



LENDING CLUB CASE STUDY

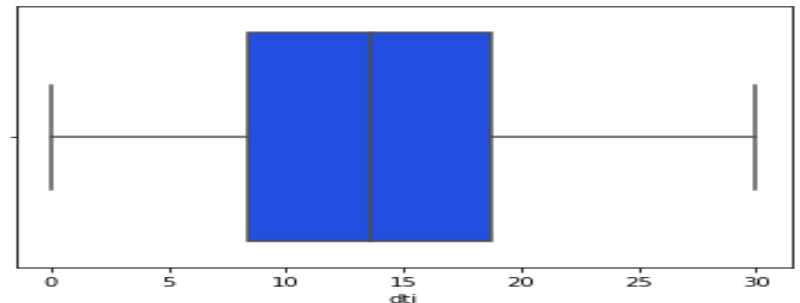
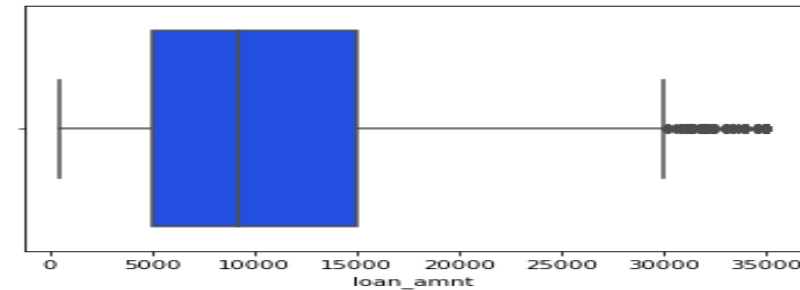
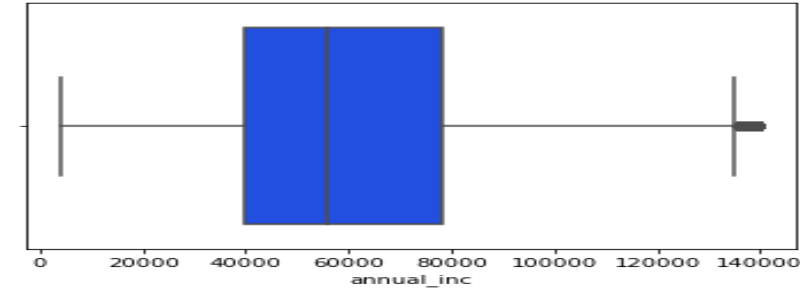


ABSTRACT

- The purpose of the case study is to analyze the given dataset from a lending club and gain insights from it. The lending club team is interested in predicting whether the borrowers will repay their loans on time, so that they can assess the risk involved.
- The programming language used is python along with NumPy,Pandas and matplotlib libraries.
- The given data will help us to examine the risk factors of lending money to different individuals based on their demographic and financial characteristics, as well as their past loan repayment history.

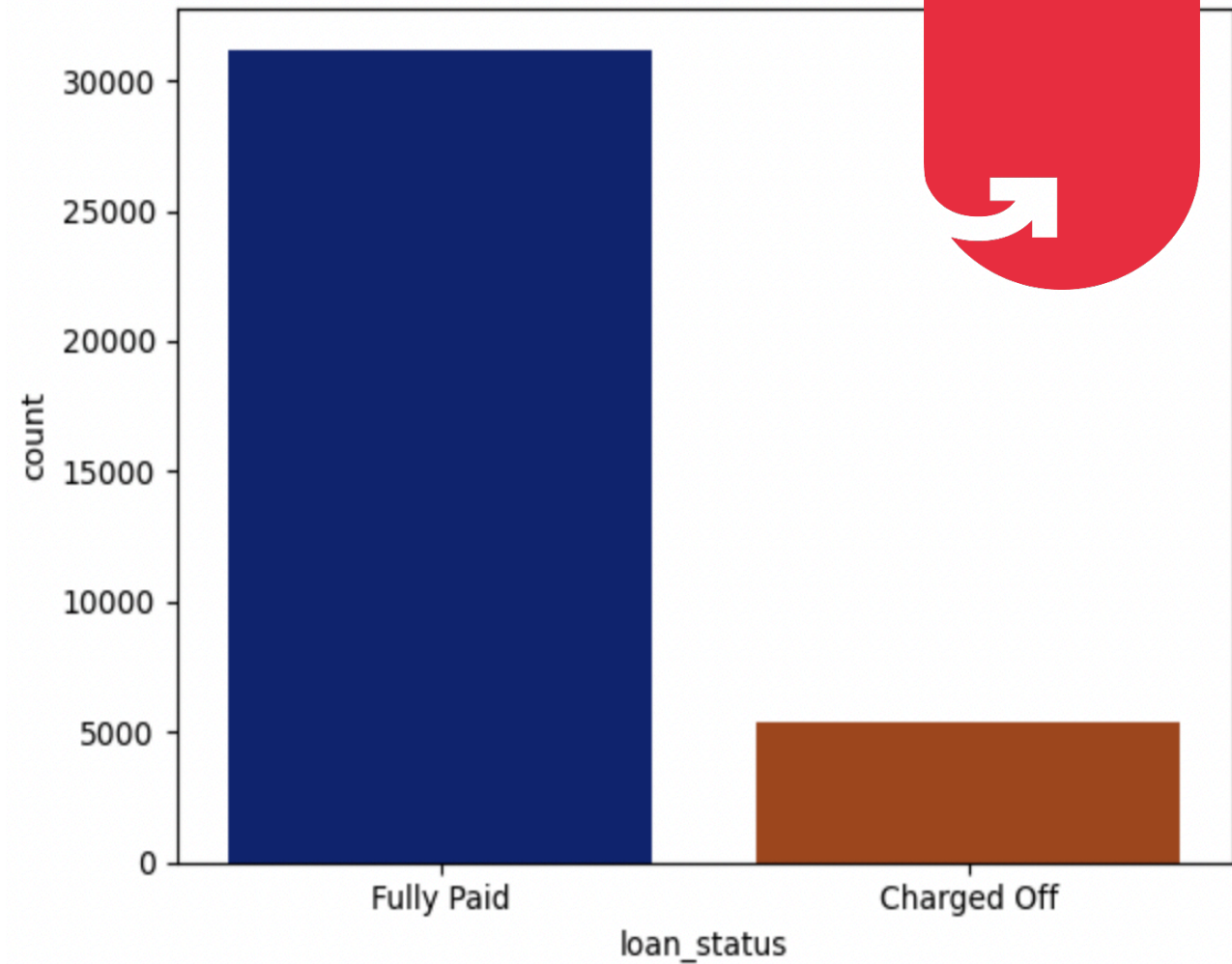
ANNUAL INCOME

- Annual income of customers who applied for loan varies from Rs. 40,000 – 80,000 /-.
- The applied loan amount is in between Rs. 5000 – 15000/-.
- The provided loan amount will be Rs. 5000-15000/-.
- So, the amount to provide can be decided and loan can be approved.



Defaulters and paid

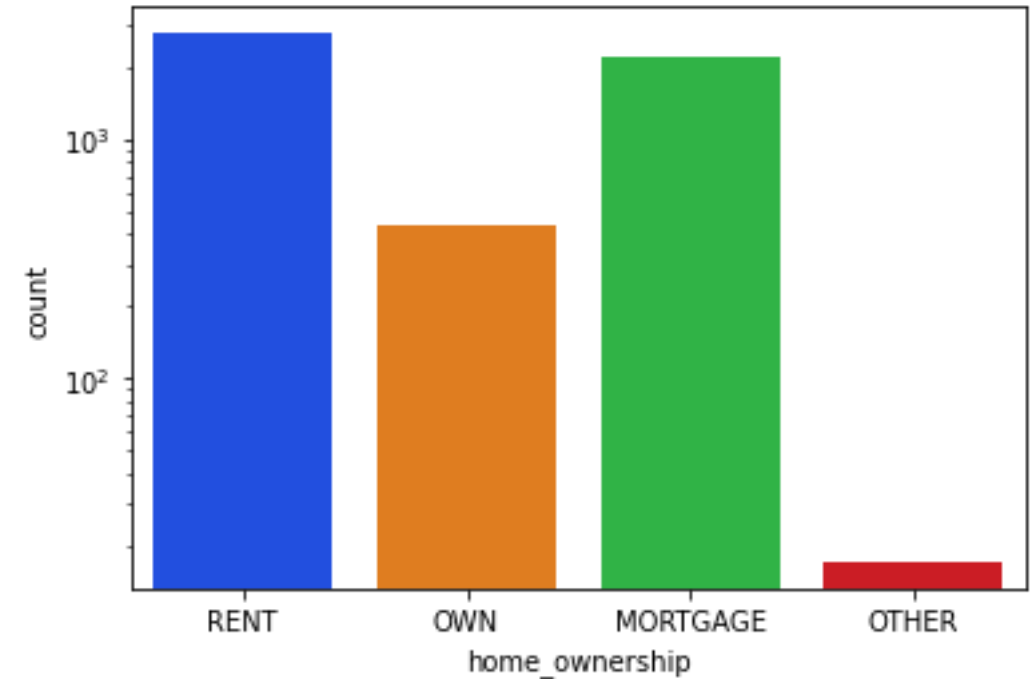
- As per the data, 30,000 people paid the money back in time .
- 5000 people didn't pay the loan back.



CUSTOMERS WITH OWNHOUSE

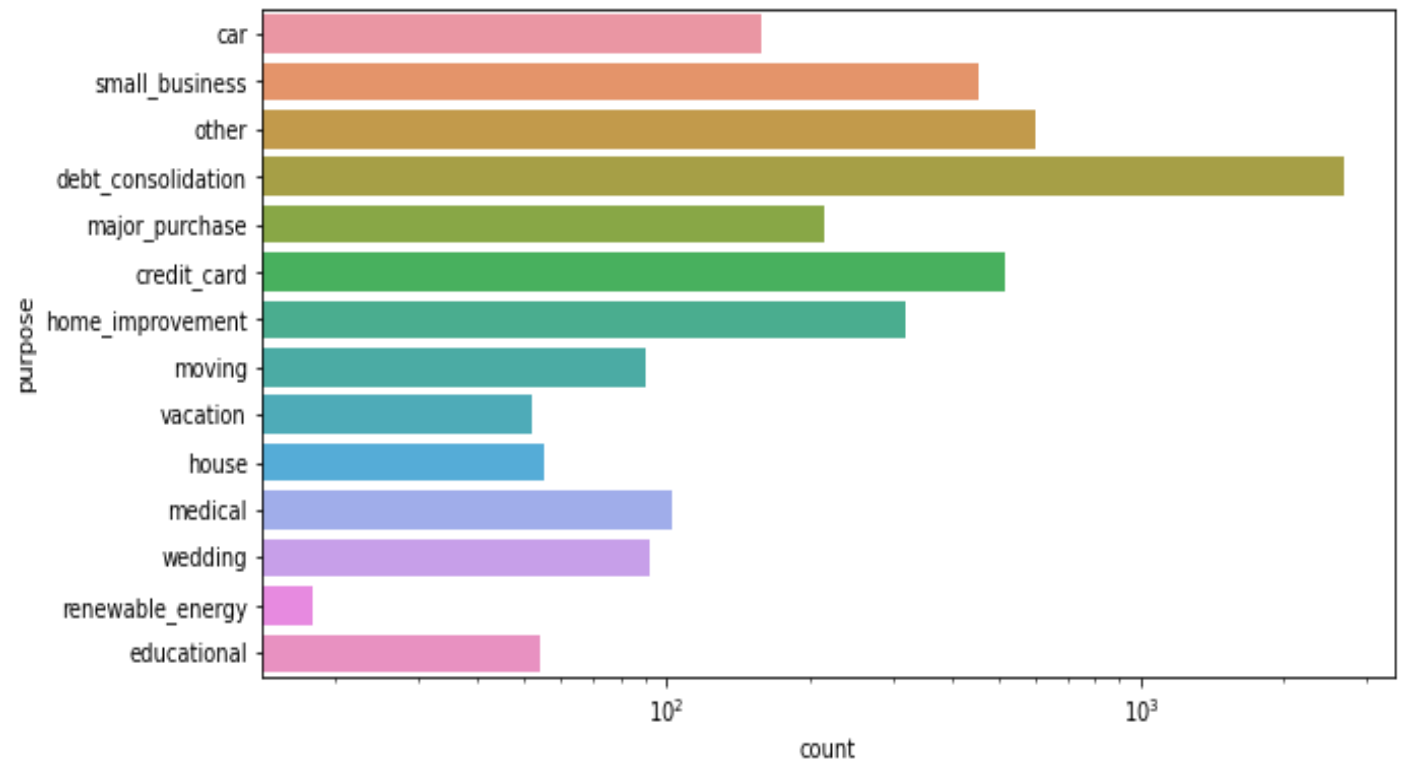


- Customer home ownership details to verify the financial statement of the customers. So that it will help to understand whether customer will default the loan or not.
- The provided data is analyzed and chart has been created to understand the dataset.

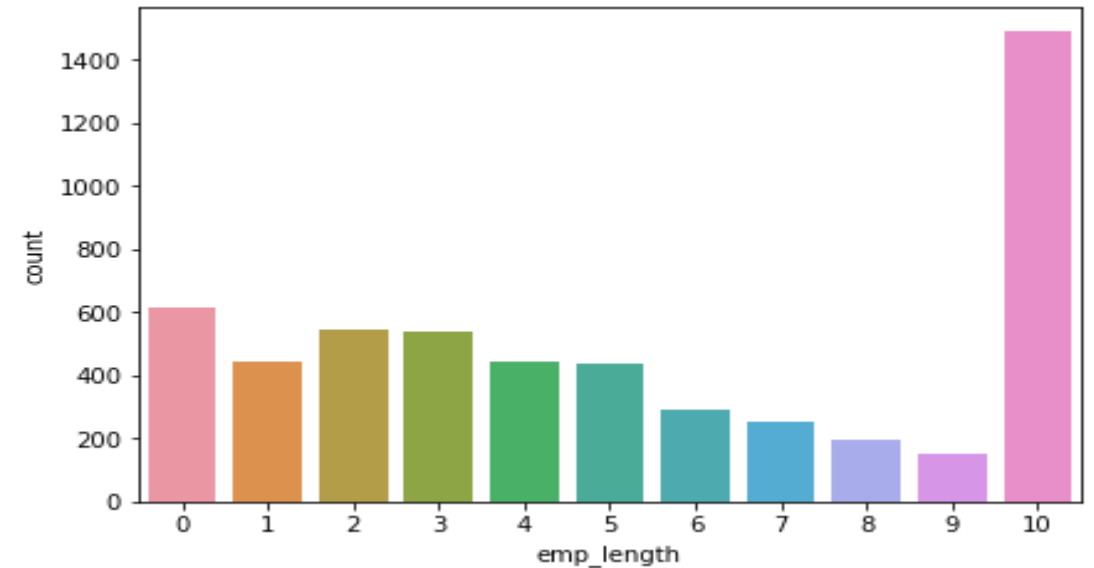
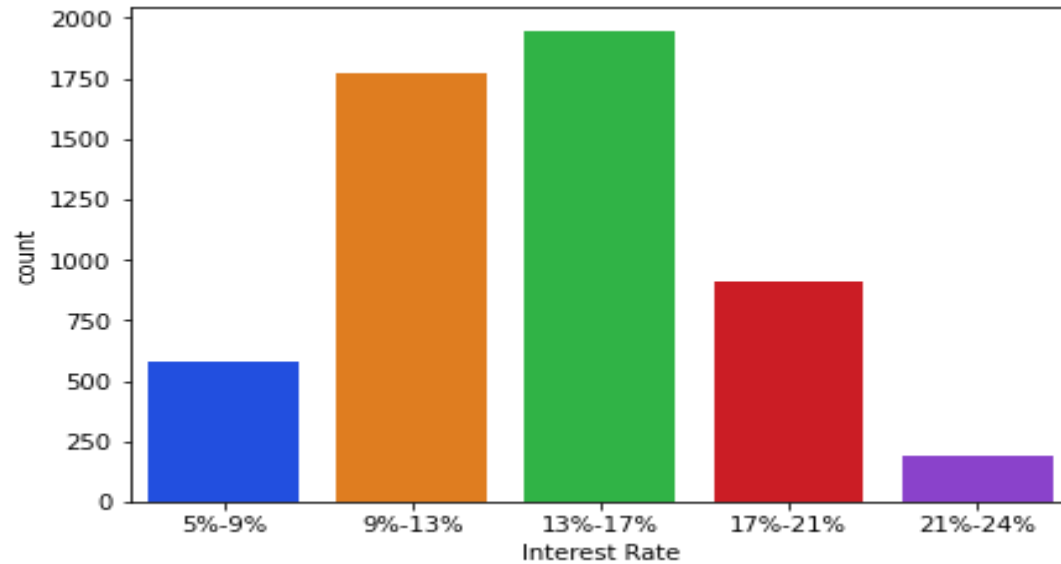


PURPOSE OF LOAN

- The reason for applying loan should be taken into note so that the value of loan amount can be defined.
- Loan application should be a valid reason, with customer capability to repay the fund.



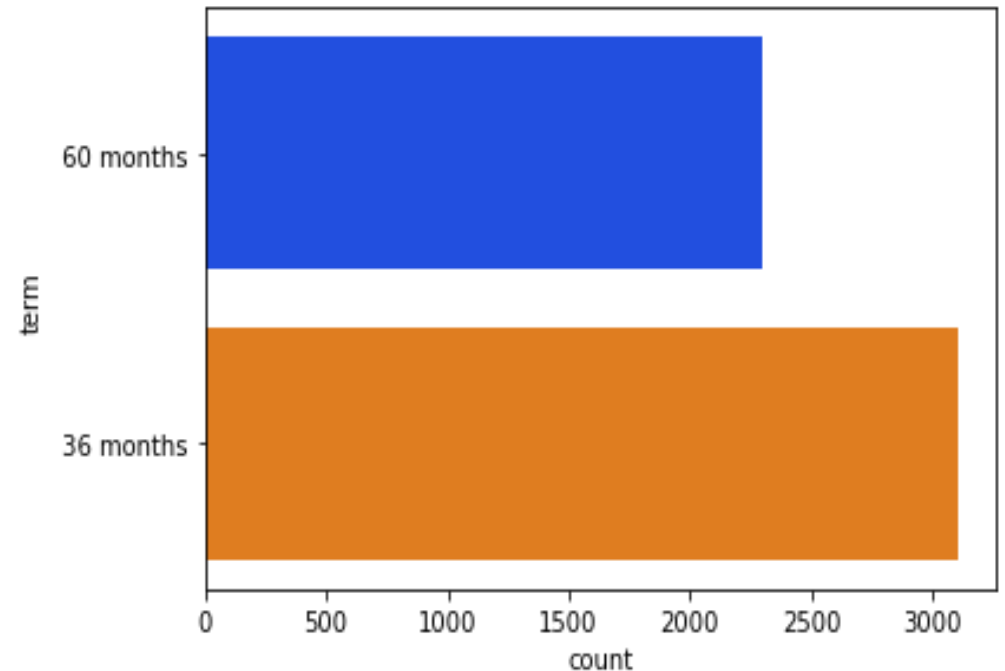
INTEREST RATE



- The interest rate will vary according to loan duration and amount funded.

LOAN DURATION

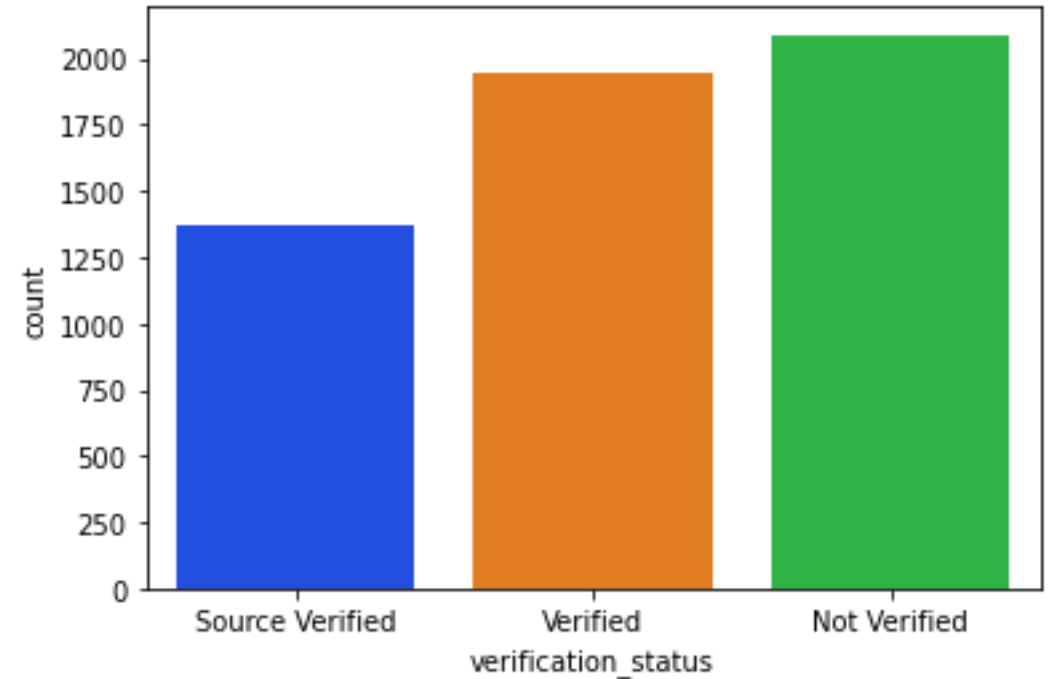
- Loan duration of customer play a important role.
- Loan duration for large amount of money will help the customer to be comfortable within the range.
- EMI should not be a burden is what customer expects .



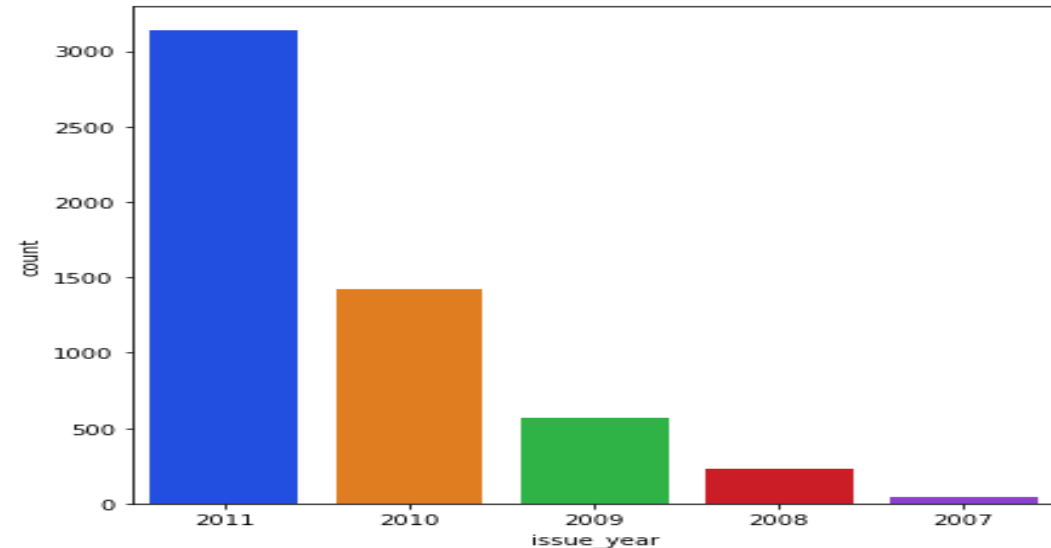
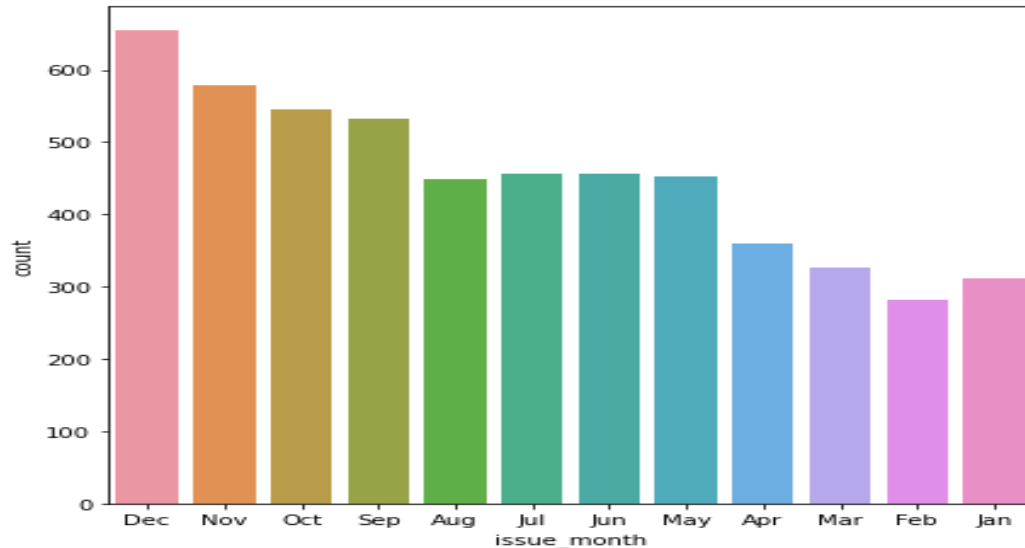
DATA VERIFICATION



- Customer data verification plays a much more important role.
- As wrong data may end up in defaulting customers.
- The chart provides verified and non-verified data plot.



LOAN ISSUED MONTH AND YEAR

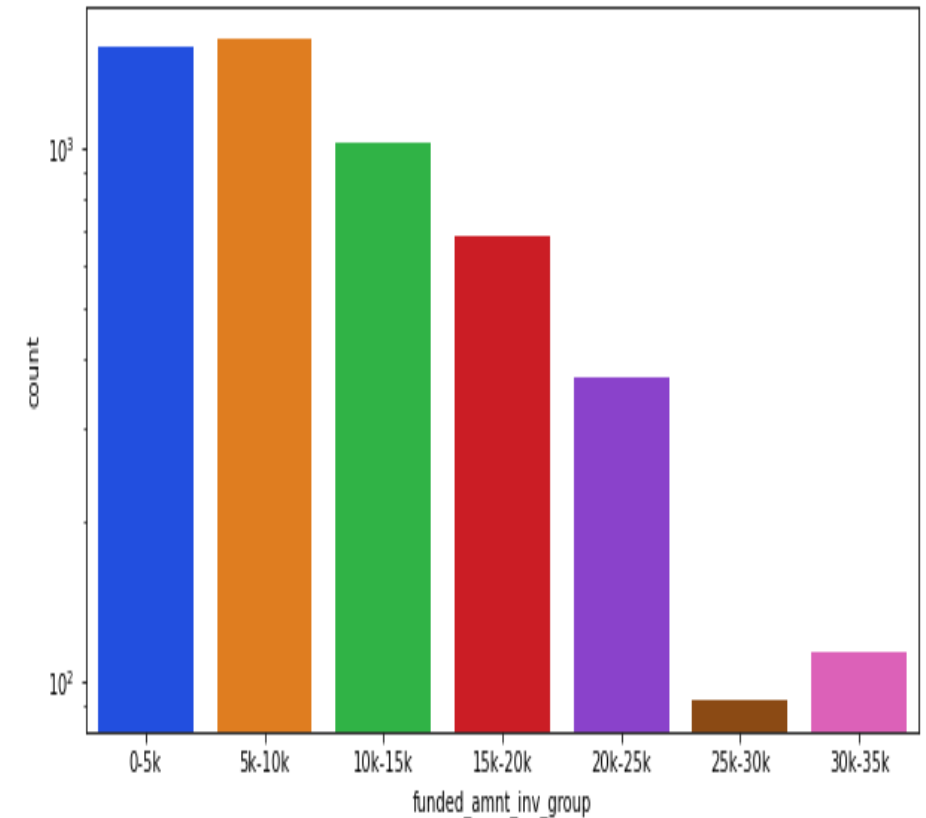


- The first plot describes about number of loan issued in each month.
- The second plot describes about number of loan issued in each year.

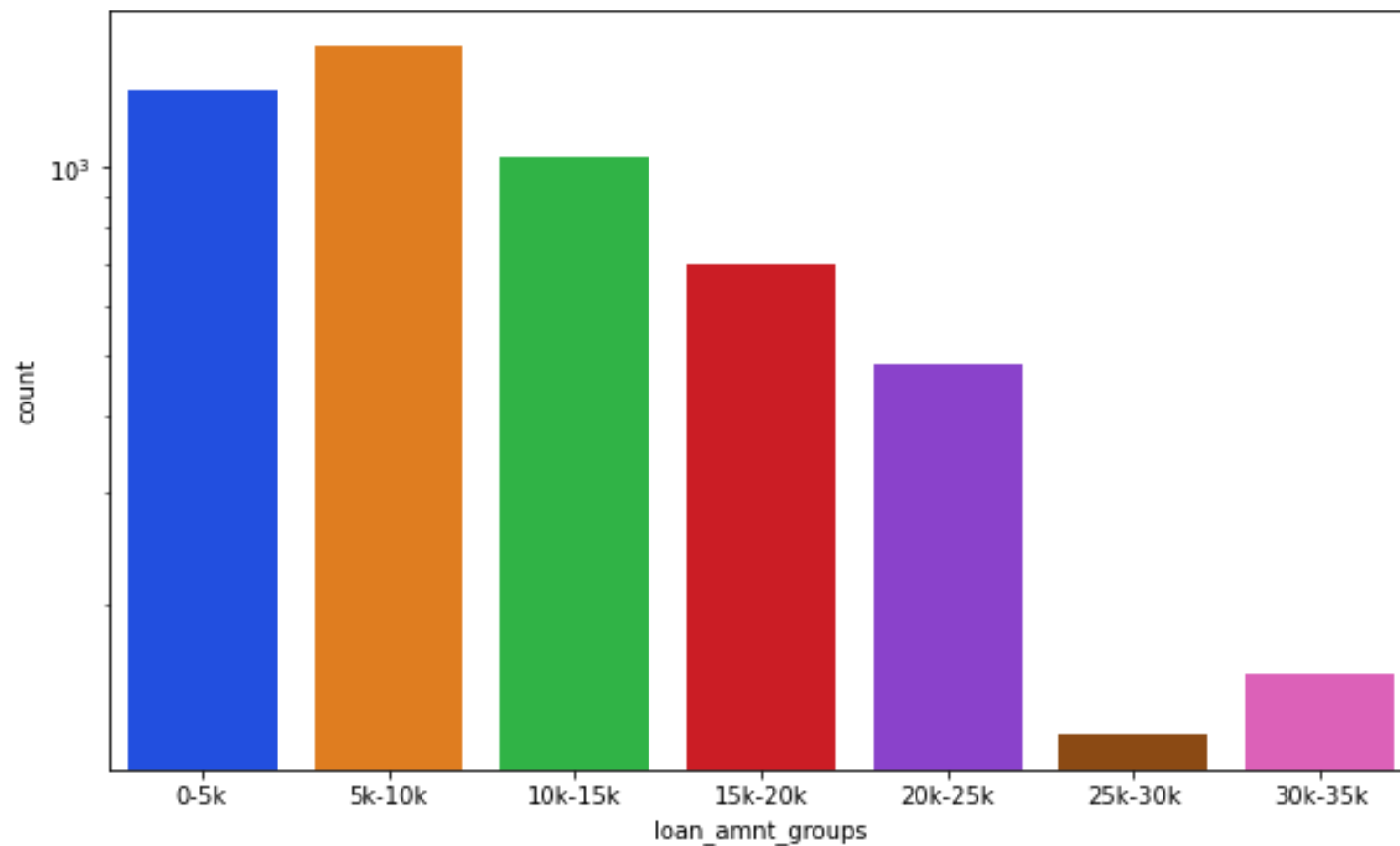
INVESTMENT BY LENDING CLUB



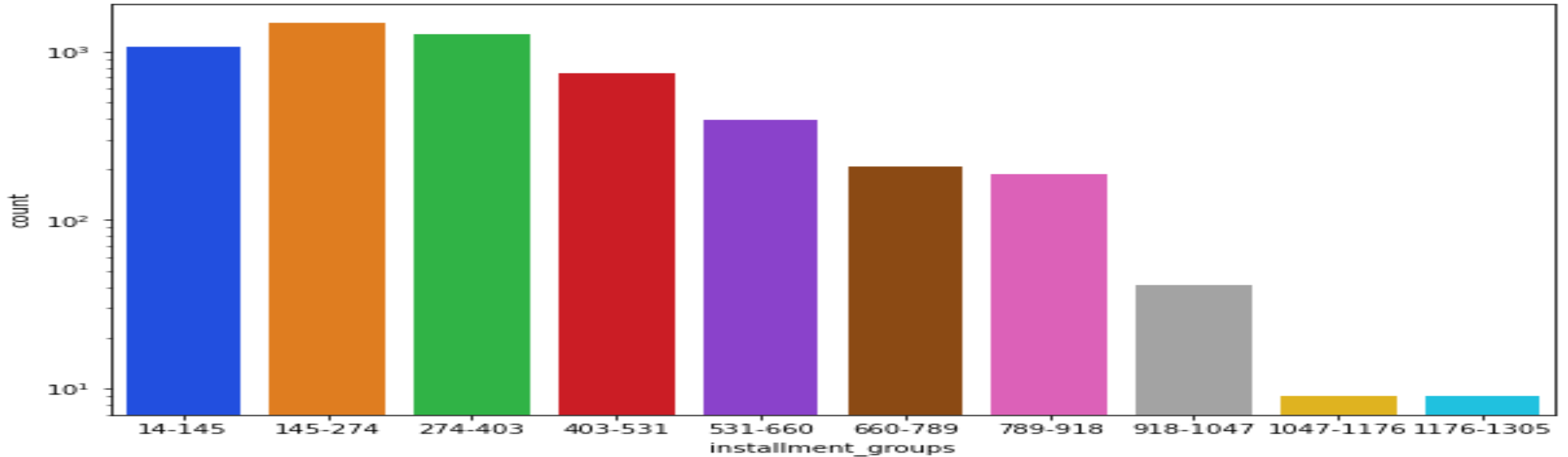
- Range of amount invested by the lending club for a range of customers
- The plot color explains clearly about range of customers coming under each category.



LOAN AMOUNT UNDER CATEGORY



INSTALLMENT GROUPS

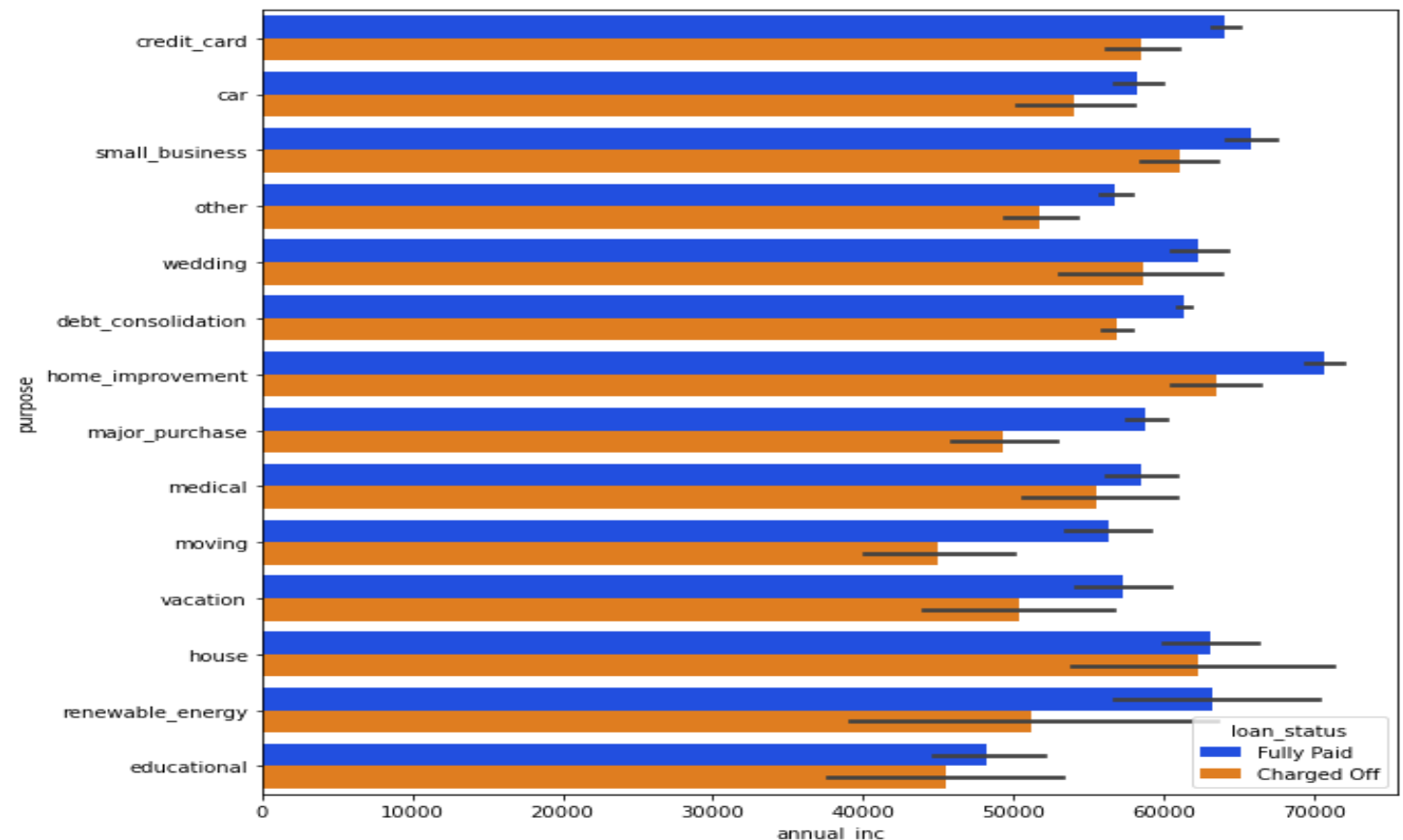


- Category of customers coming under different monthly payment.

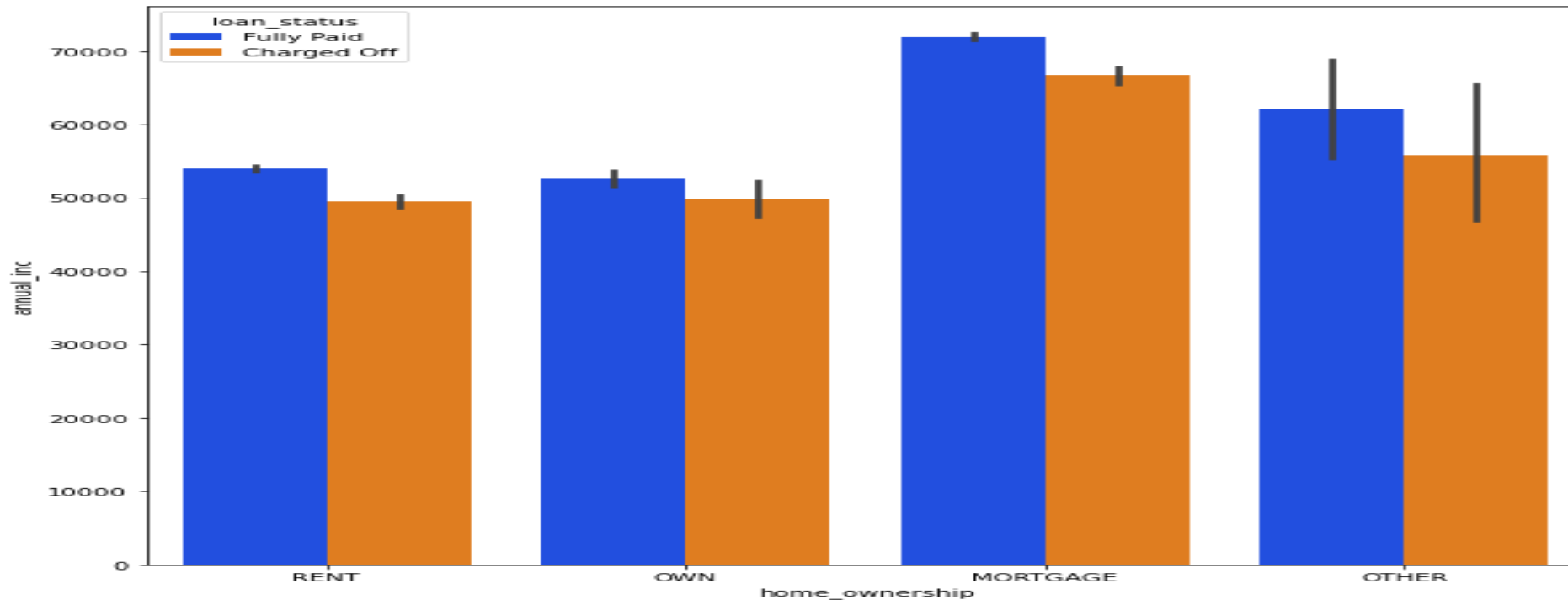
CUSTOMER INCOME VS LOAN PURPOSE



- Comparison of customer income to the purpose of loan will more likely help to find whether the customer will pay or default the loan.



HOME OWNERSHIP & ANNUAL INCOME



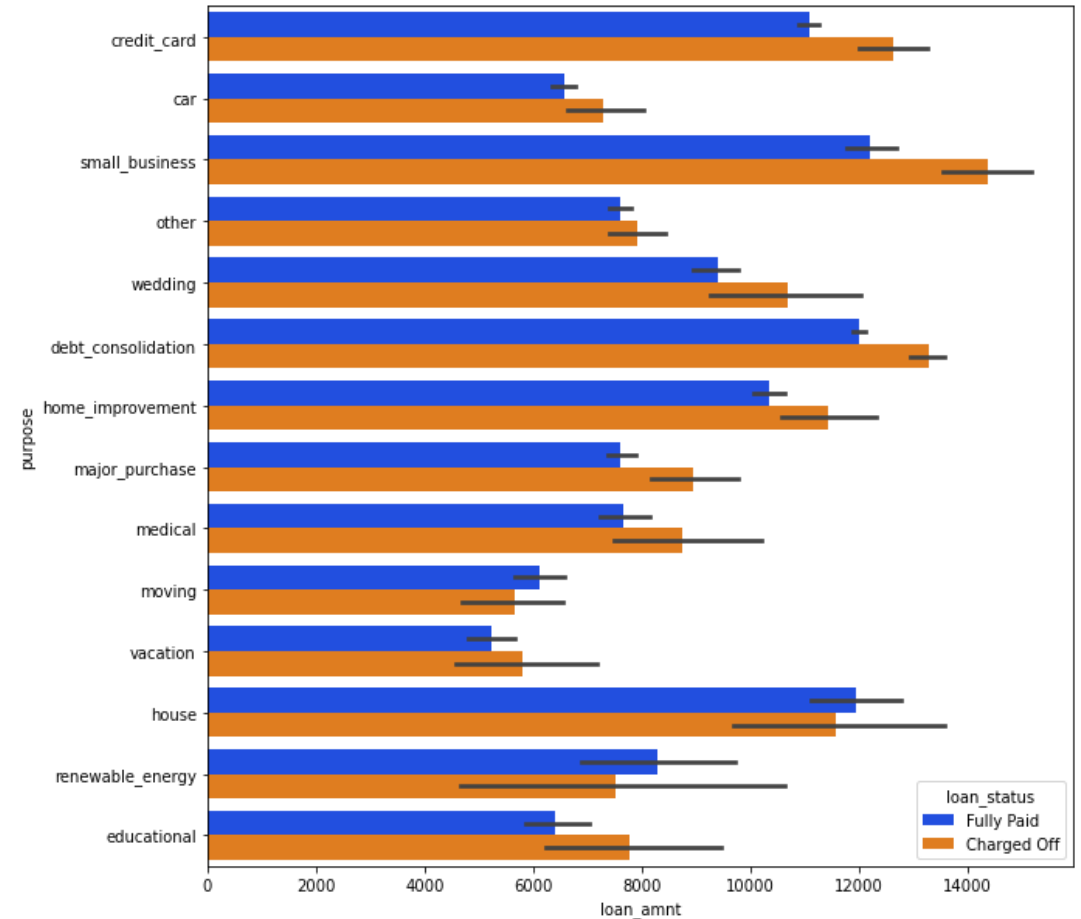
- Comparison of Annual income of customer with the mode of residence . This is to identify how much customer will be able to pay or identify chances of loan defaulting.

PAID & CHARGED OFF – LOAN PURPOSE



Fully paid and charged off data from purpose of loan category has been charted down.

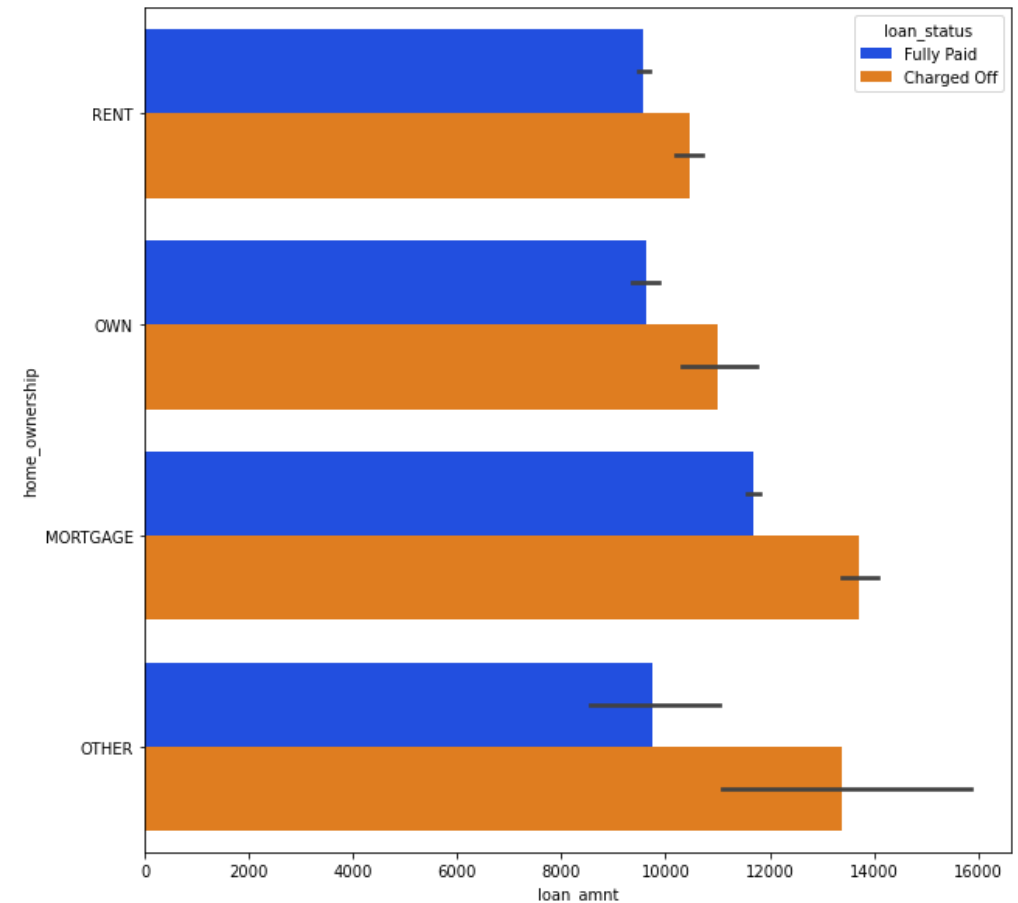
This will help to predict ideal customer profile from defaulting the loan



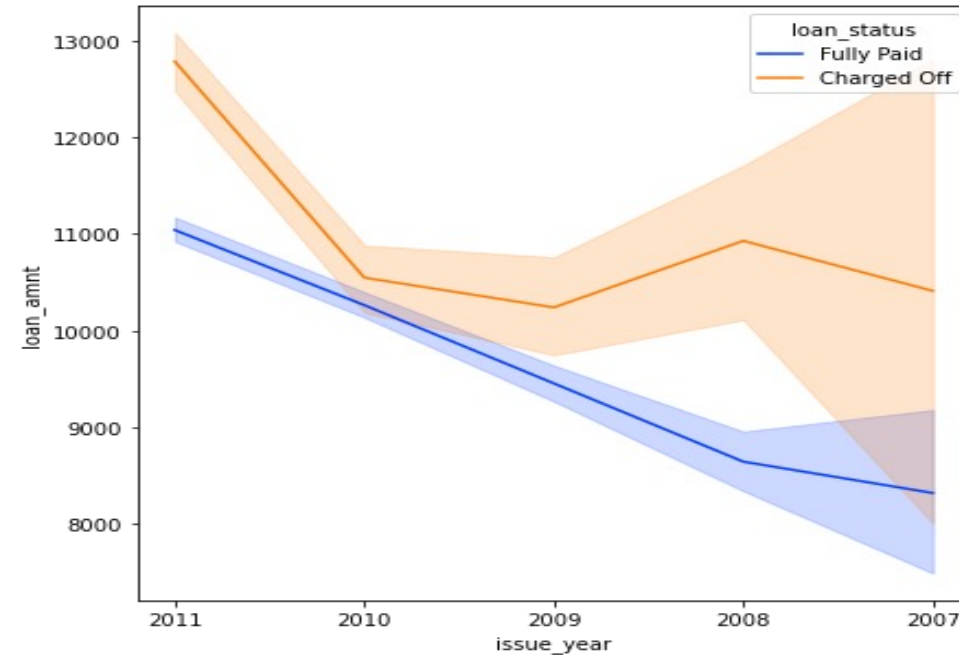
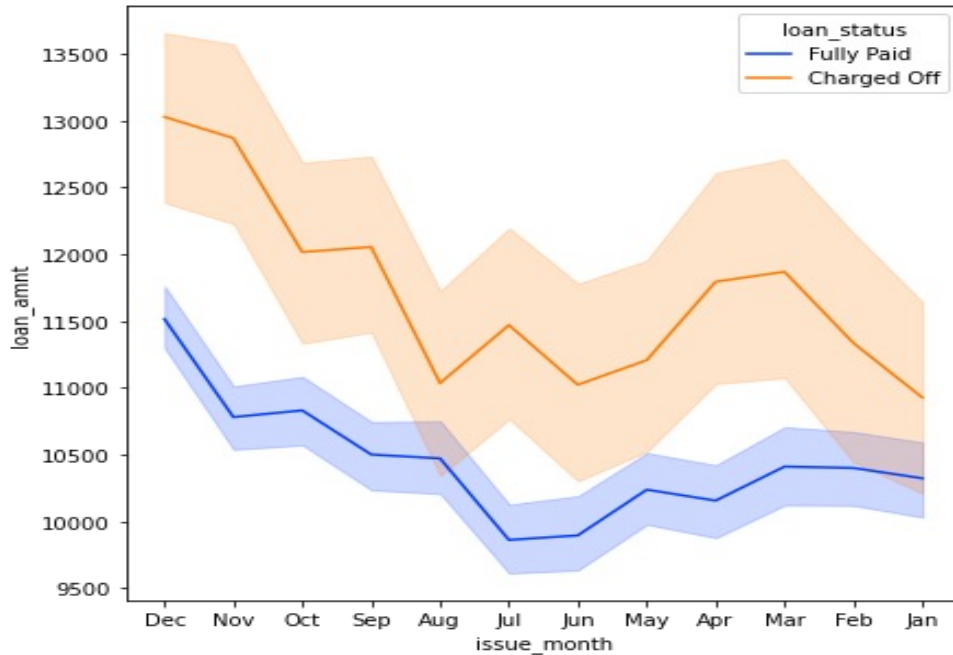
PAID & CHARGED OFF—HOUSE OWNERSHIP



- House ownership data with loan amount.
- Fully paid and charged off data is plotted.
- This will help prevention of such case in future



ISSUED MONTH AND YEAR V/S Loan amnt



- Loan issued month and year data along with loan amount released to customers

FINAL OBSERVATION

- Applicants taking loan for 'home improvement' have income of 60k -70k
- Applicants whose home ownership is 'MORTGAGE' have income of 60-70k
- Applicants who receive interest at the rate of 21-24% have an income of 70k-80k
- Applicants who have taken a loan in the range 30k - 35k are charged interest rate of 15 -17.5 %
- Applicants who have taken a loan for small business the loan amount is greater than 14k
- Applicants whose home ownership is 'MORTGAGE' have loan of 14-16k
- When grade is F and loan amount is between 15k-20k
- When employment length is 10yrs then loan amount is 12k-14k
- When the loan is verified then loan amount is above 16k
- For grade G the interest rate above 20%





THANK YOU