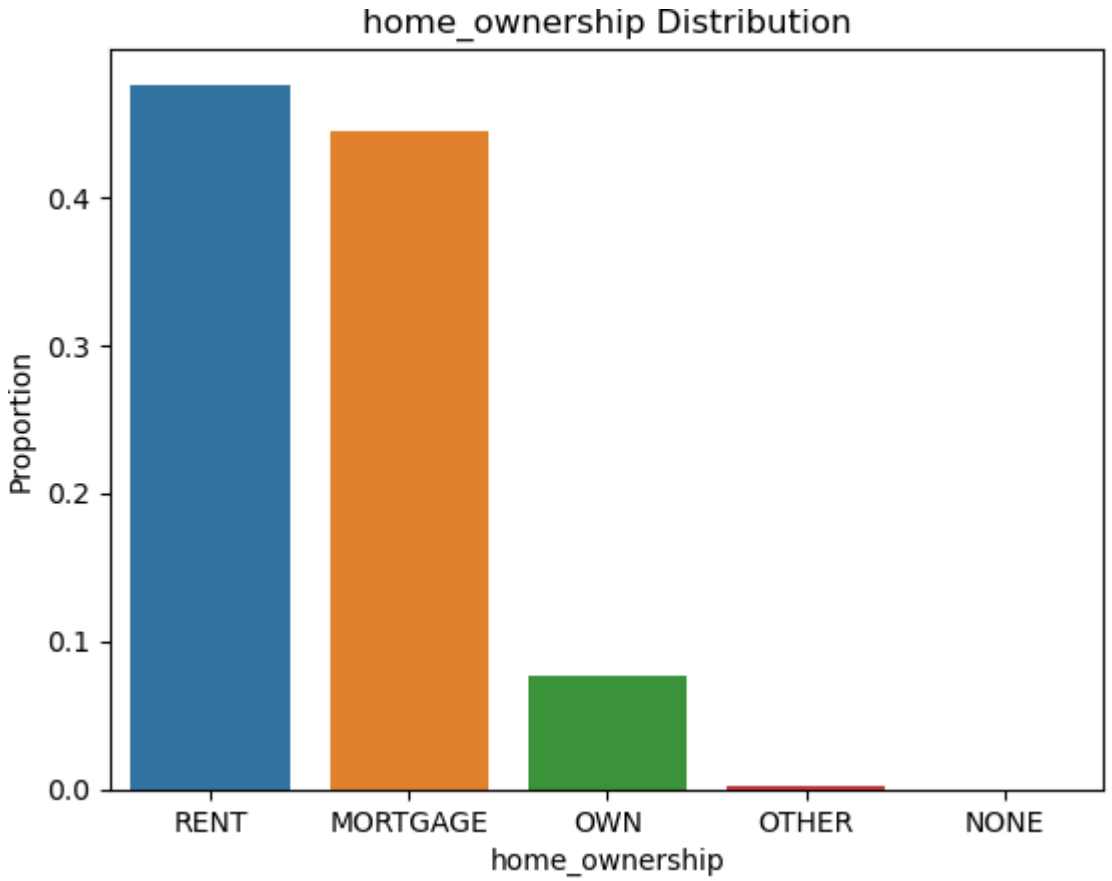
Most borrowers fall under A and B grades then other grades

Analysis



Observations:
Borrowers are mostly 10+ years employment length.

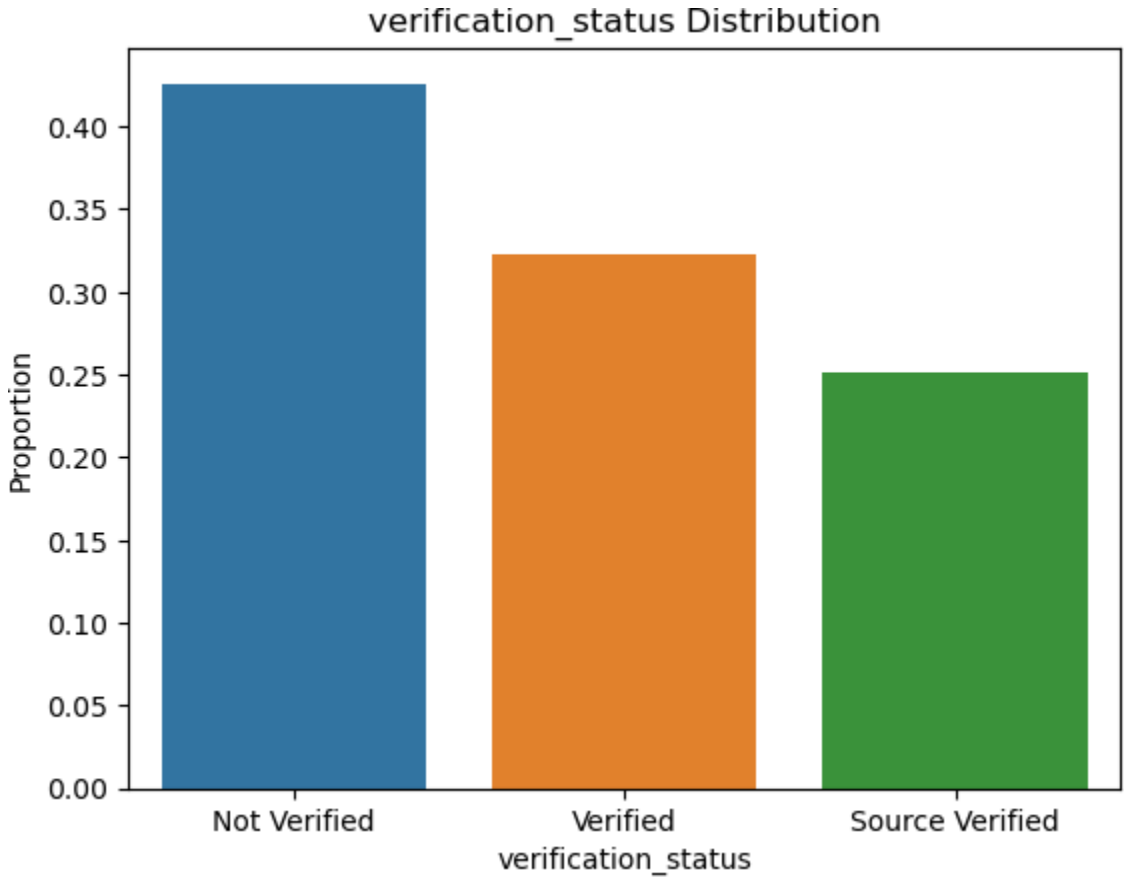
Analysis



Observations:

The loan borrowers are mostly having rented and mortgage houses.

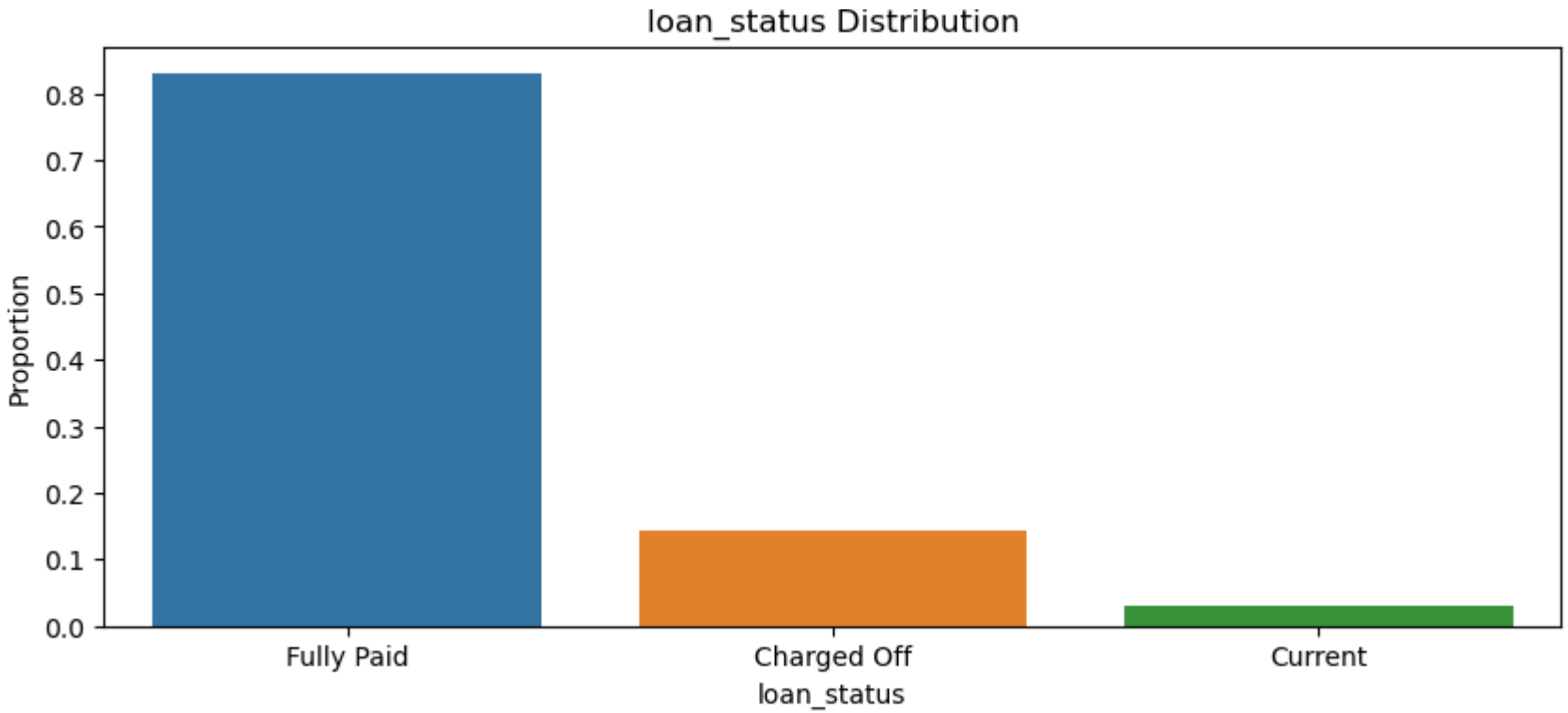
Analysis



Observations:

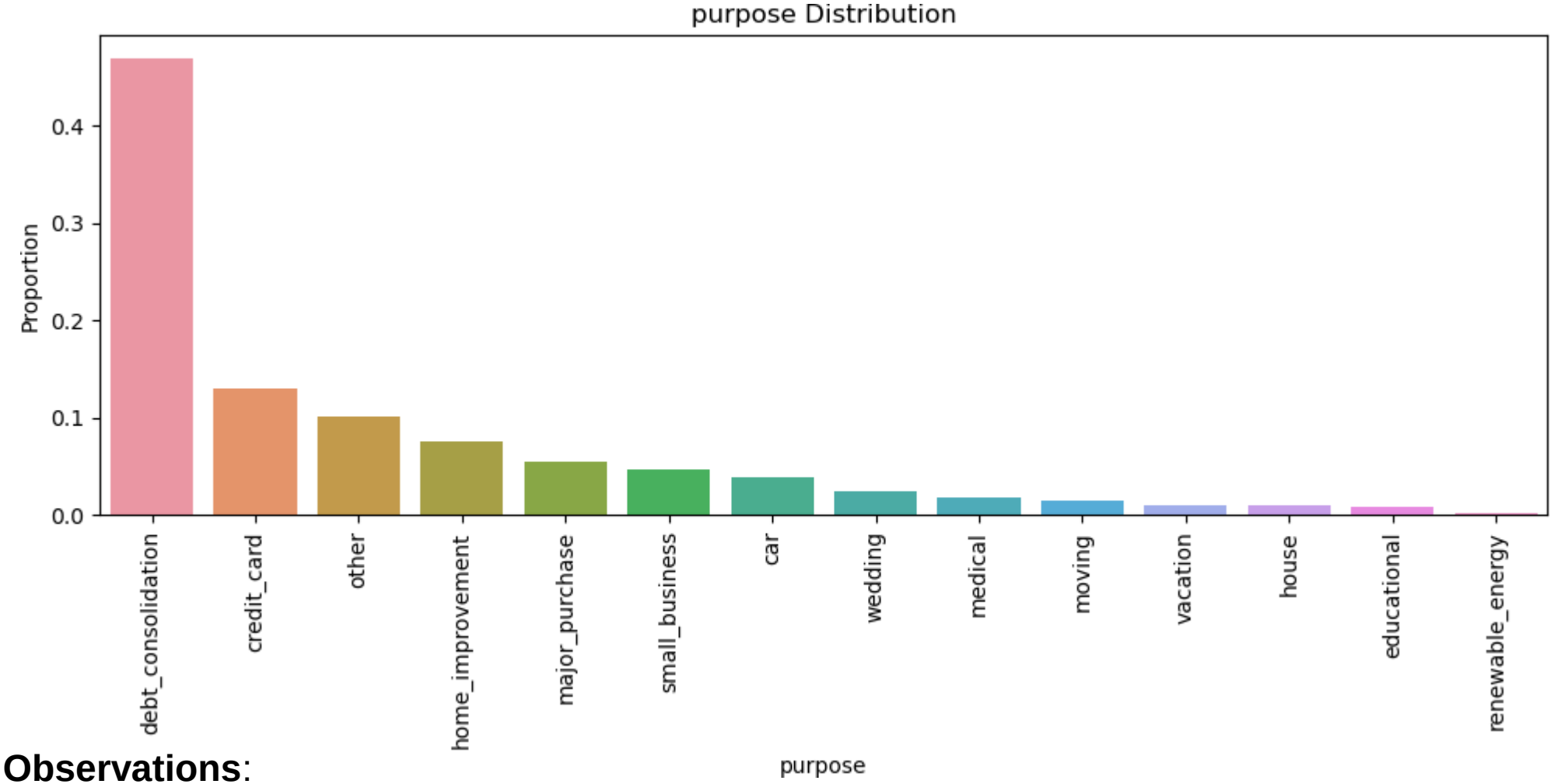
Majority of loans were given without verification of applicant's income.

Analysis



Observations:
85% of borrowers has paid the loan fully. where are 14% are defaulted the loan.

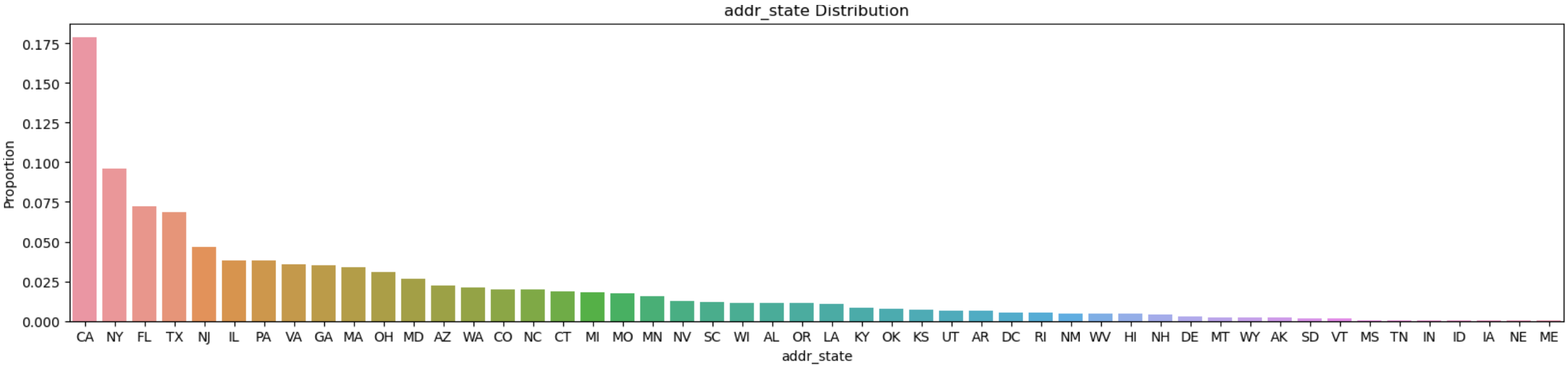
Analysis



Observations:

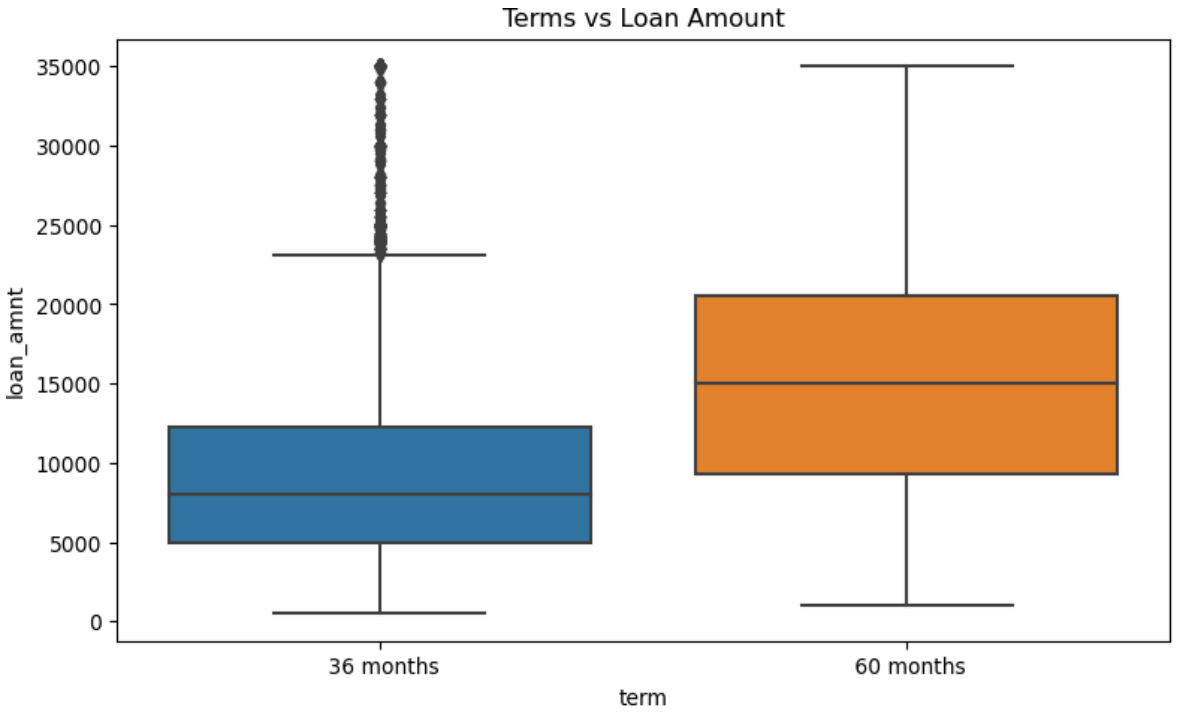
Looks like a greater number of people took loan for *debt consolidation* and a very few people took for *renewable energy*

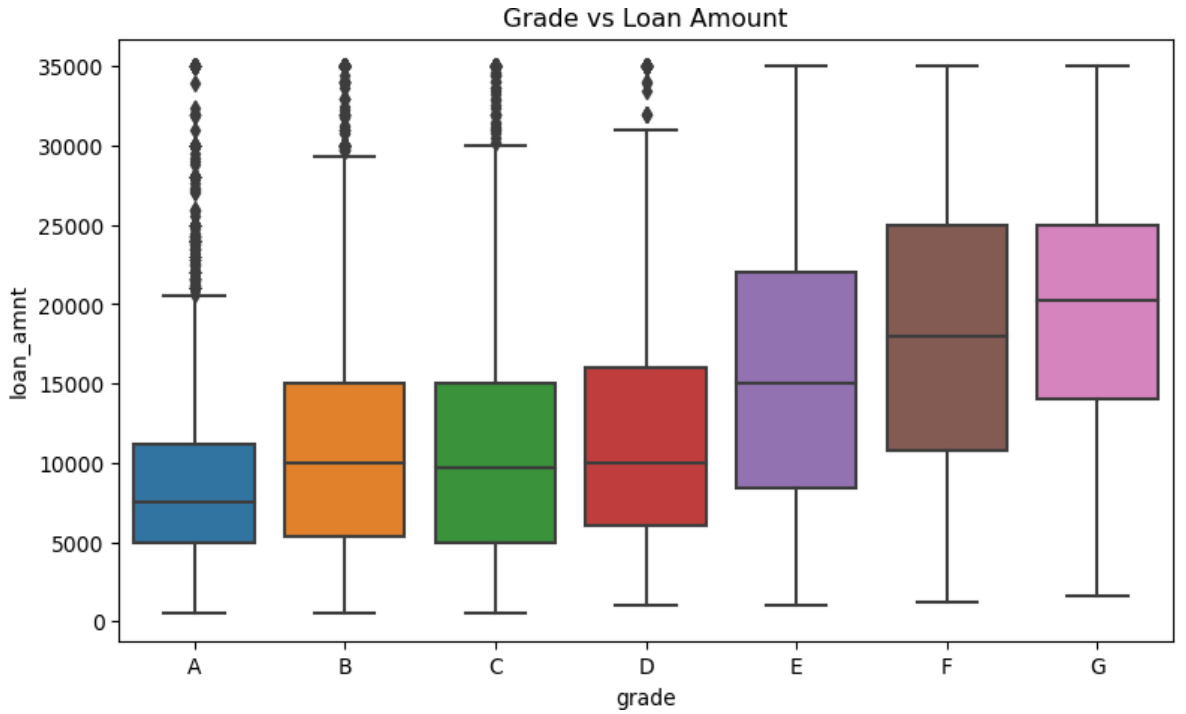
Analysis



Observations:
Most of the borrowers are from *CA* and *NY*

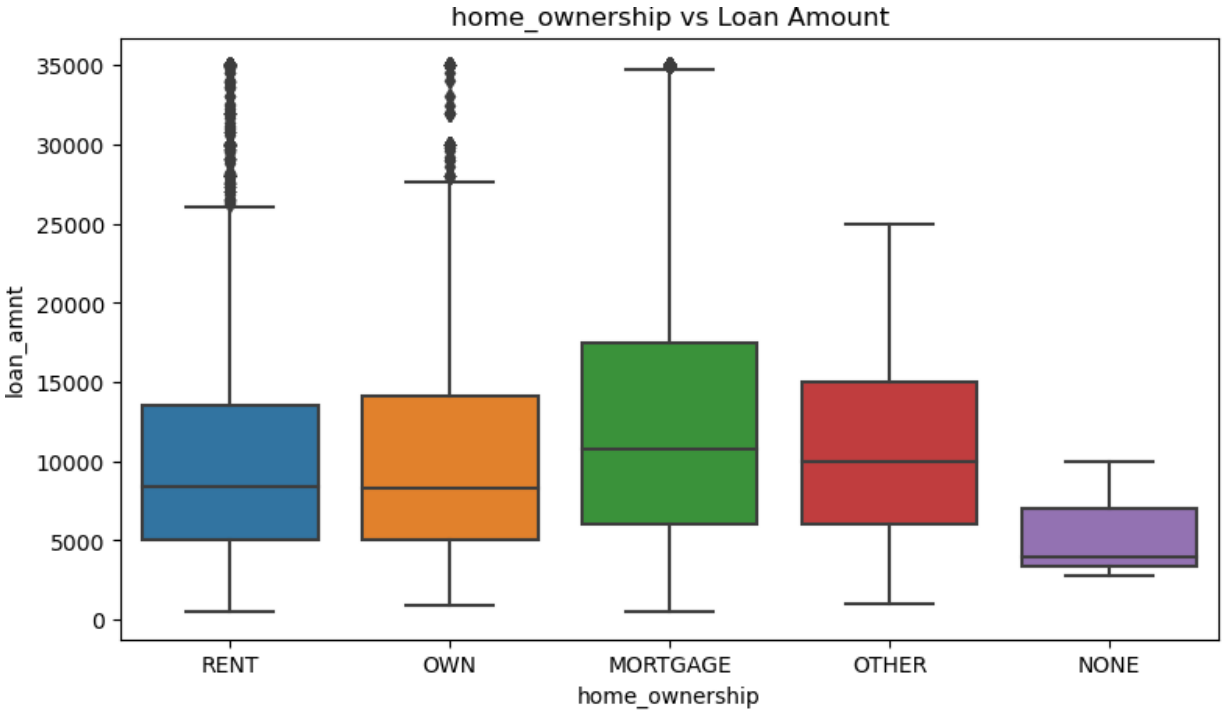
Analysis

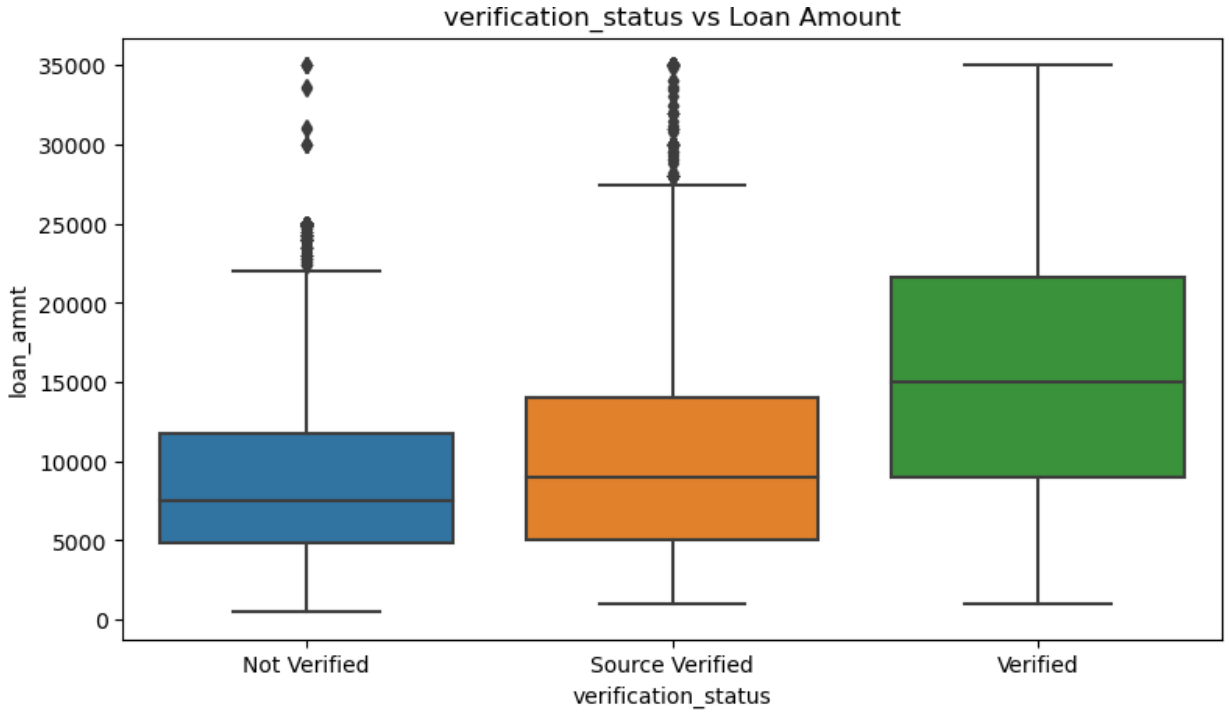




Observations:
Higher amount loans have high tenure i.e., 60 months.
Grade 'G' and 'H' have taken max loan amount. As Grades are decreasing the loan amount is increasing.

Analysis



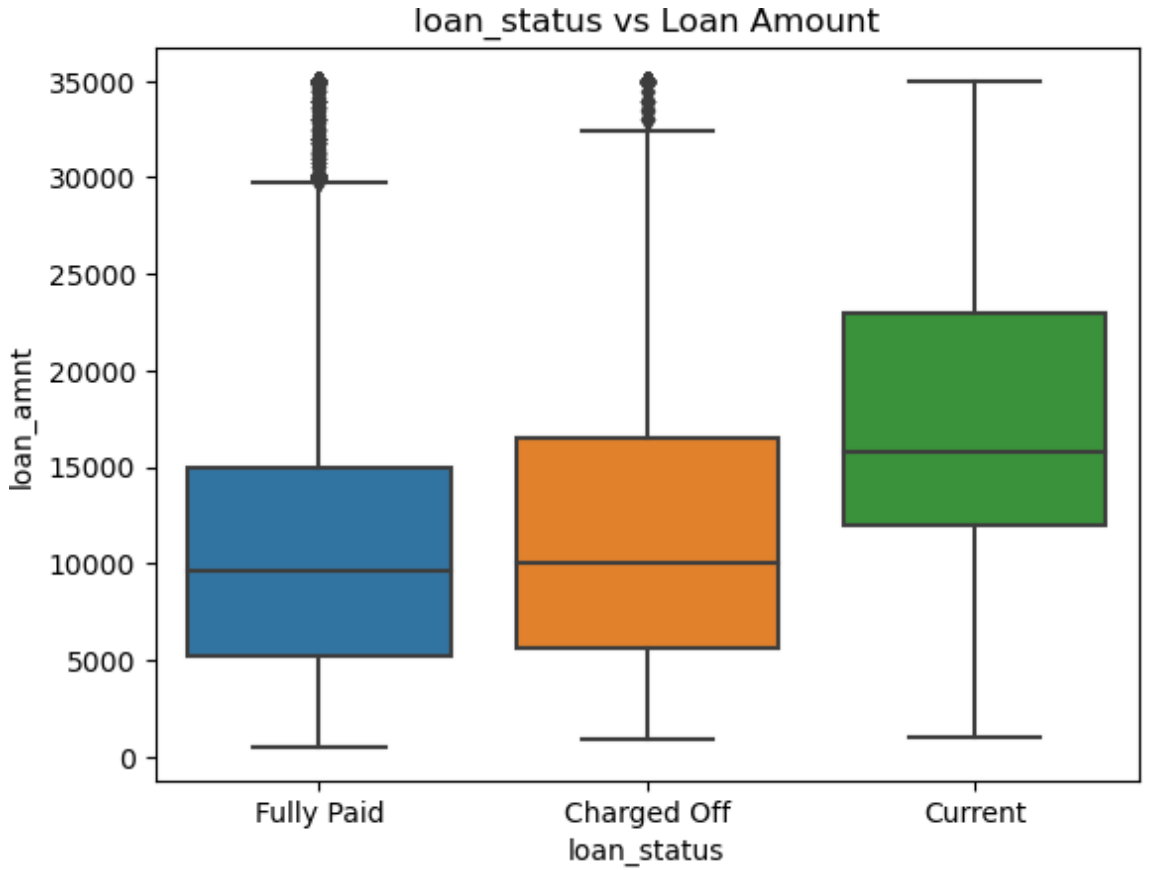


Observations:

more borrowers are from MORTAGE and also the median loan amount also high for MORTAGE owned borrowers.

And most of borrowers are verified for borrowing loan >9k

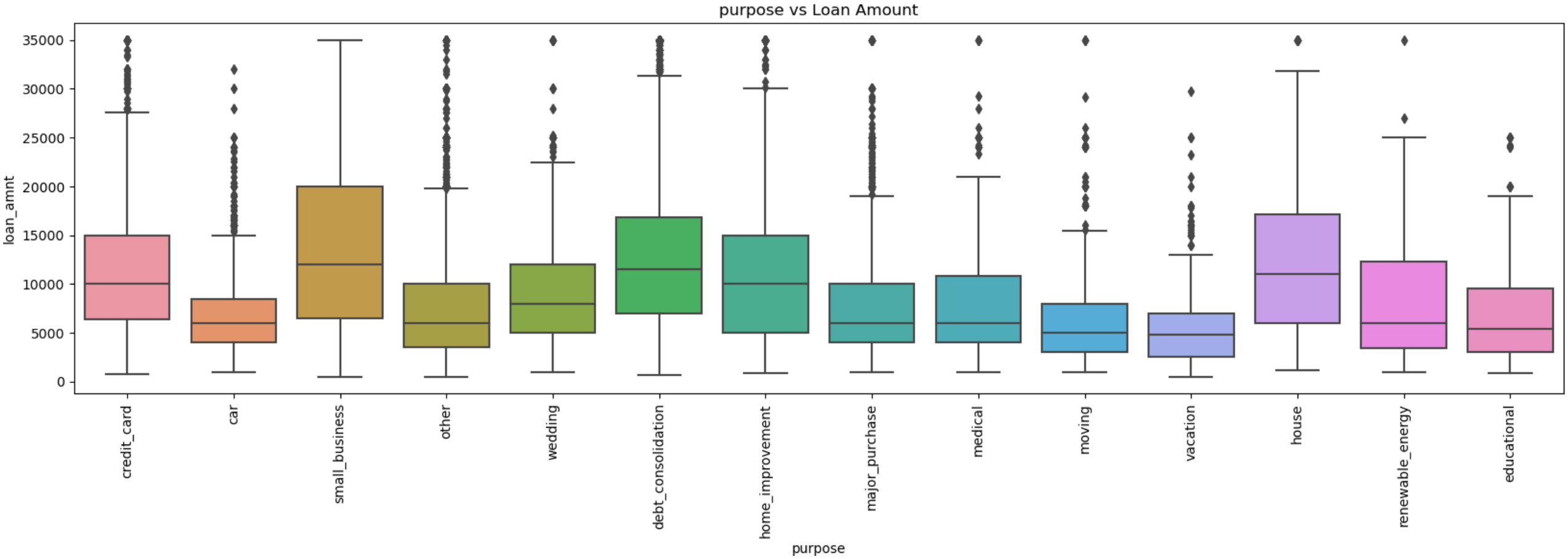
Analysis



Observations:

Charged Off loans have higher amounts than Fully Paid ones.

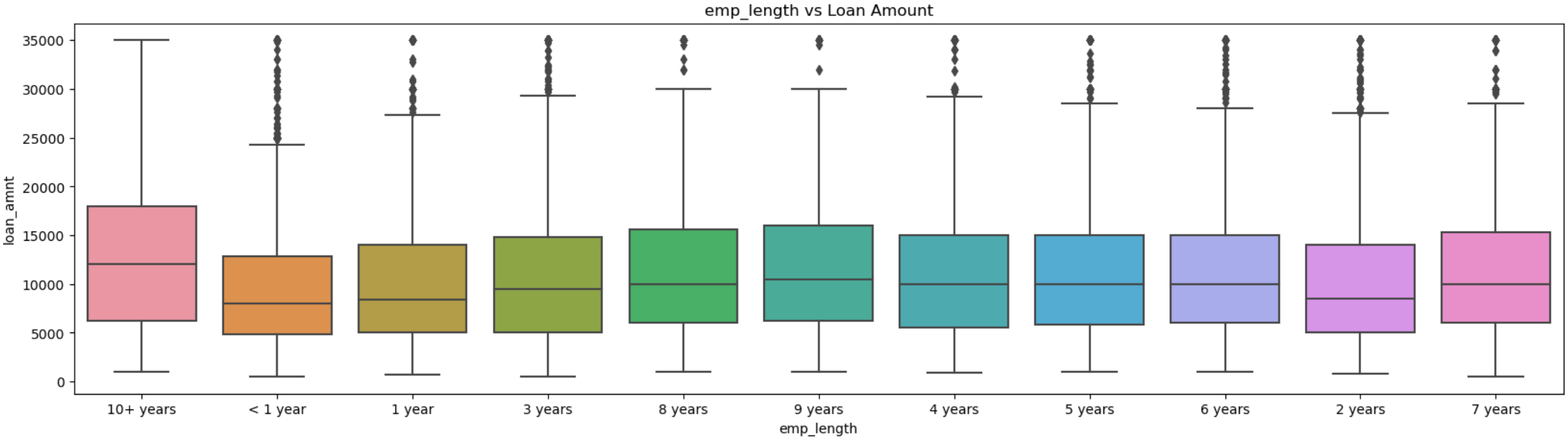
Analysis



Observations:

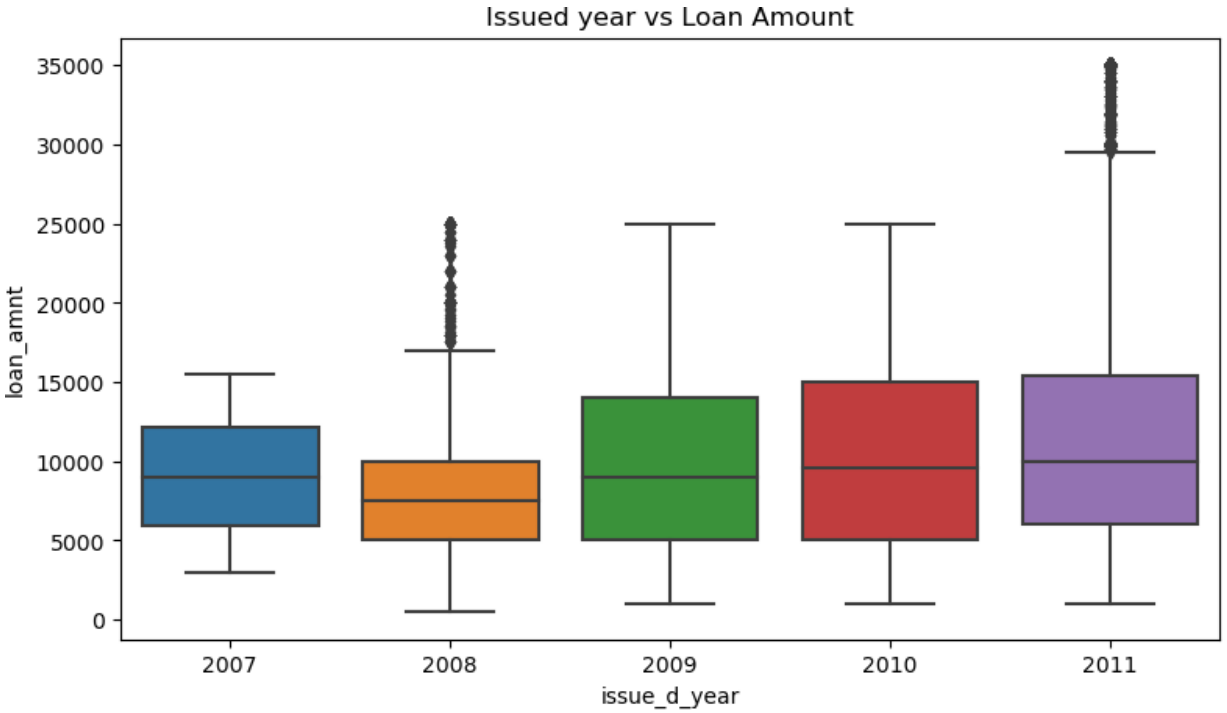
More loan amount is from small business followed by debt consolidation.

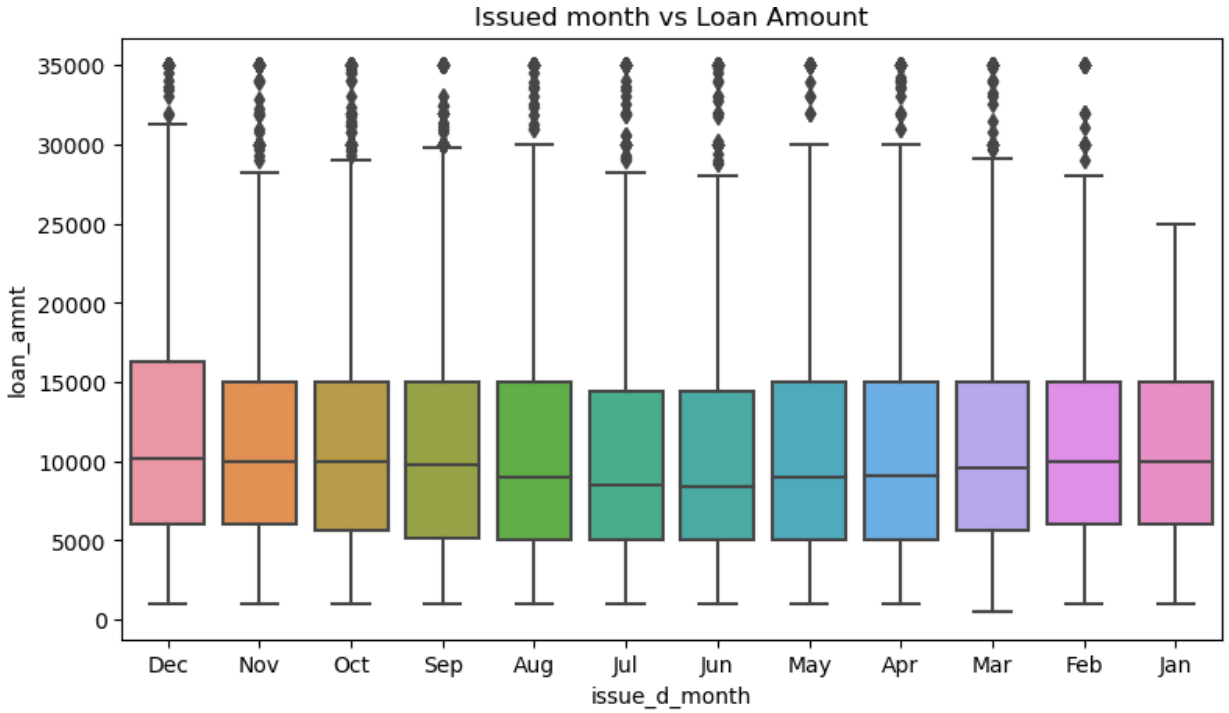
Analysis



Observations:
more borrowers are from 10+ years and least is <1 year.

Analysis





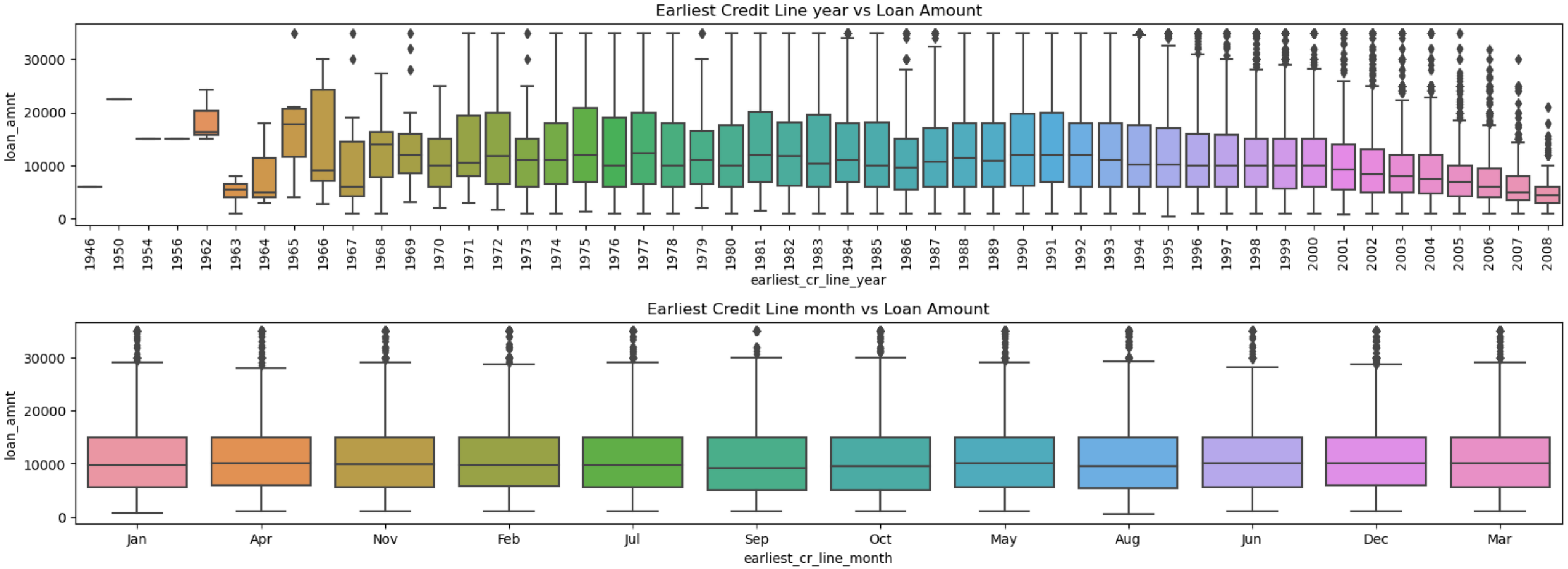
Observations:

•The median loan amount in each year did not change much but the distribution is more spread as the years increase, which means people have taken different loan amounts in each year.

•Few Loan borrowers took higher loan amount in 2008 and 2011 which are plotted as outliers.

•Loan borrowers took almost similar amounts in all the months except in December, people have taken higher amounts as distribution is high above median.

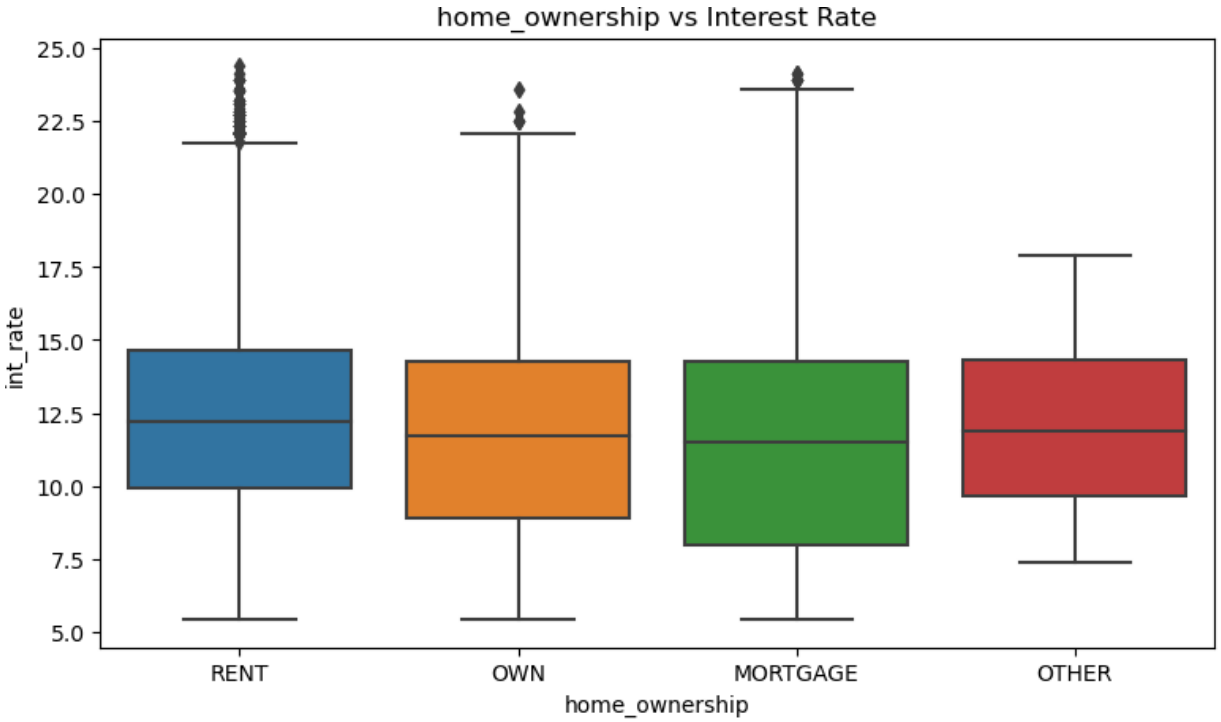
Analysis

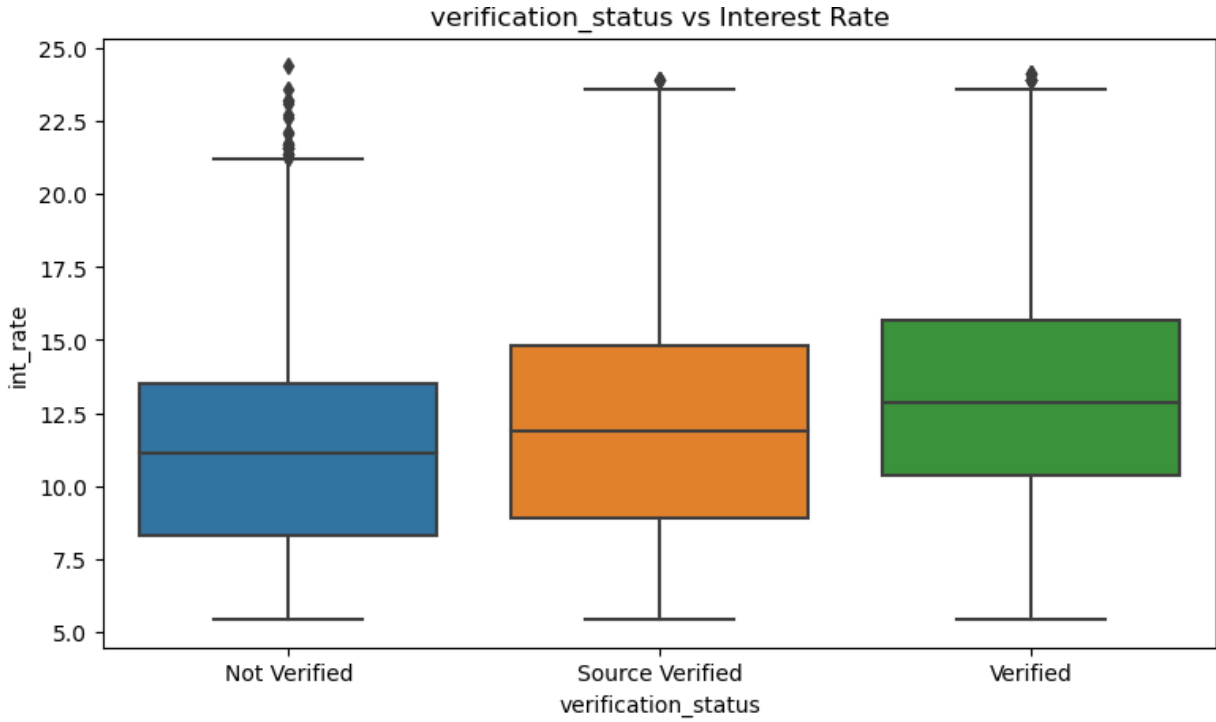


Observations:

Borrowers who go earliest credit line in 1966 got wide spreader amount of loans than others.

Analysis

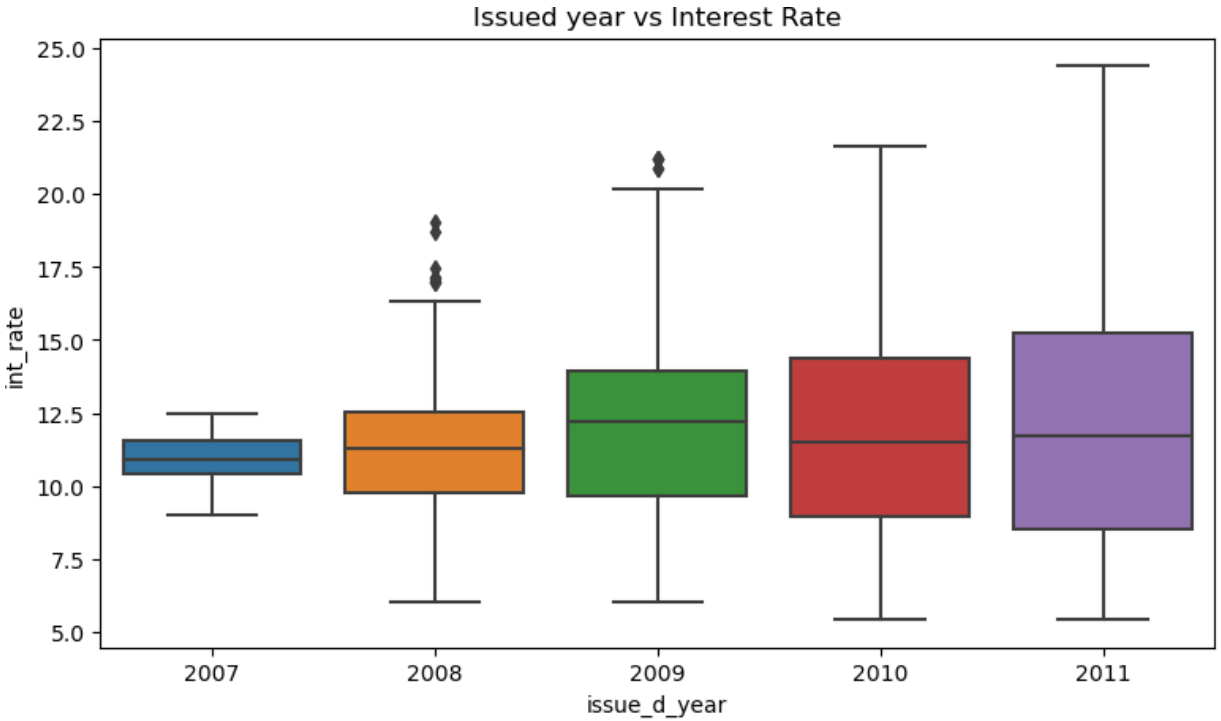


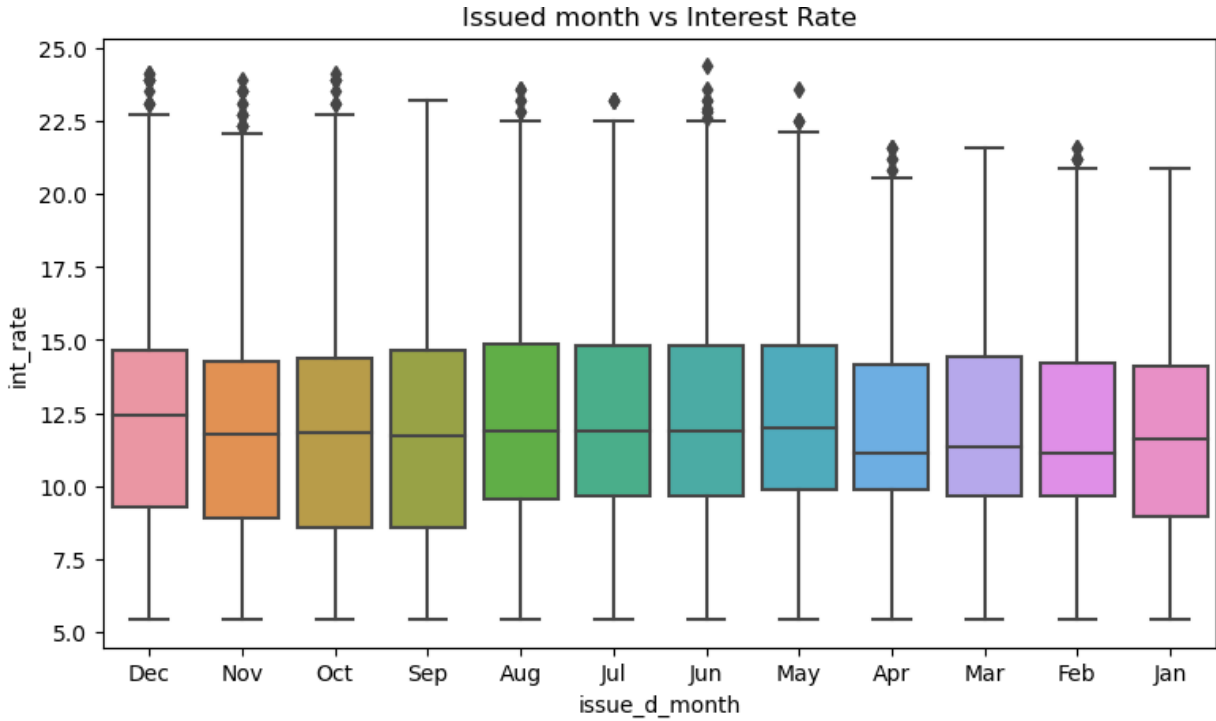


Observations:

- Barrowers with Own and Mortgage got loans with less interest rates as the security will be there.
- And The Non-Verified Barrowers got less interest rates compared to Verified and Source Verified barrowers.

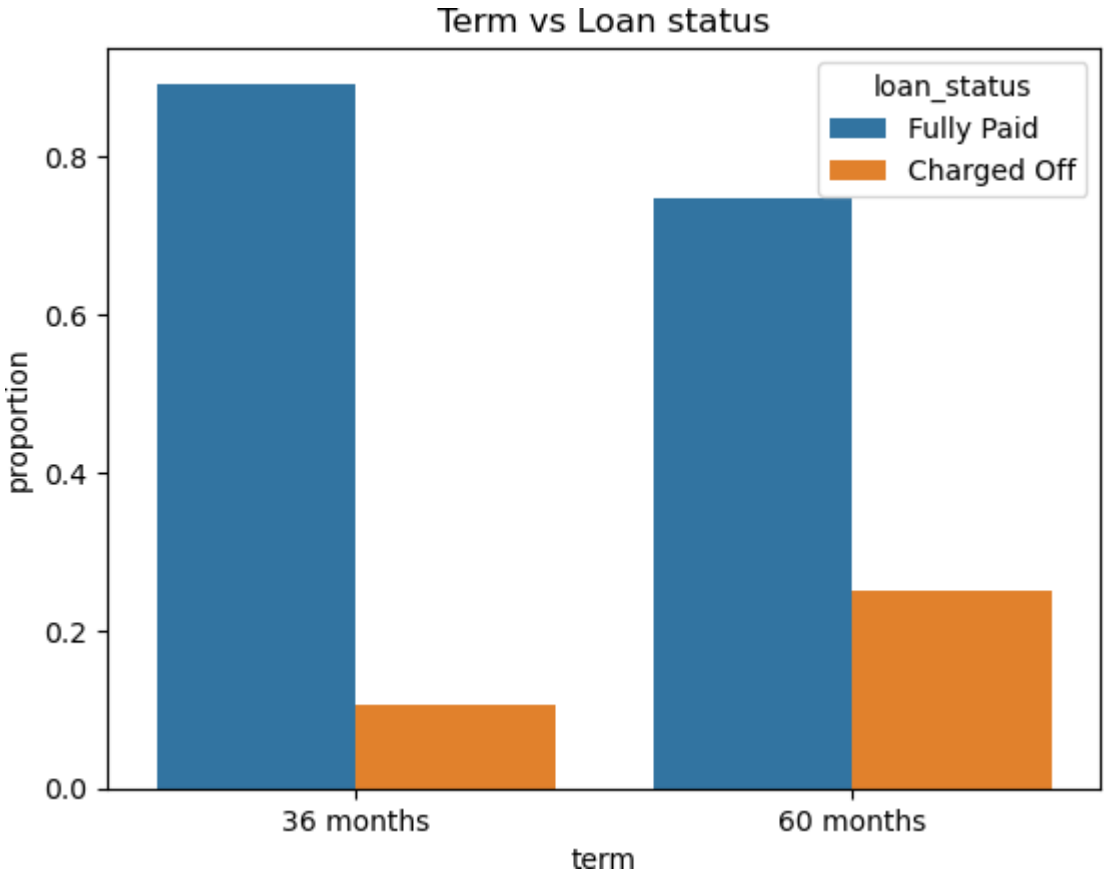
Analysis





Observations:
As the years of business increase the interest rates are getting more diverse but median of interest rate is quite same in all the years.

Analysis



Observations:
Looks like there are more proportion of borrowers defaulted loan in 60 months term then 36 months. Also, the Fully Paid rate is higher in 36 months tenure.

Conclusions

- Lending club should reduce the high interest loans for 60 months tenure, they are prone to loan default.
- Grades are good metric for detecting defaulters. Lending club should examine more information from borrowers before issuing loans to Low grade (G to A).
- Lending Club should control their number of loan issues to borrowers who are from CA, FL and NY to make profits.
- Small business loans are defaulted more. Lending club should stop/reduce issuing the loans to them.
- Borrowers with mortgage home ownership are taking higher loans and defaulting the approved loans. Lending club should stop giving loans to this category when loan amount requested is more than 12000.
- People with a greater number of public derogatory records are having more chance of filing a bankruptcy. Lending club should make sure there are no public derogatory records for borrower.