Lending Club Case Study

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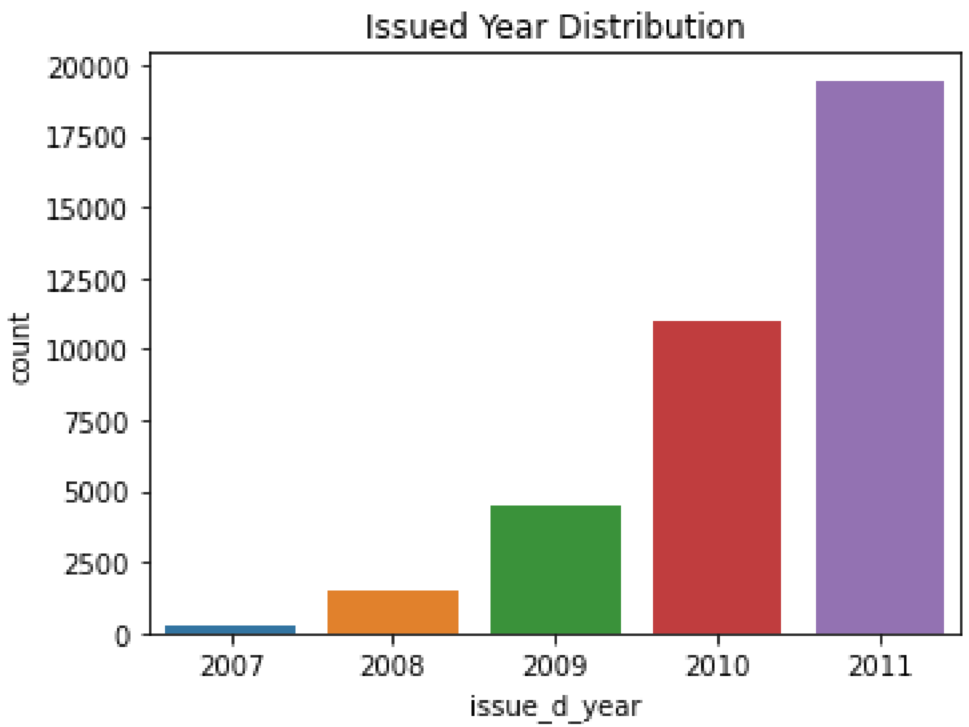
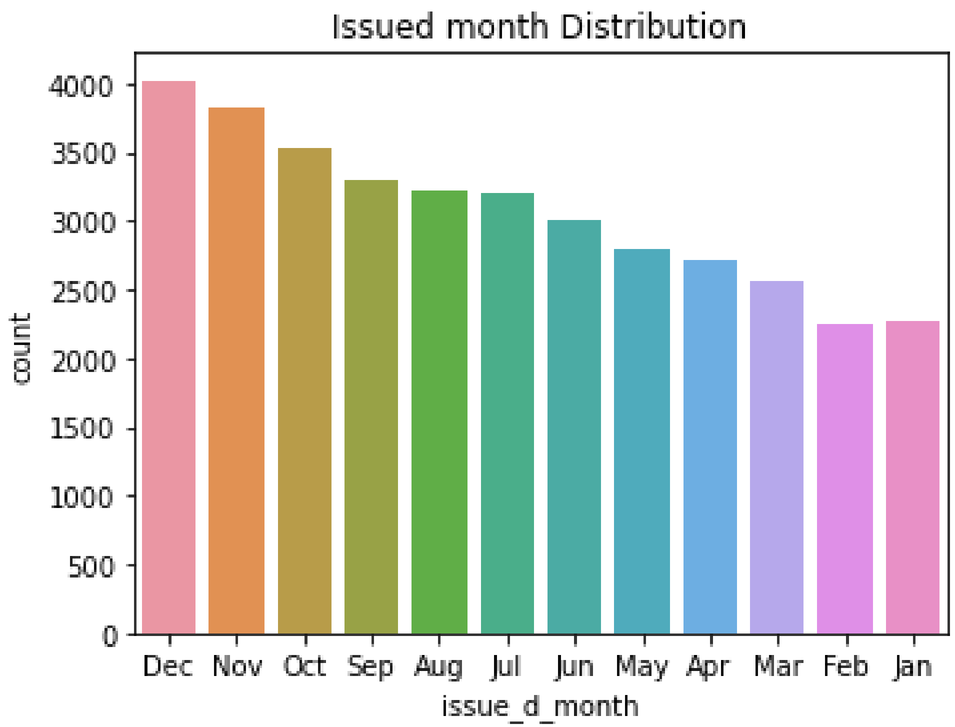
Objective :

- This company 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 company wants to understand the driving factors (or driver variables) behind loan default, i.e. the variables which are strong indicators of default.
- The company can utilize this knowledge for its portfolio and risk assessment.

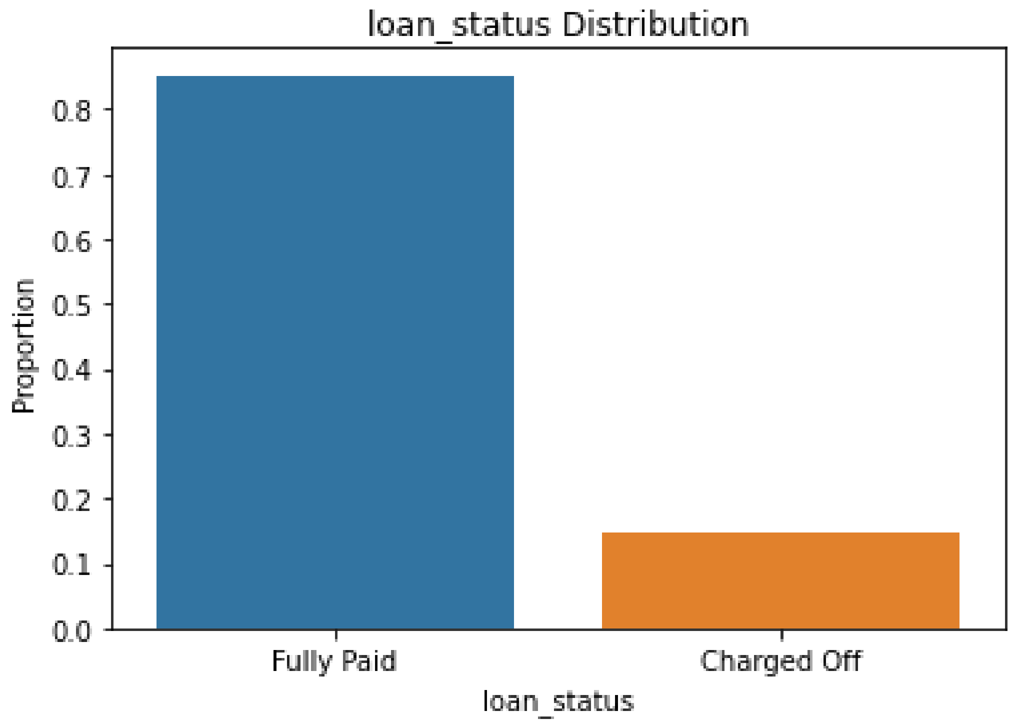
Analysis:

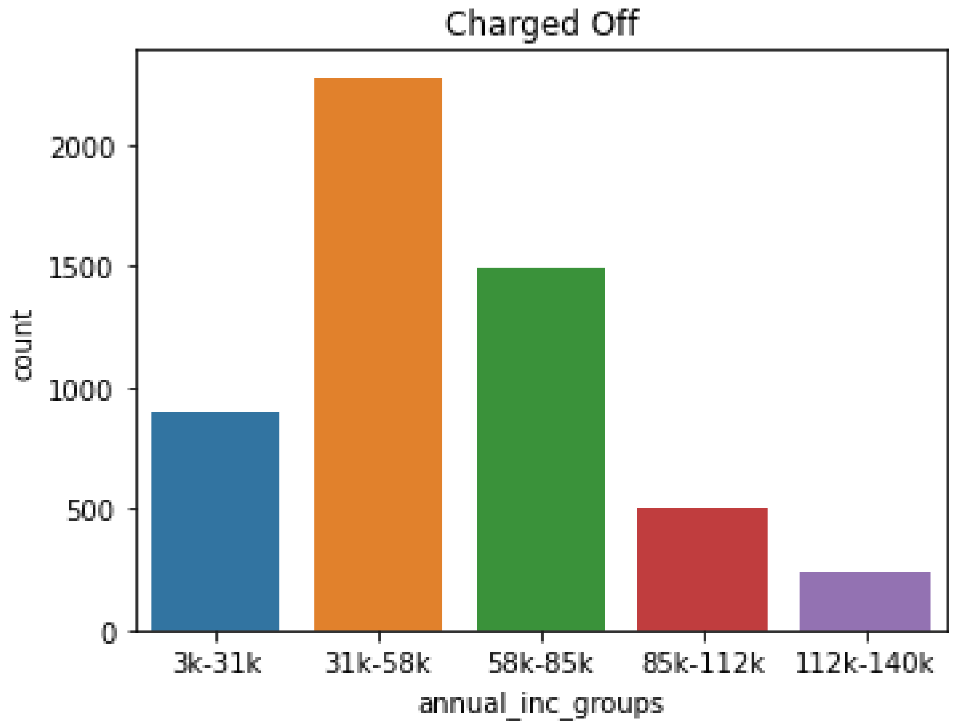




- The Number of loans issued year over year has expanded
- The number of loans issued by month is greater in year end as in December

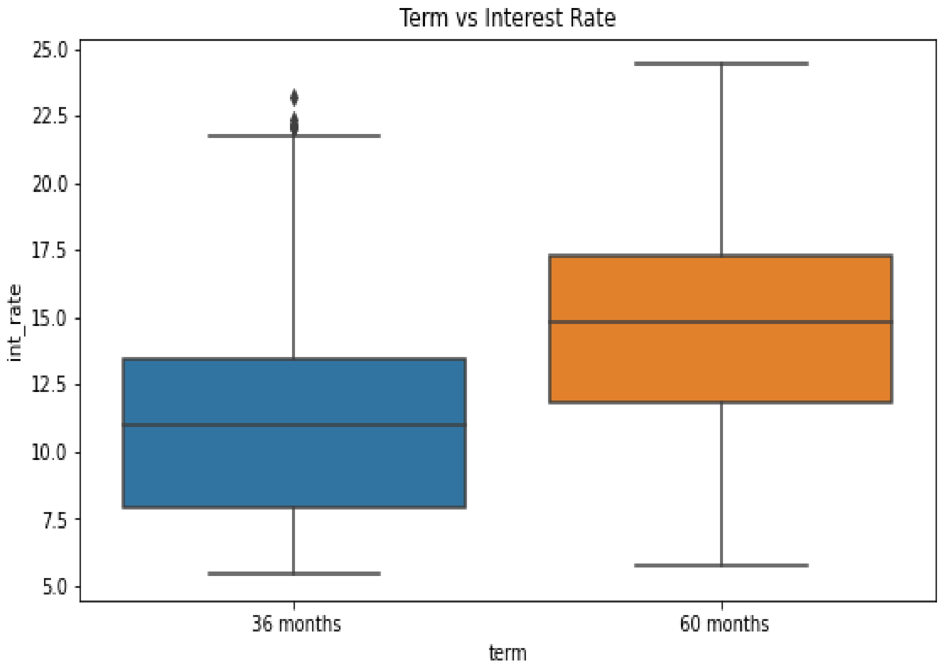
Analysis:

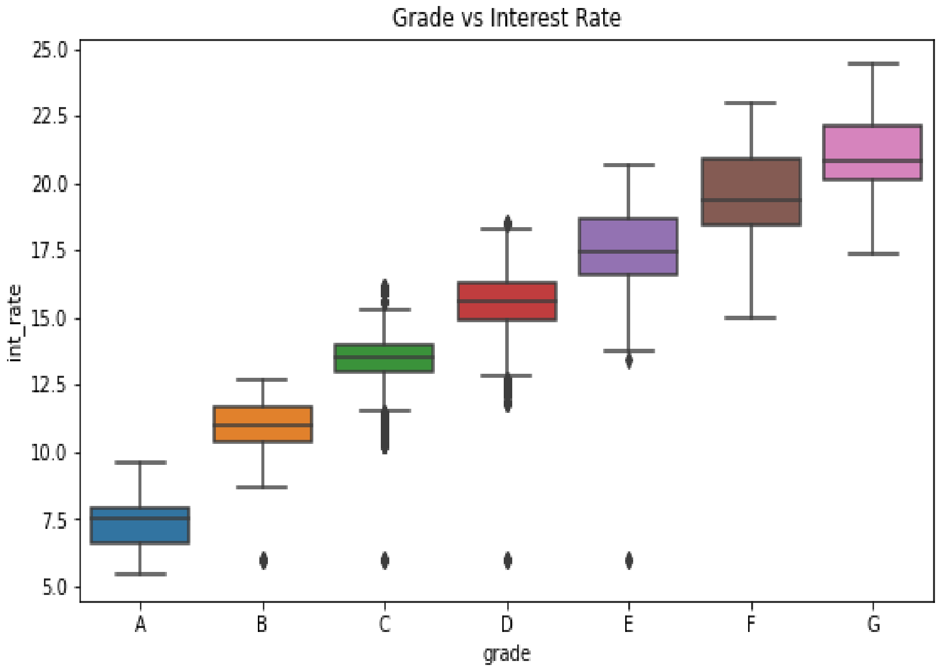




- The Majority of loans around 85% have fully paid the loans
- Around 15% of people have charged off their loans
- Borrowers of Annual income group from 31k-58k have more charged off loans

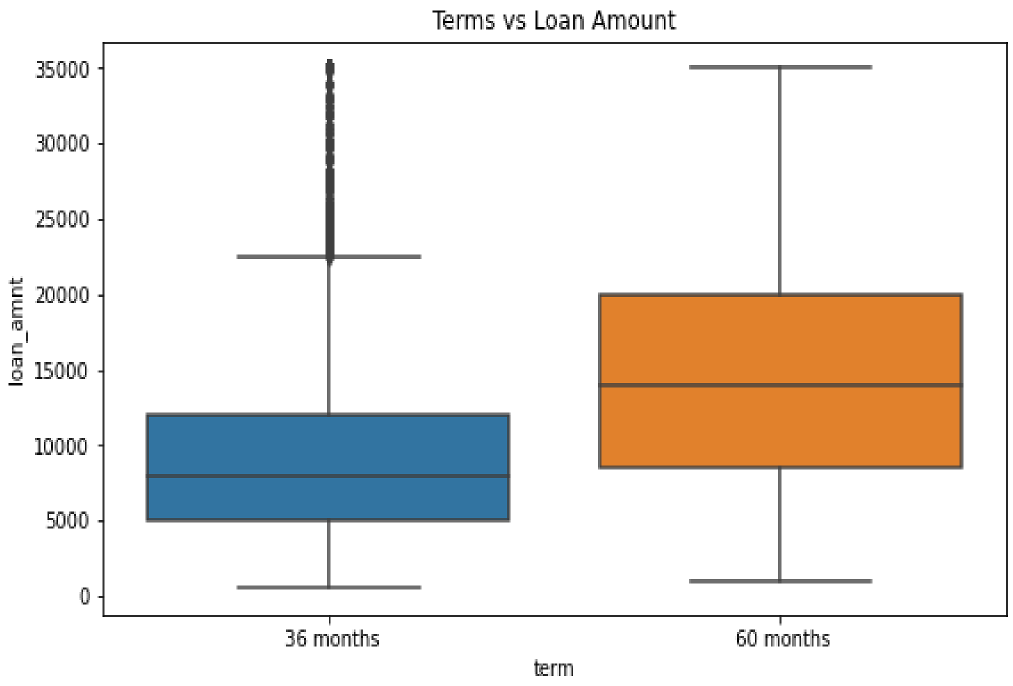
Analysis:

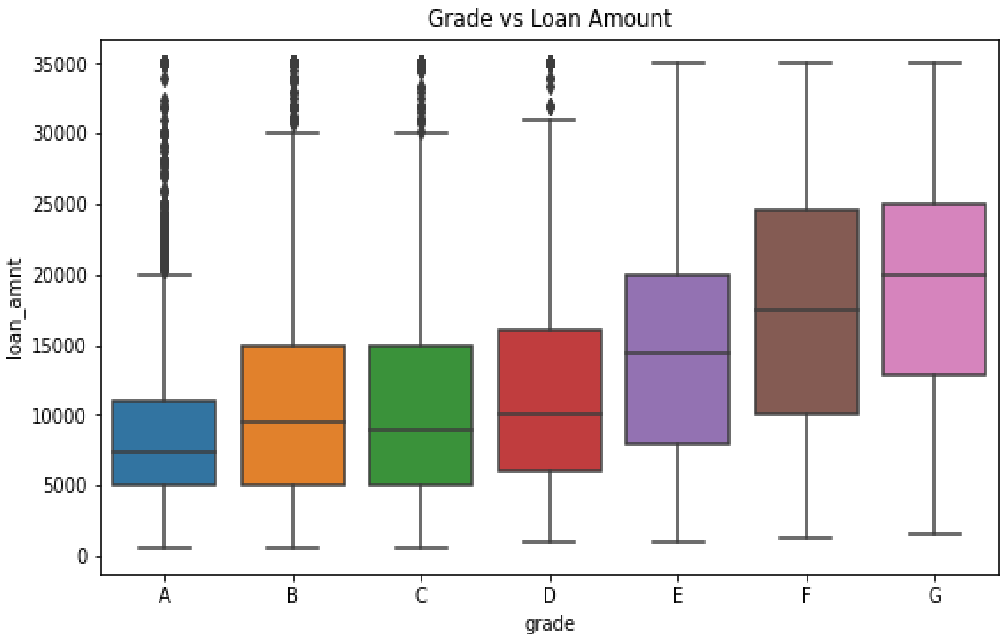




- The interest rates are higher for Higher tenure loans.
- And Also Interest Rates are Higher as Grades are Lowering (A to G).
- Grades are also a good variable gives more insight to customer behavior.
- Higher the tenure more the charged off loans are present

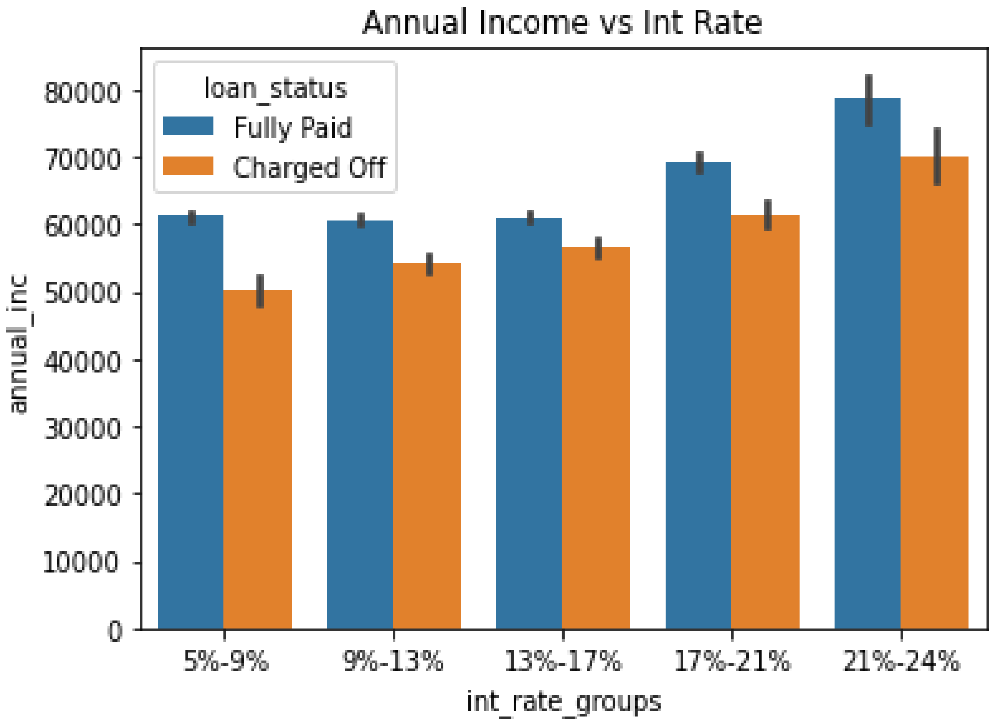
Analysis:

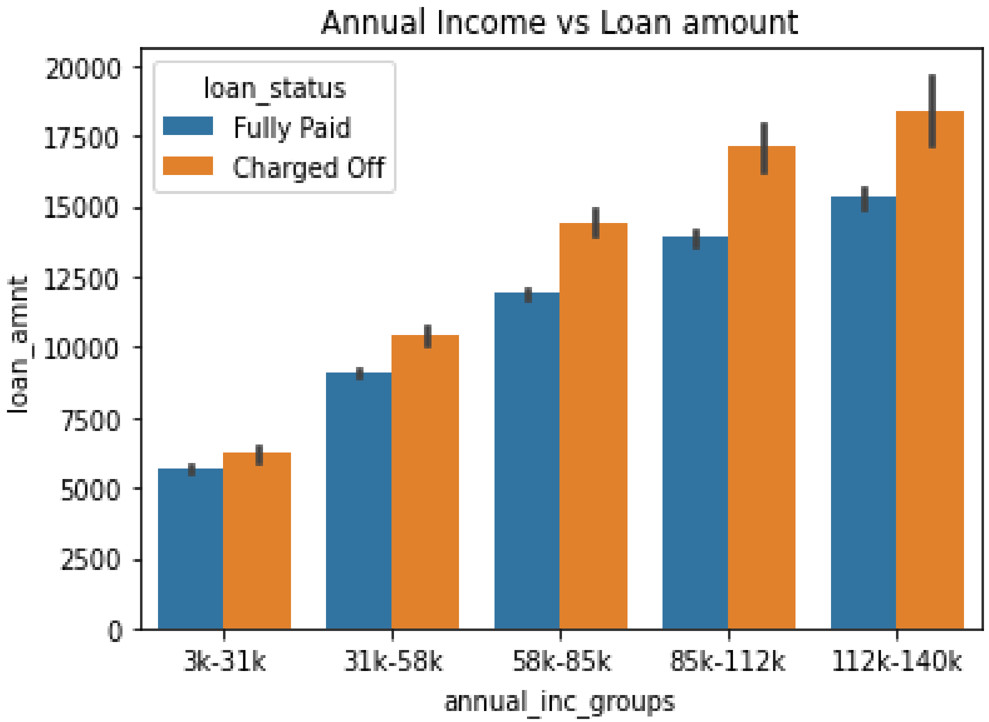




- In the above analysis we observe that higher Loan amounts have 60 months tenure
- In the comparison of grade and loan amount we observe Grade 'G' and 'H' have taken max loan amount.
- As Grades are decreasing the loan amount is increasing.

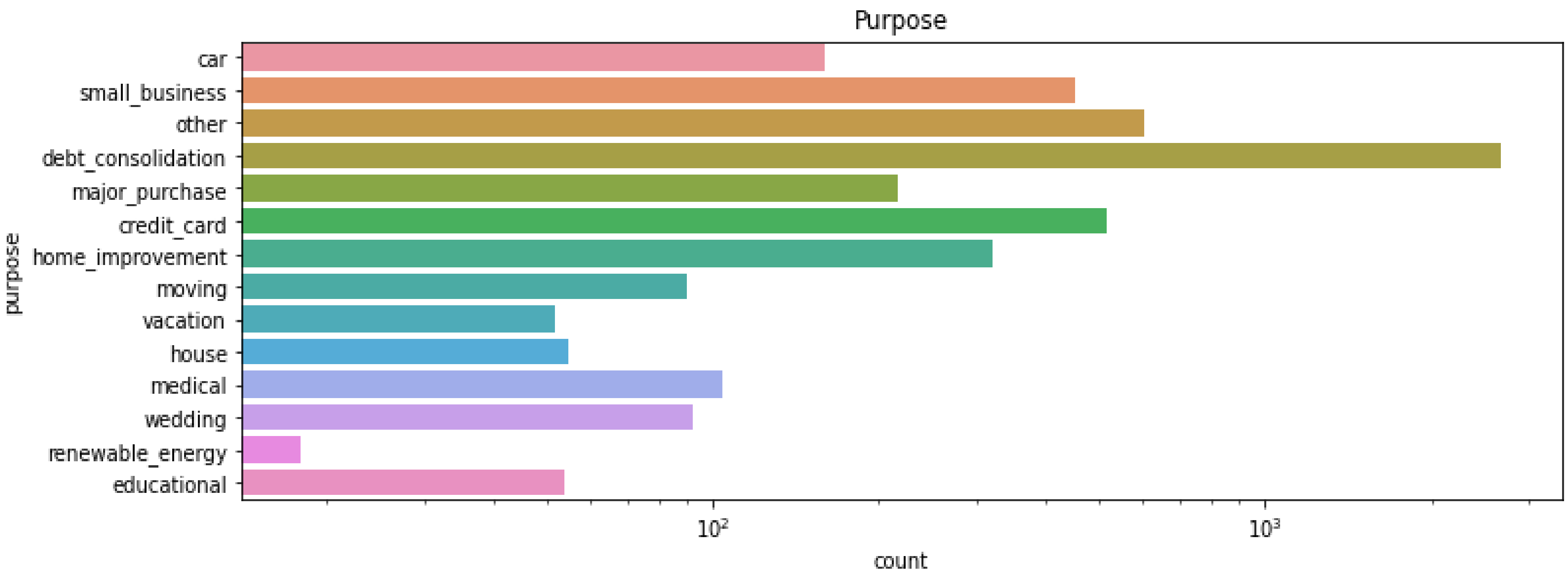
Analysis:





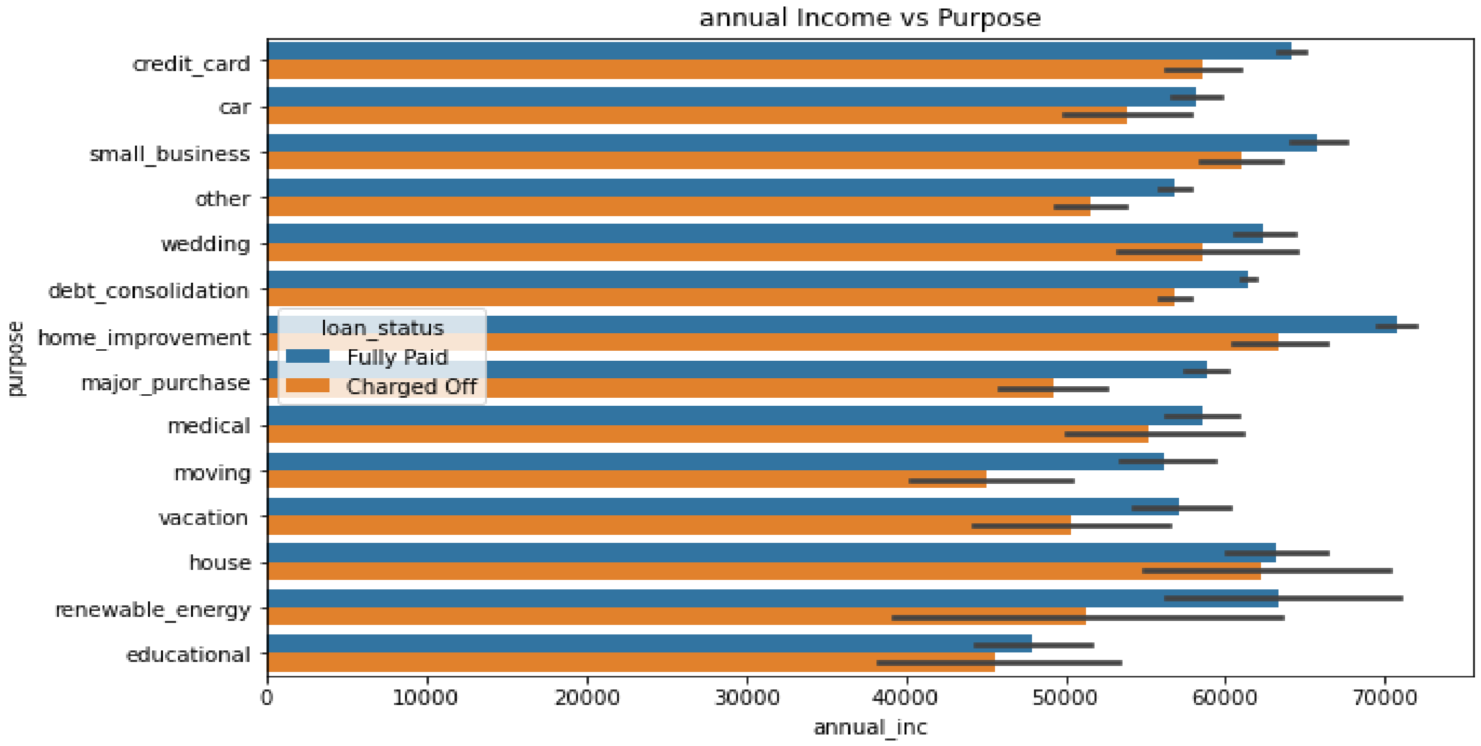
- Charged off loans are more in the interest rate of 21%-24% for annual income around 70 k category
- The Charged Off portion is higher in 112k to 140K annual income category

Analysis:



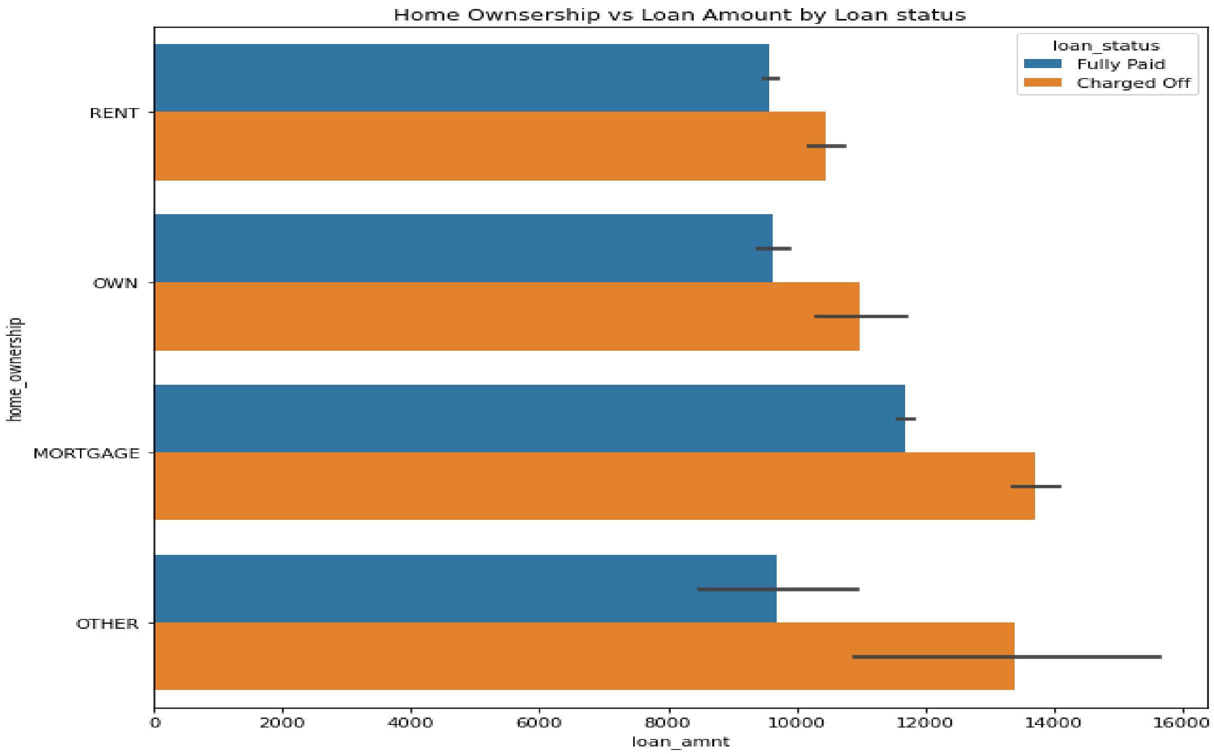
- Among the Charged off Loans, more number of people took loan for debt consolidation, home improvement, small businesses purpose
- Among the charged off loans Very few people have acquired loans took for renewable energy
- Lending club can verify the other factors on the loans issued for these category of purposes

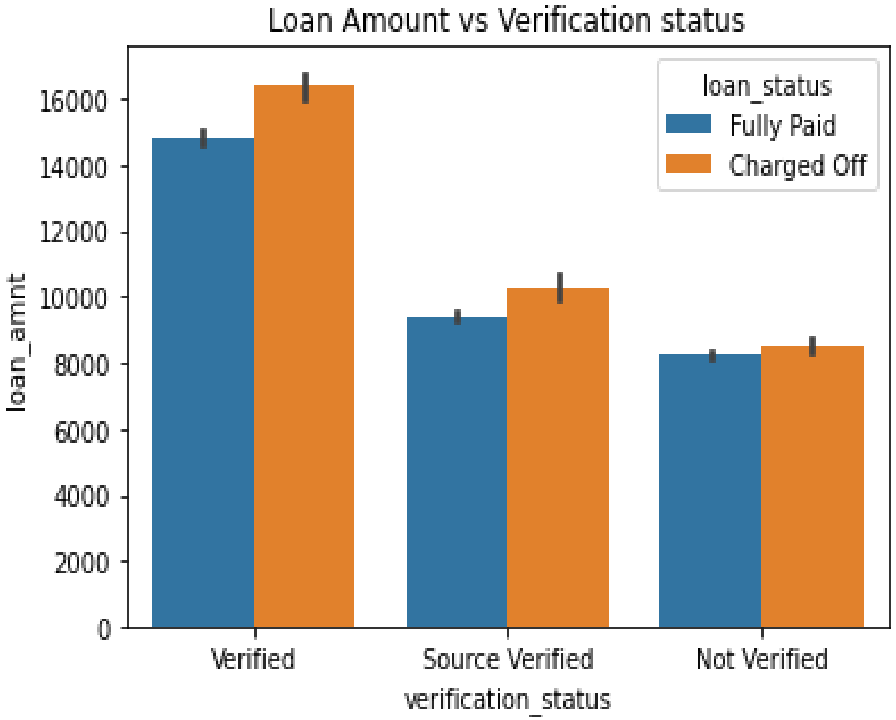
Analysis:



- Applicants with income range of 60k to 65k with purpose of home improvement have defaulted more along with small businesses, house purpose

Analysis:





- Borrowers who lended the loan amount range of 12k to 14k for the Mortgage type of home ownership have defaulted more
- Verified loans are given more loan amounts compared to others. There is a slight increase in loan amount for verified and source verified loan when they are defaulted.

Overall Observations:

With the above analysis with respect to the charged off loans below are few pointers having more probability of defaulting:

- Applicants taking loan for 'home improvement' and have income of 60k -70k
- Applicants whose home ownership as 'MORTGAGE and have income of 60-70k
- Borrowers who receive interest at the rate of 21-24% and have an income of 70k-80k
- Borrowers who have taken a loan in the range 30k - 35k and are charged interest rate of 15-17.5%
- Applicants who have taken a loan for small business and the loan amount is greater than 14k
- When grade is F & G and loan amount is between 20k-25k
- When the loan is verified and loan amount is above 16k
- For grade G and interest rate above 20%

Recommendations based on observations:

- Reducing the high interest rate loans for 60 months tenure can add value as they are prone to loan default.
- Grades are good metric for detecting defaulters. Examining more information from borrowers before issuing loans to Lower grades.
- Borrowers with mortgage home ownership are taking higher loans which are defaulting the approved loans. lending club should stop giving loans to this category having loan amount more than 12000.
- People with more number of public derogatory records have more chances of filing bankruptcy. Better to make sure there no public derogatory records for borrowers.
- Higher interest rate loans should be verified with other factors such as Grade, DTI, annual income, tenure and purpose in order to avoid defaulting applicants.