

Lending Club Case Study

Group Members:

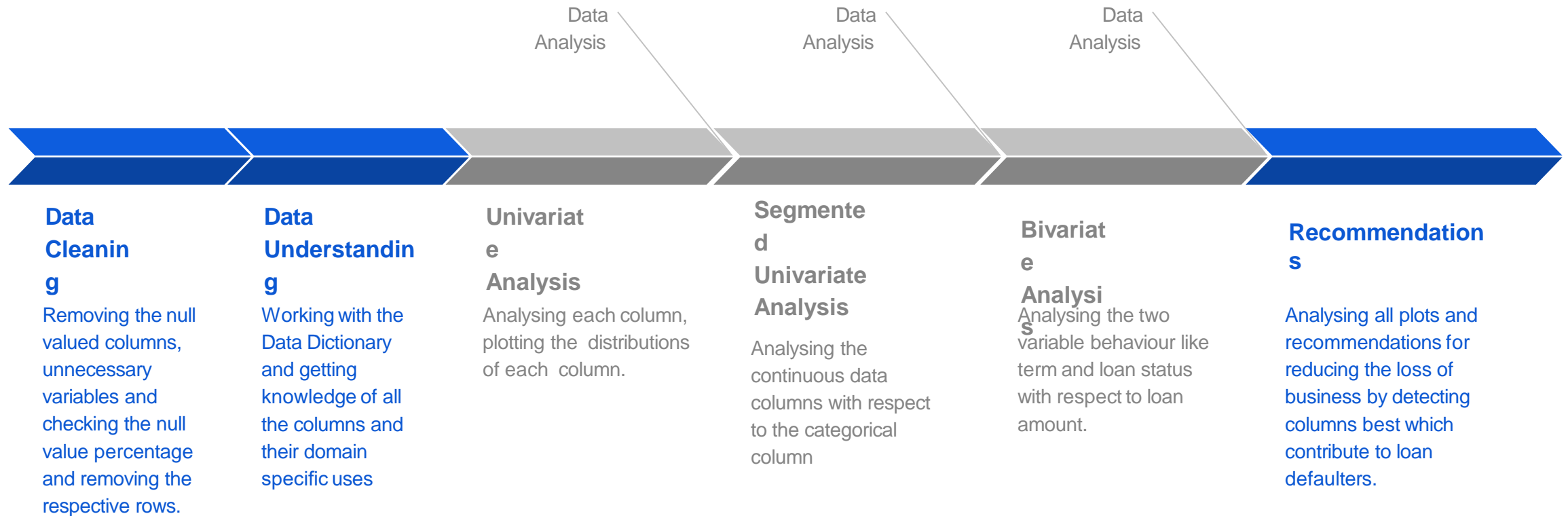
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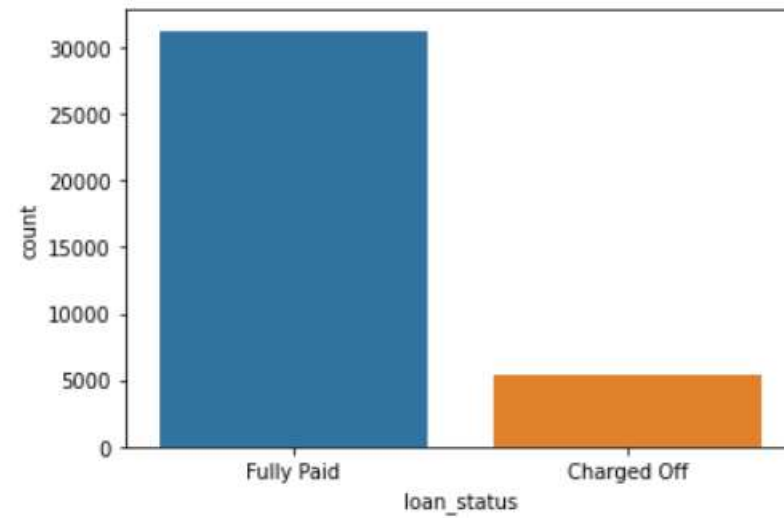
Abstract

- 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

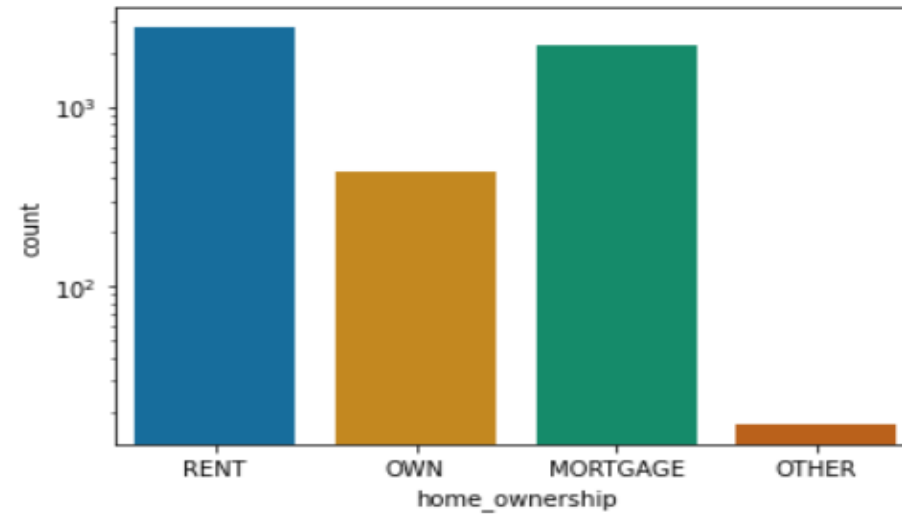


Analysis



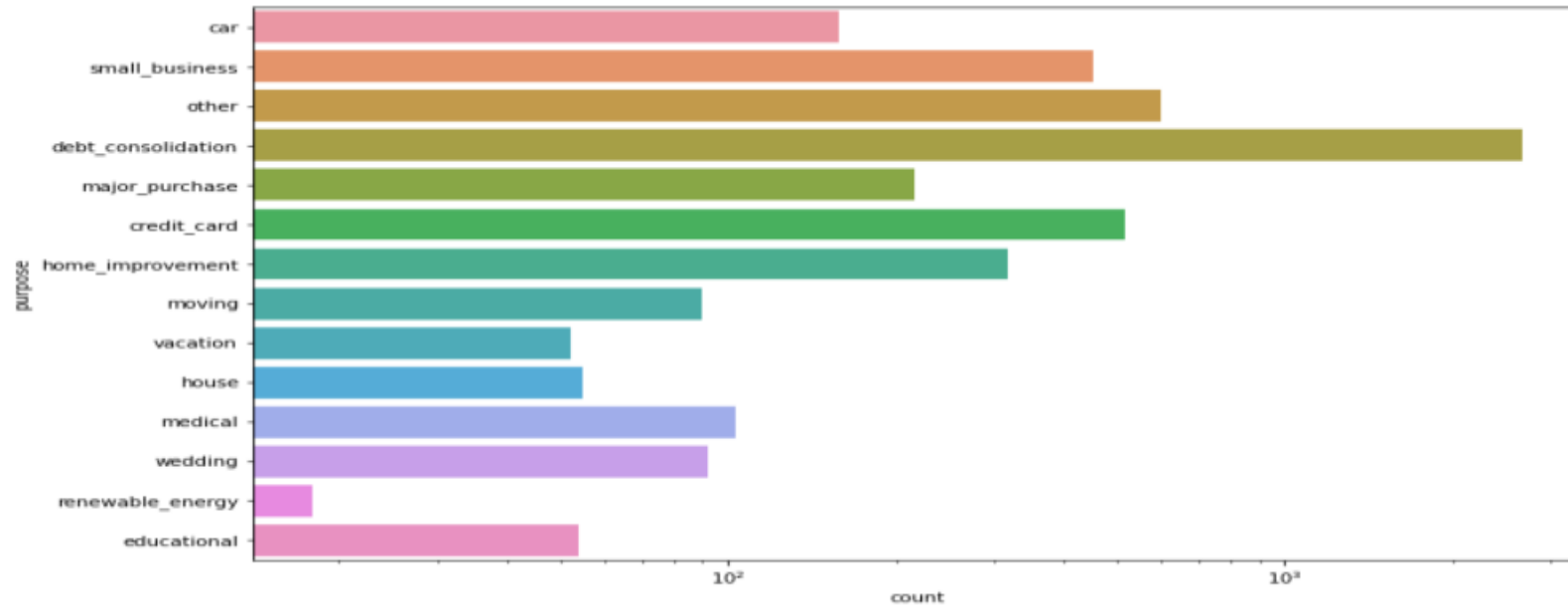
- We are analyzing and visualizing only the defaulter data. So subsetting the data while plotting only for 'Charged Off' loan_status for below plots.

Analysis



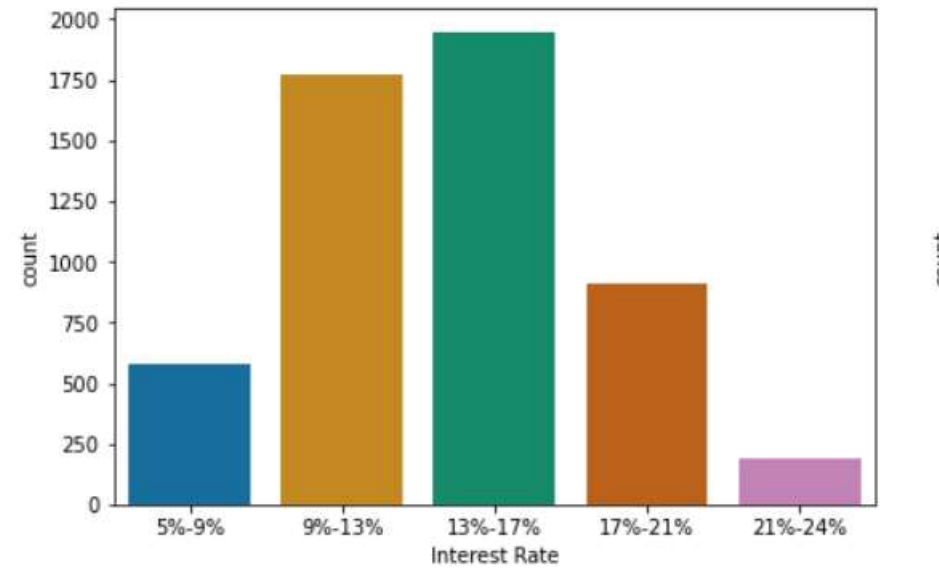
- Below plot shows that most of them living in rented home or mortgaged there home.

Analysis



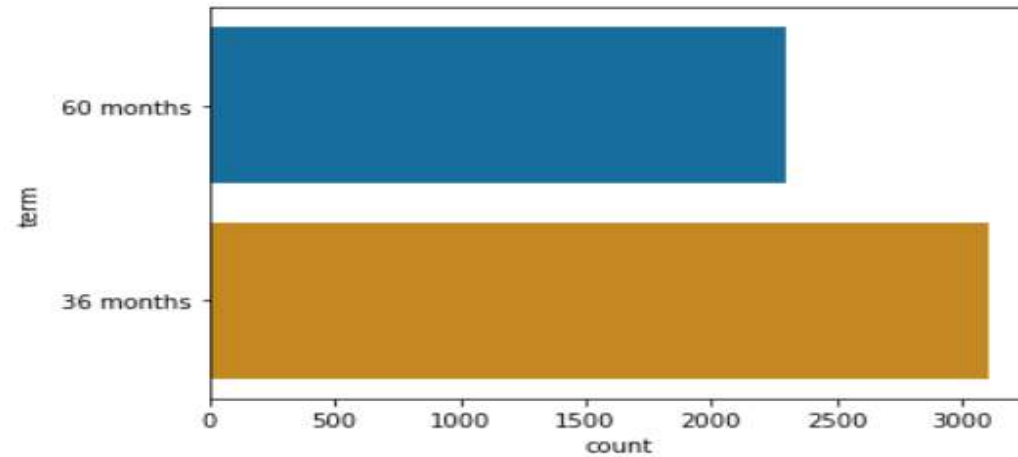
- Below plot shows most of the loans were taken for the purpose of dept_consolidation and paying credit card bill.
- Number of charged of count also high too for these number.

Analysis



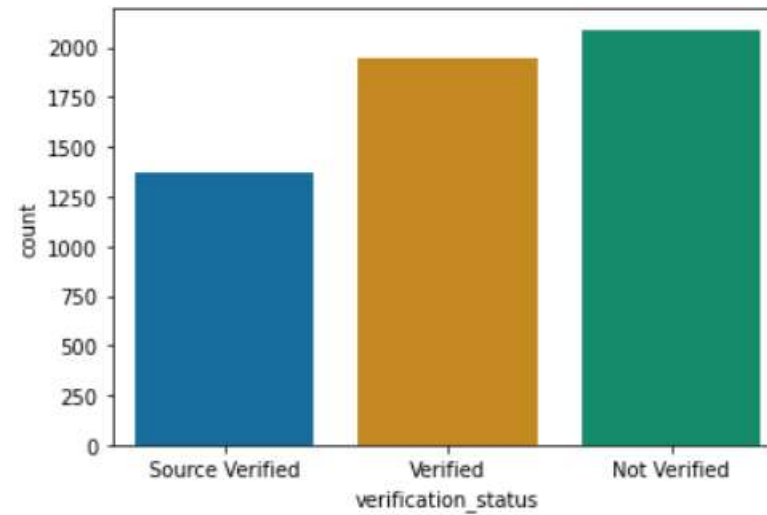
- Applicants who receive interest at the rate of 21-24% and have an income of 70k-80k

Analysis



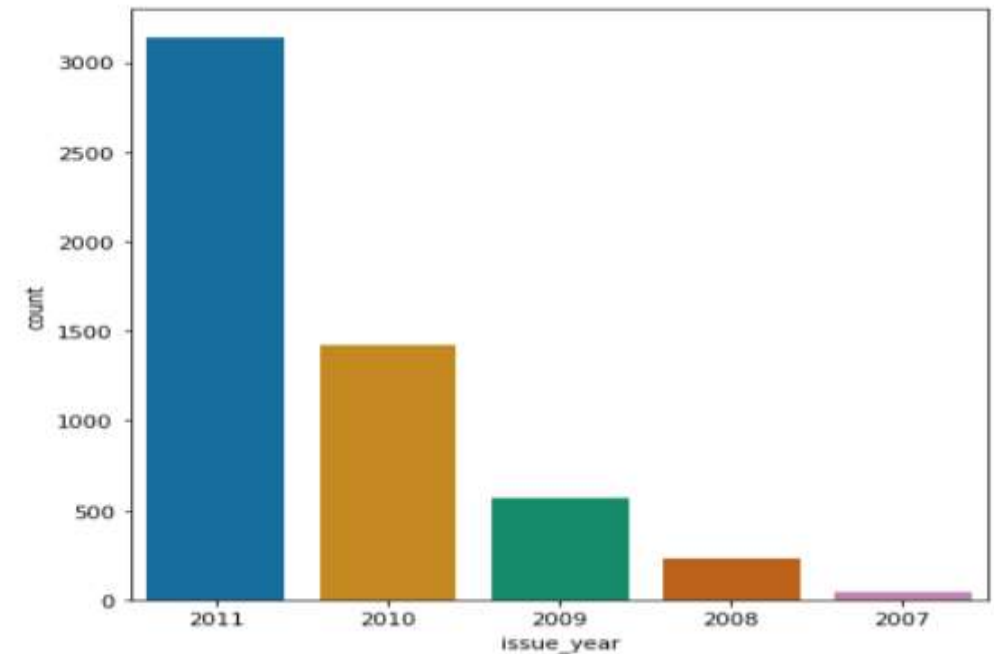
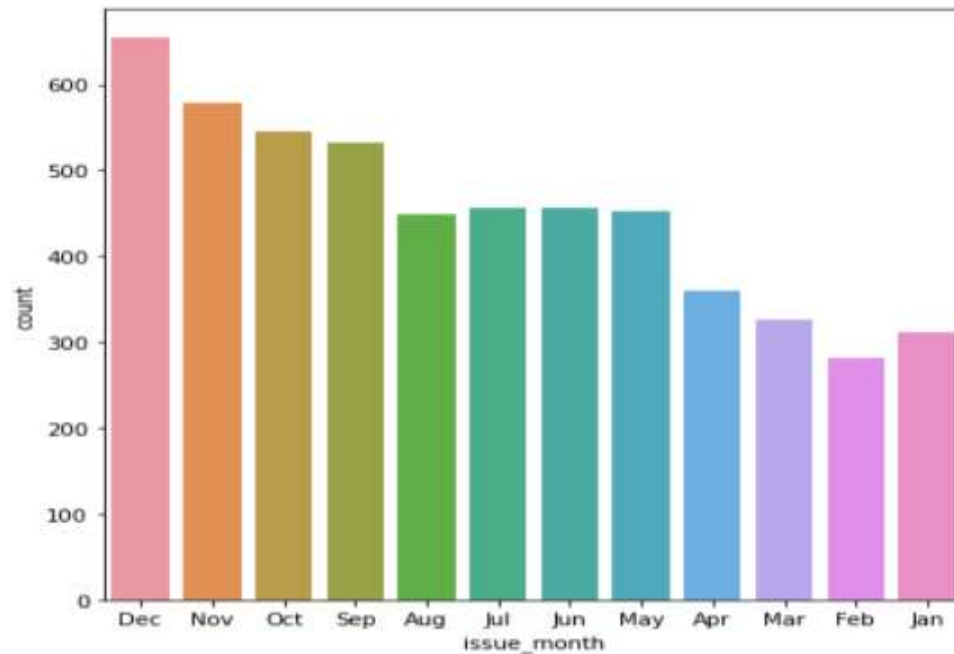
- Below plot shows that those who had taken loan to repay in 60 month had more % of number of applicants getting for charged off.

Analysis



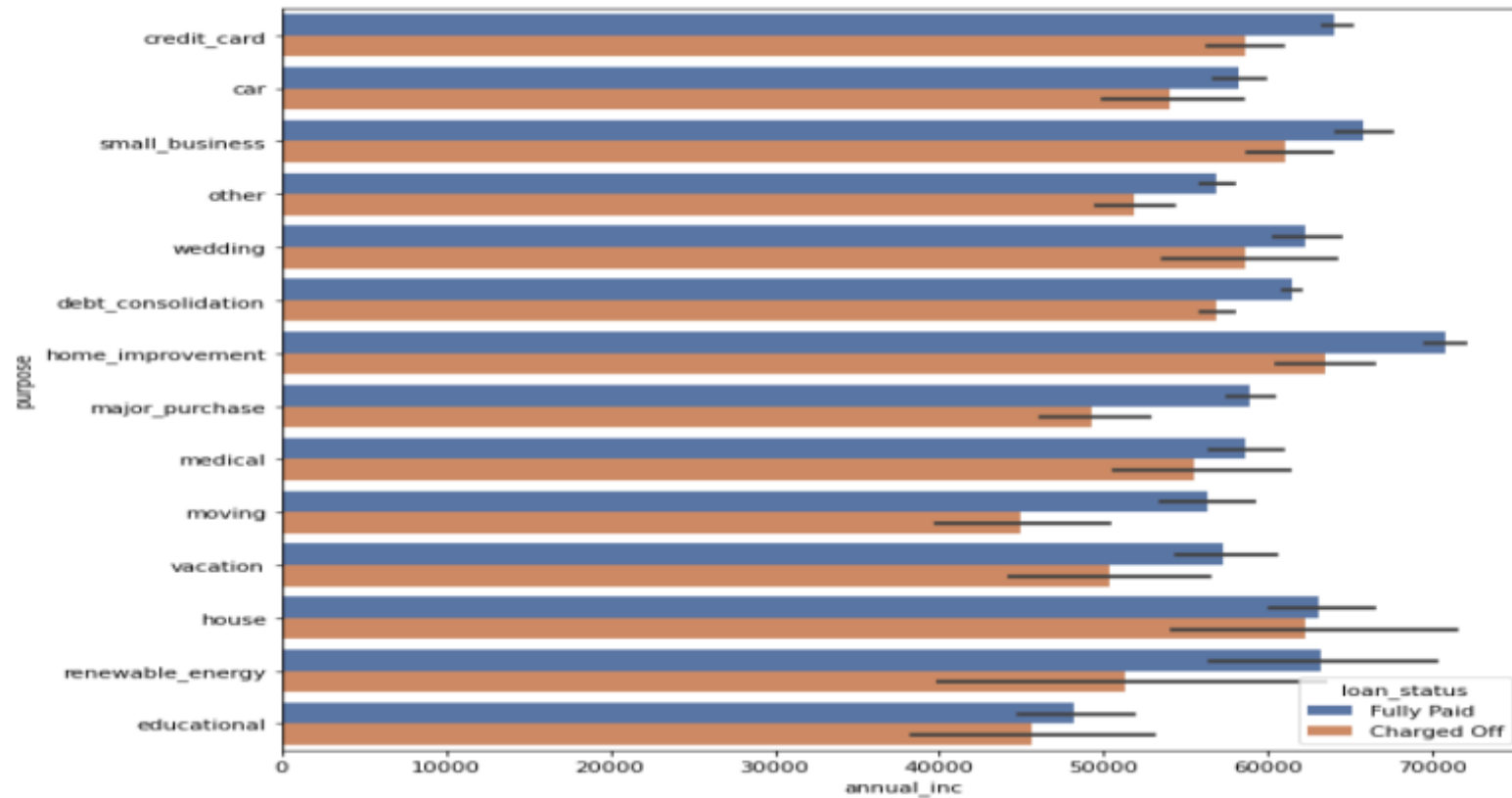
- There is not much difference in charged off proportion.

Analysis

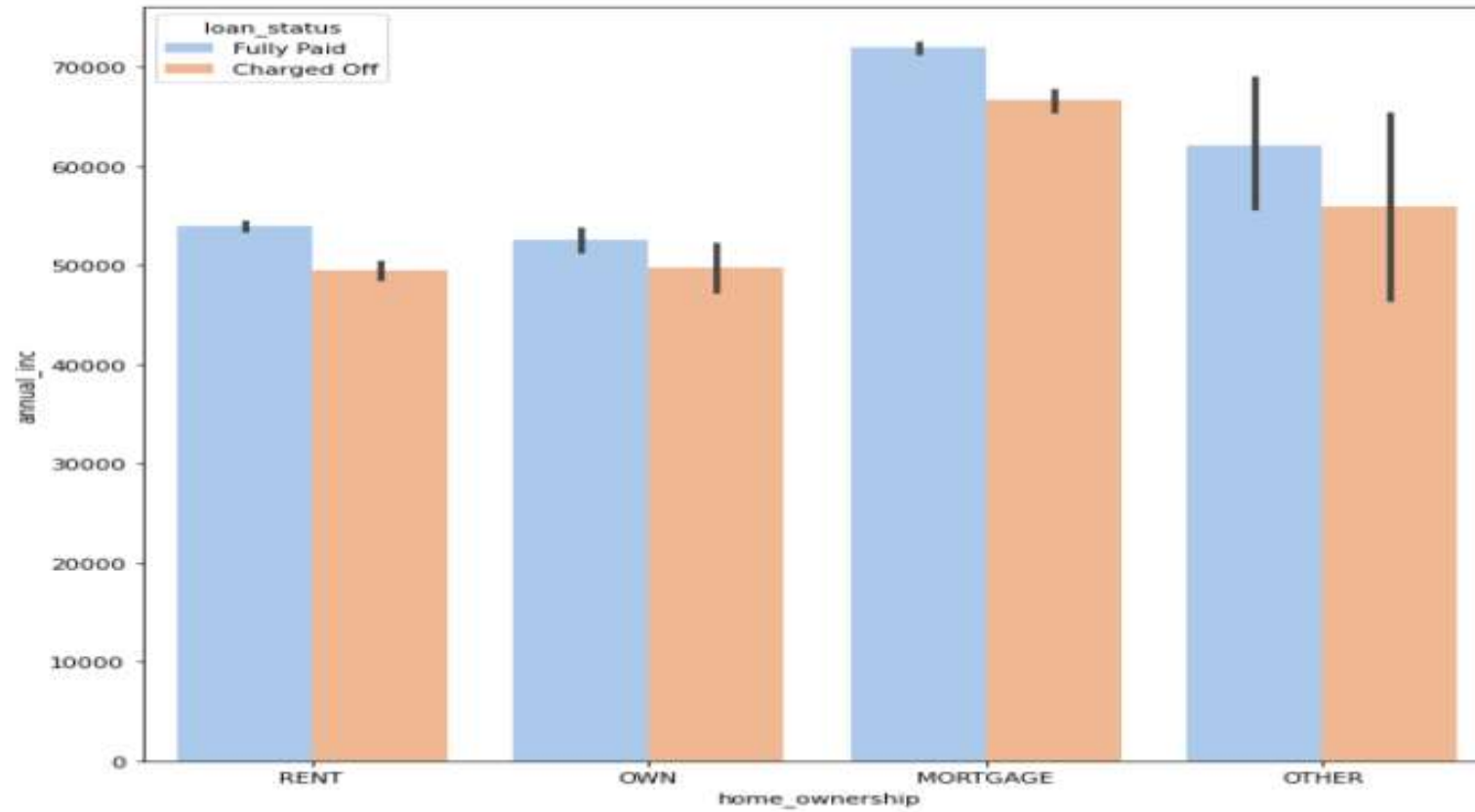


- Maximum number of defaults occurred when the loan was sanctioned/issued in Dec. Loan issued in the year 2011 were also as compared to other years Analyzing installment,dti, loan_amnt.

Analysis

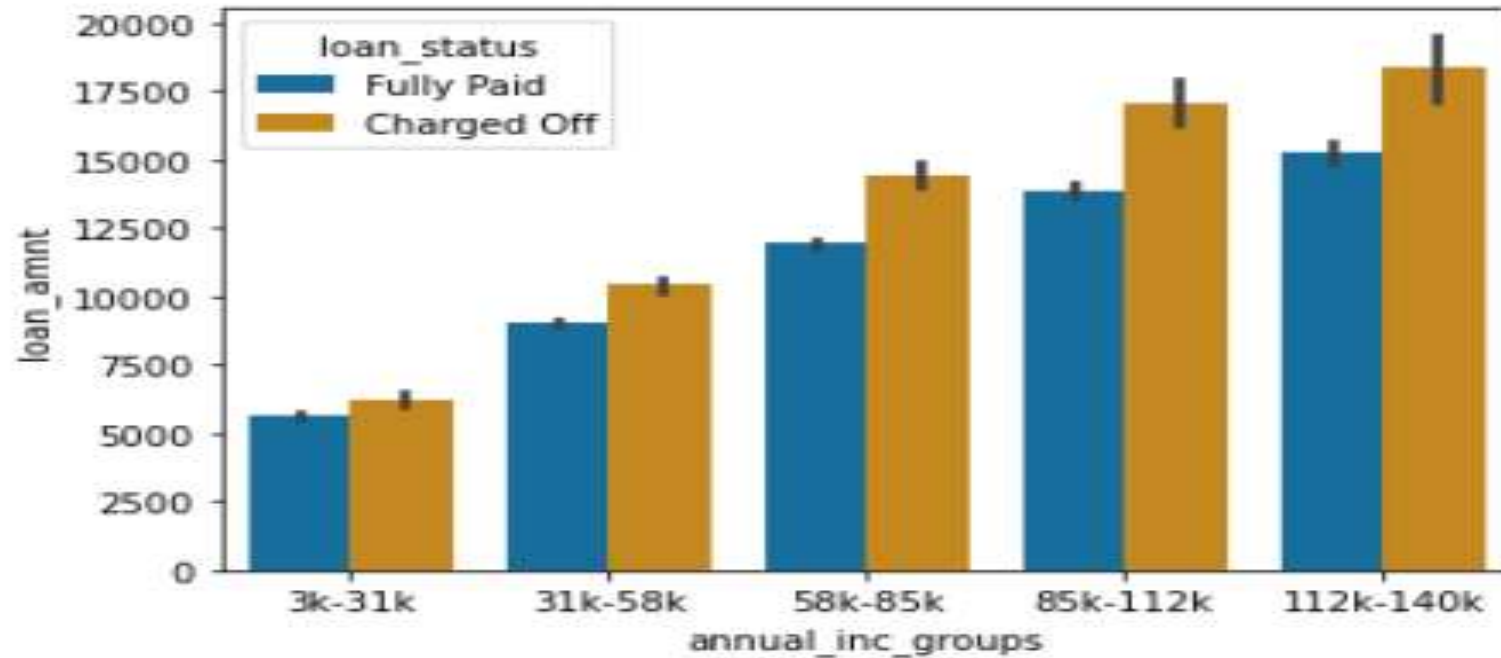


- Applicants with higher salary mostly applied loans for "home_improvement", "house", "renewable_energy" and "small_businesses".



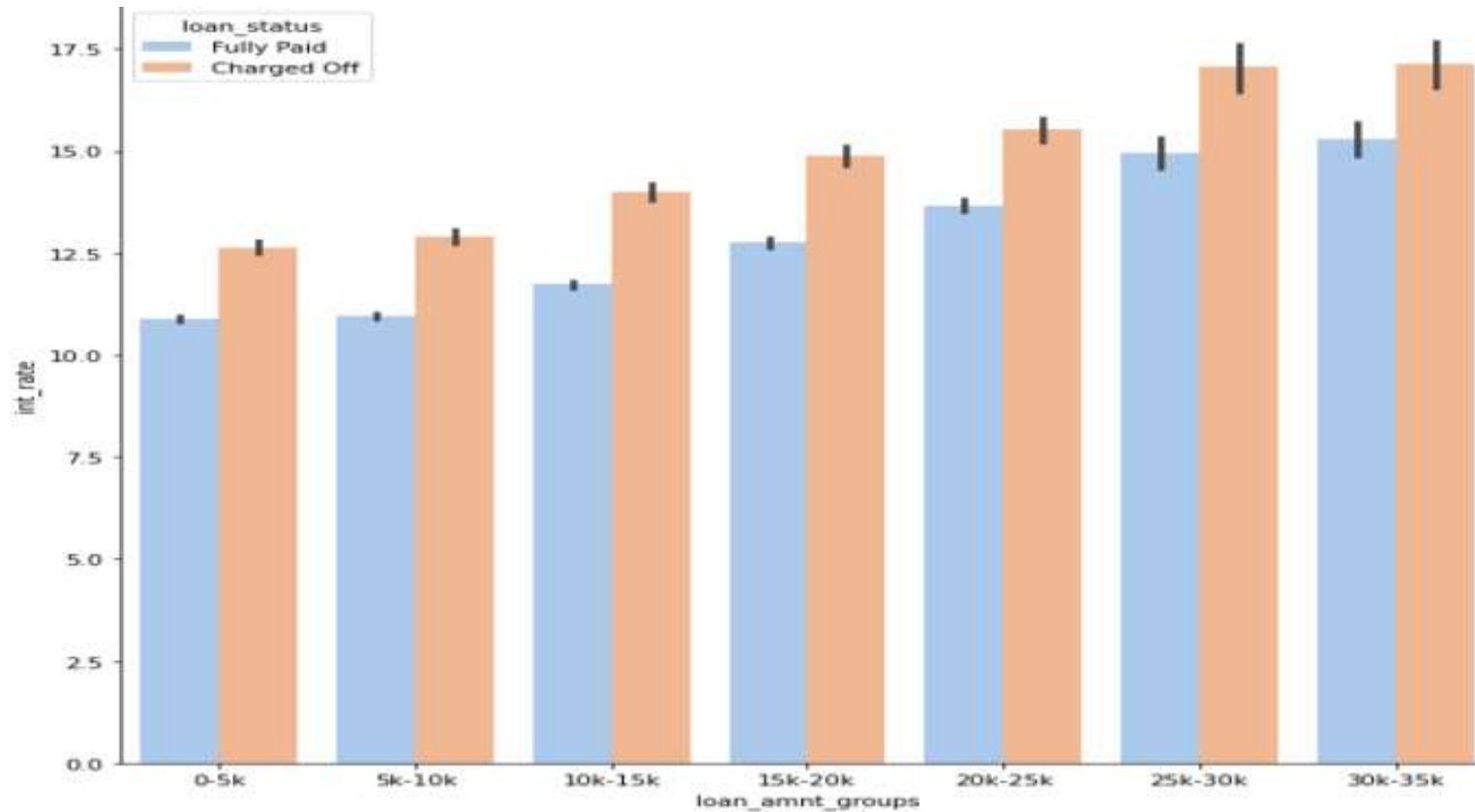
- Mortgage applicant is loan is fully paid rate is higher than other.

Analysis



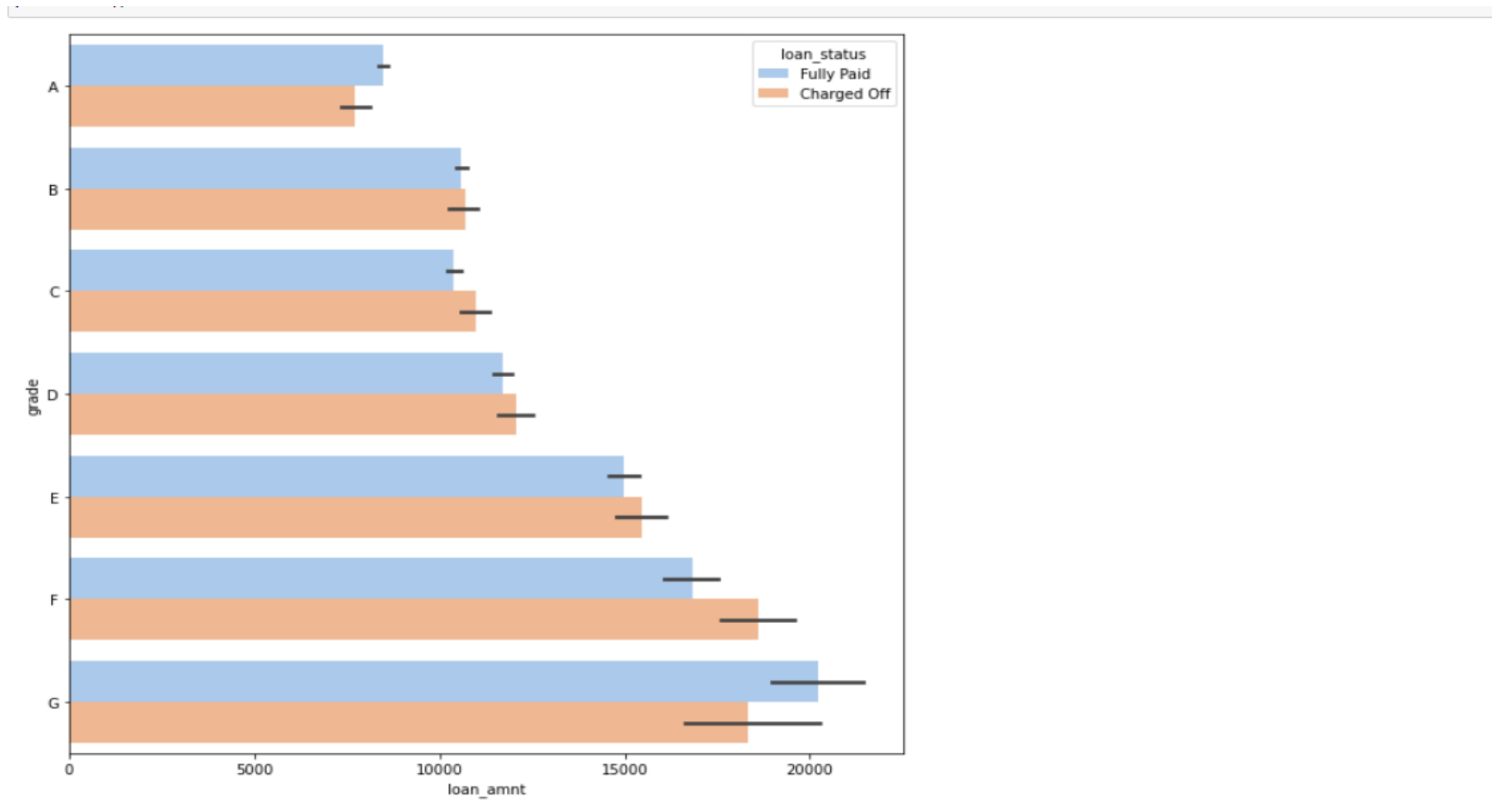
- Across all the income groups, the loan_amount is higher for people who defaulted.

Analysis



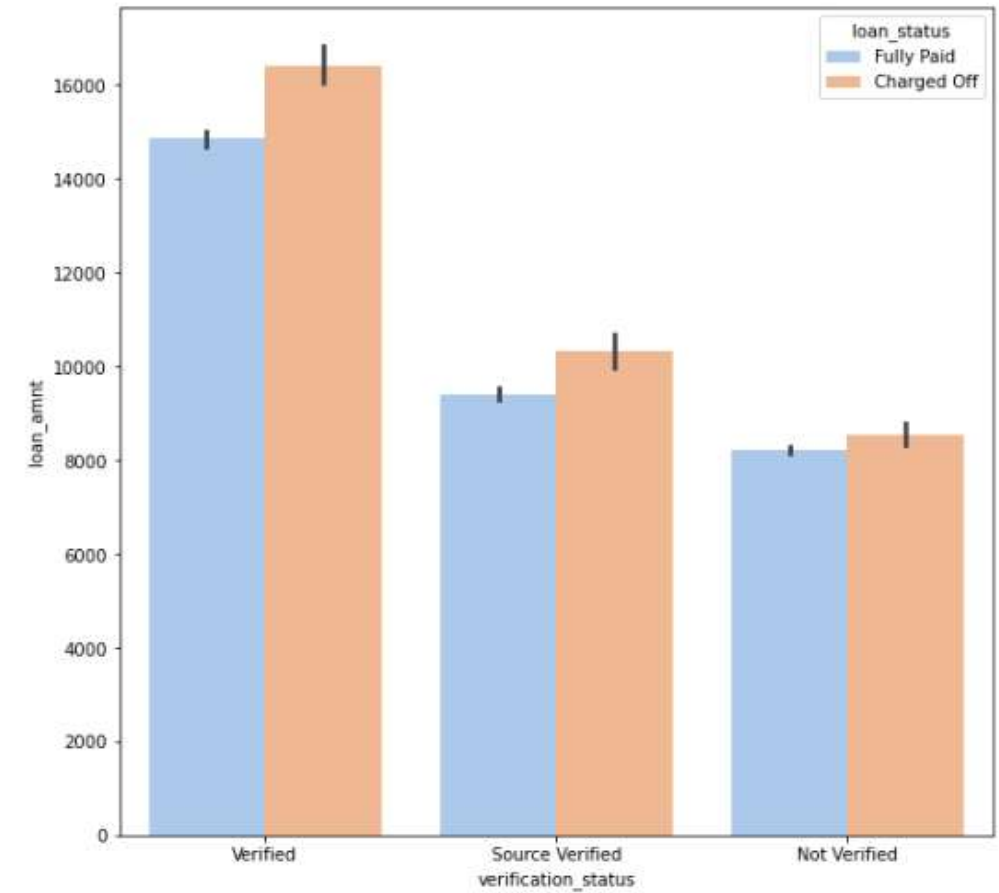
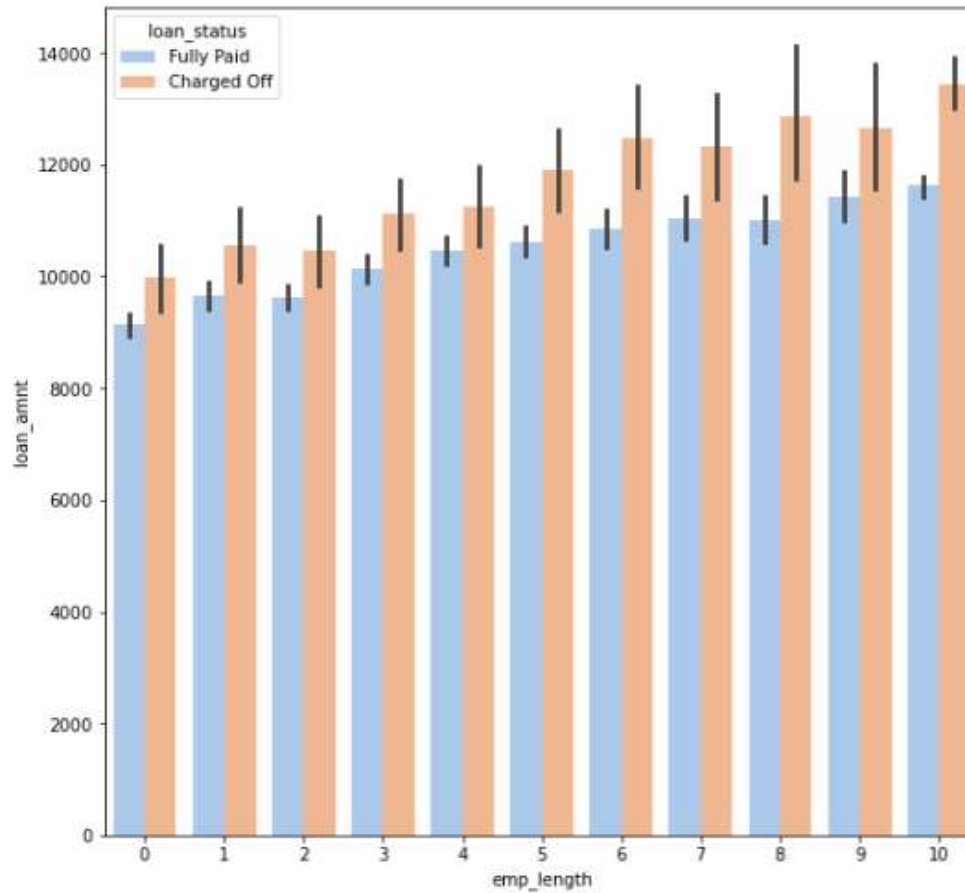
- Applicants who have taken a loan in the range 30k - 35k and are charged interest rate of 15-17.5 %

Analysis



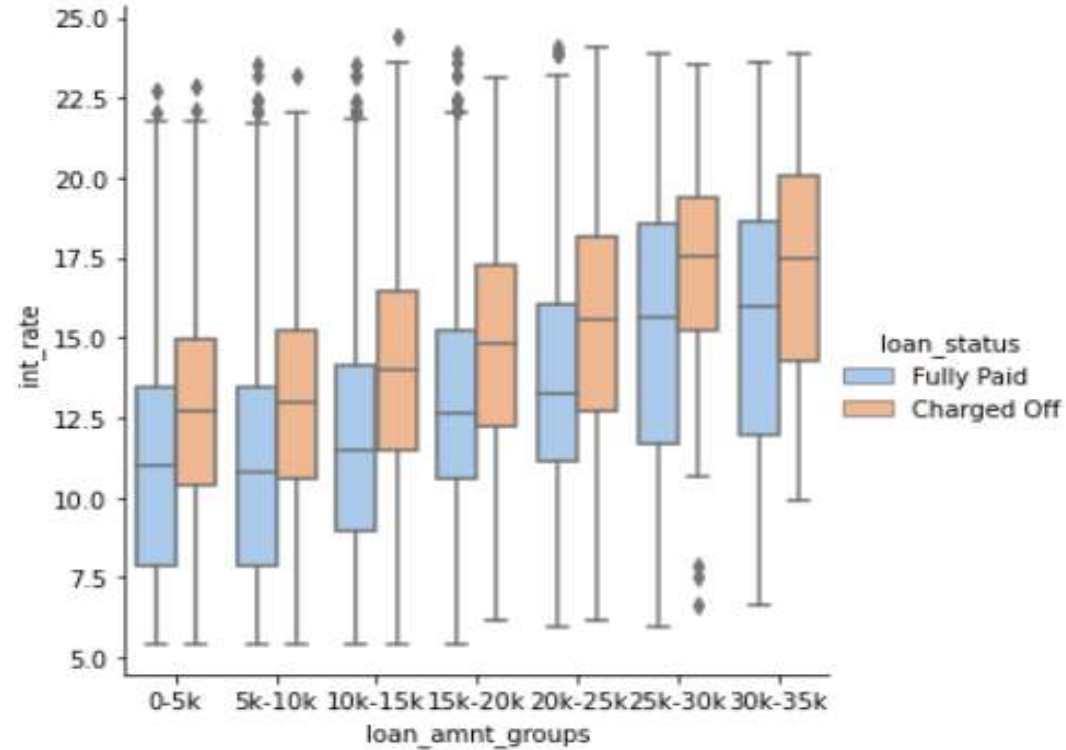
- Grade G applicant is mostly fully paid loan also higher loan amount.

Analysis



- Employees with longer working history got the loan approved for a higher amount.
- verified loan applications tend to have higher loan amount.

Analysis



- The interest rate for charged off loans is pretty high than that of fully paid loans in all the loan_amount groups.

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).
- 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 more 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.