

Lending Club Case Study

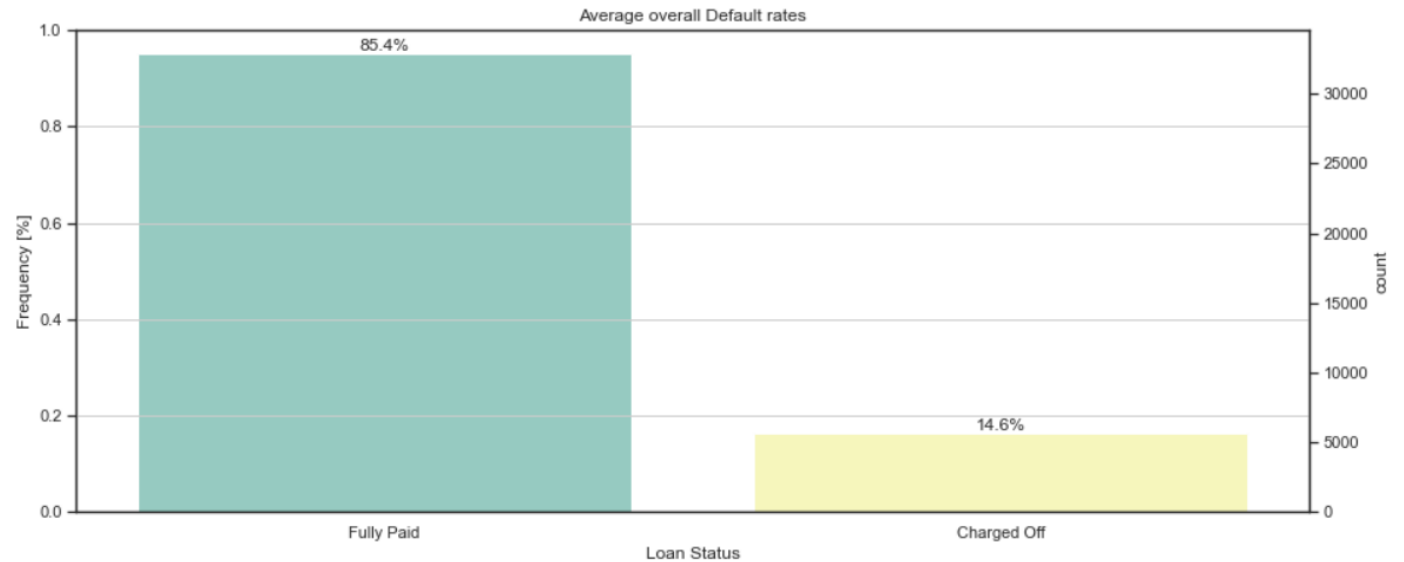
Submitted By
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Introduction

- The main object of this analysis is to find the Defaulter and understand the features which have a direct impact on loan defaulting
- This should help to take a decision on whether to provide a loan or not for new applications.
- We will see how consumer attributes and loan attributes influence the tendency of default.

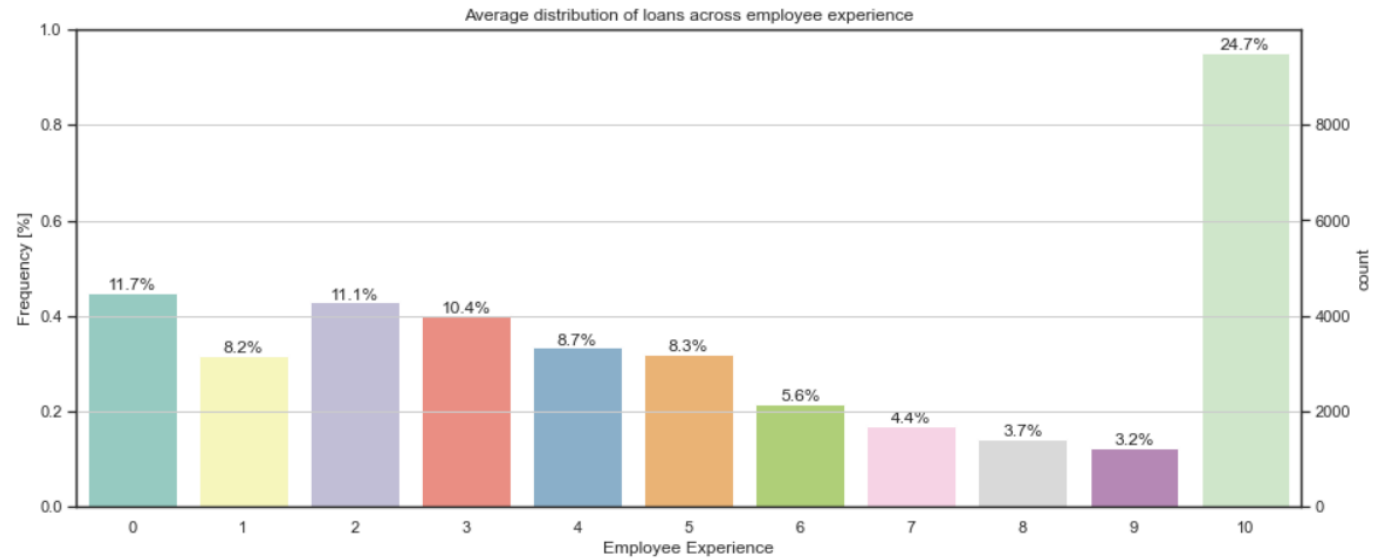
Analysis

- Average default rate across all categories is 14.4%



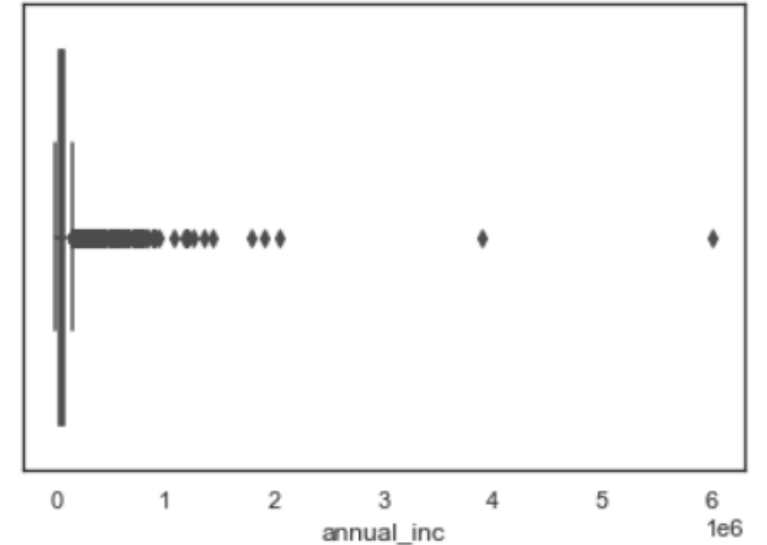
Analysis

- People with 1 year and 10 years of experience are taking loans more frequently.

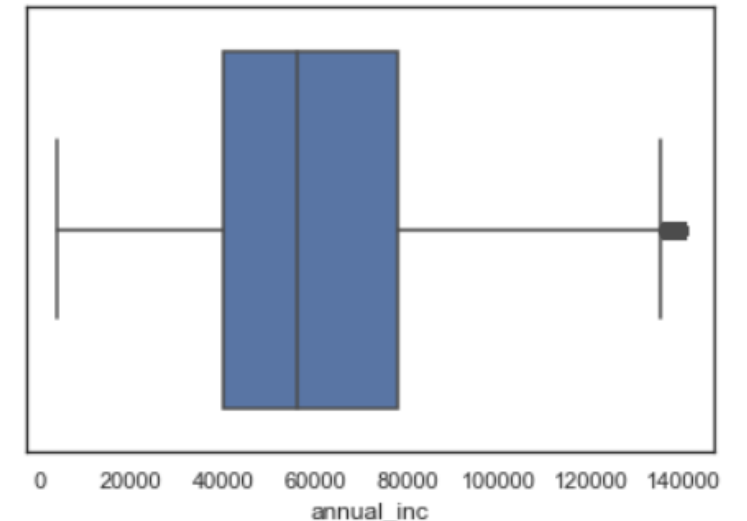


Outlier Analysis

- **We can see the presence of outliers.**
- So, Removing them.
- Let's see the quantile info and take appropriate action.
- The values after 95 percentile seem to be disconnected from the general distribution and also there is a huge increase in the value for small quantile variation.
- So, considering the threshold for removing outliers as 0.95



Before

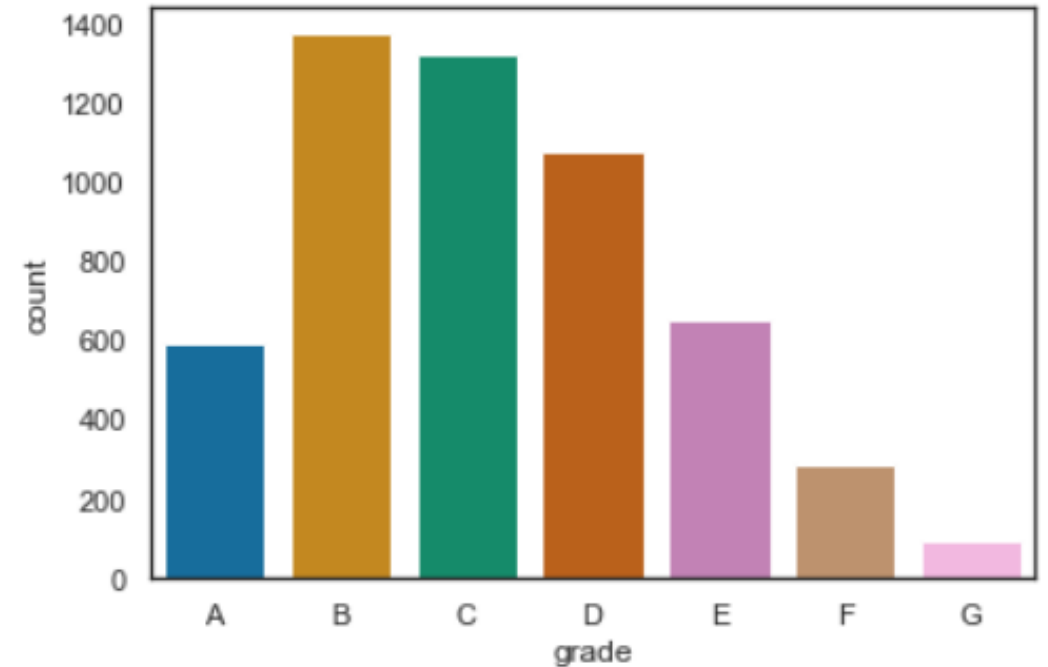


After

Observation

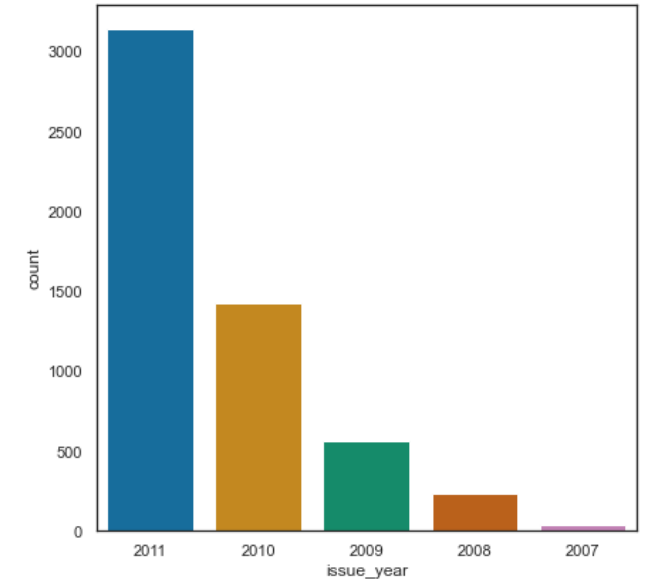
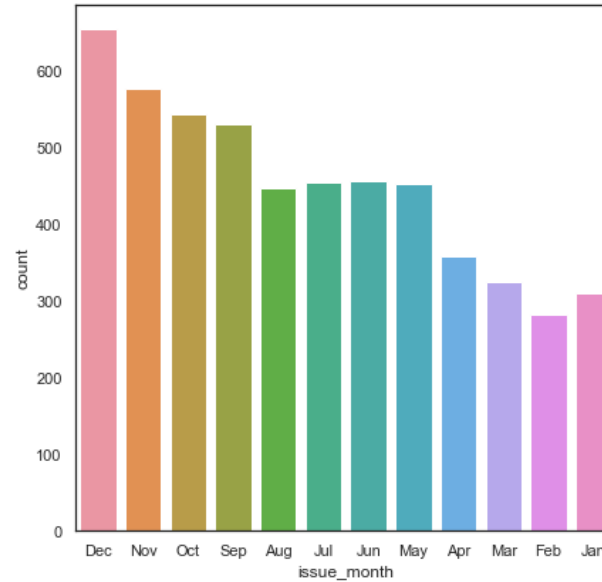


Most loan defaulters having house_ownership as 'RENT'



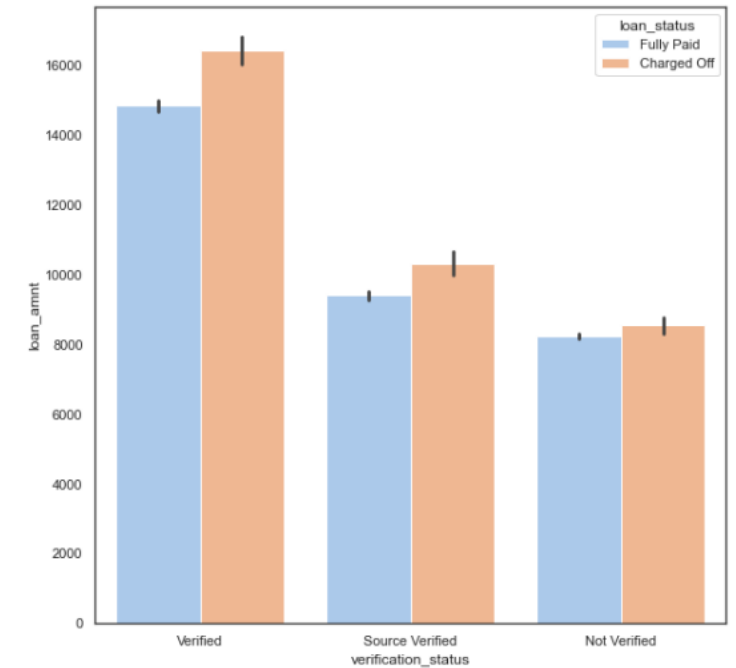
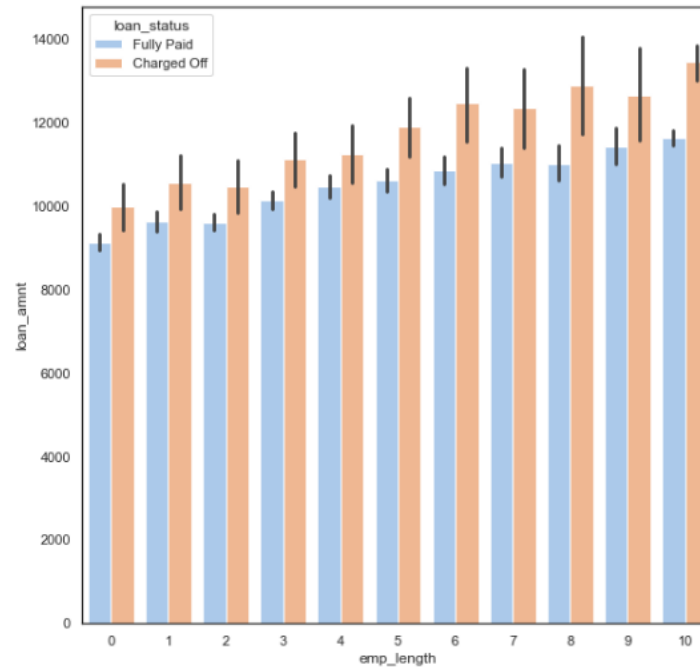
Most loan defaulters belong to B grade

Observation



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

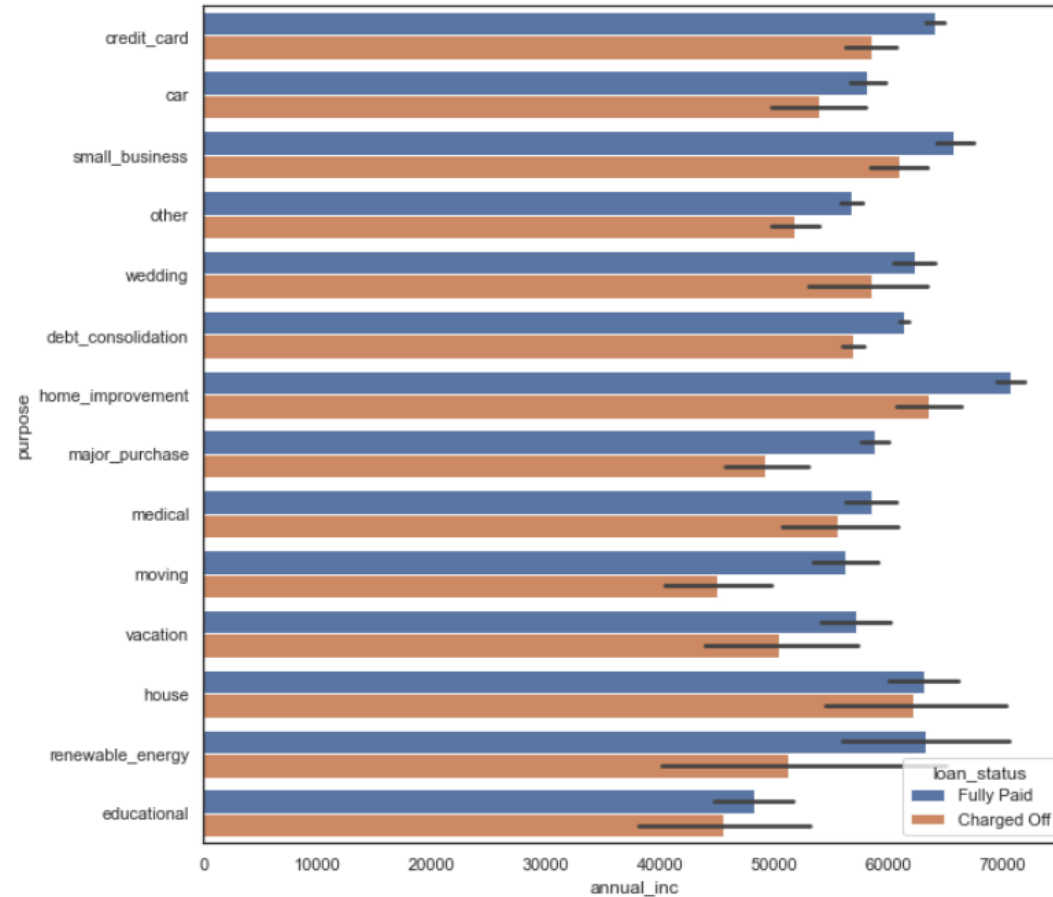
Analysis



Employees with longer working history got the loan approved for a higher amount.

- Looking at the verification status data, verified loan applications tend to have higher loan amount. Which might indicate that the firms are first verifying the loans with higher values.

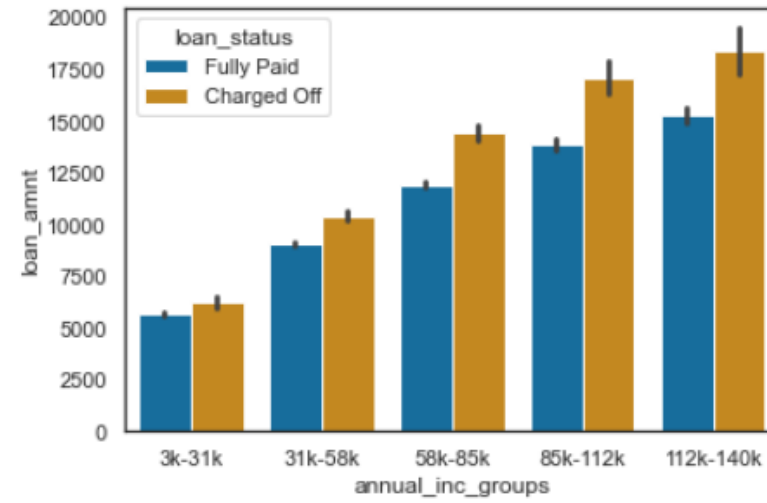
Analysis



Though the number of loans applied and defaulted are the highest in number for "debt_consolation", the annual income of those who applied isn't the highest.

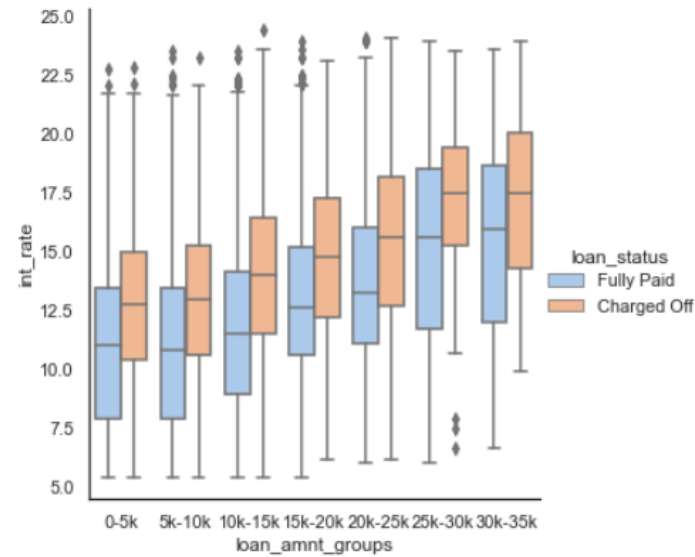
- Applicants with higher salary mostly applied loans for "home_improvement", "house", "renewable_energy" and "small_businesses"

Analysis



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

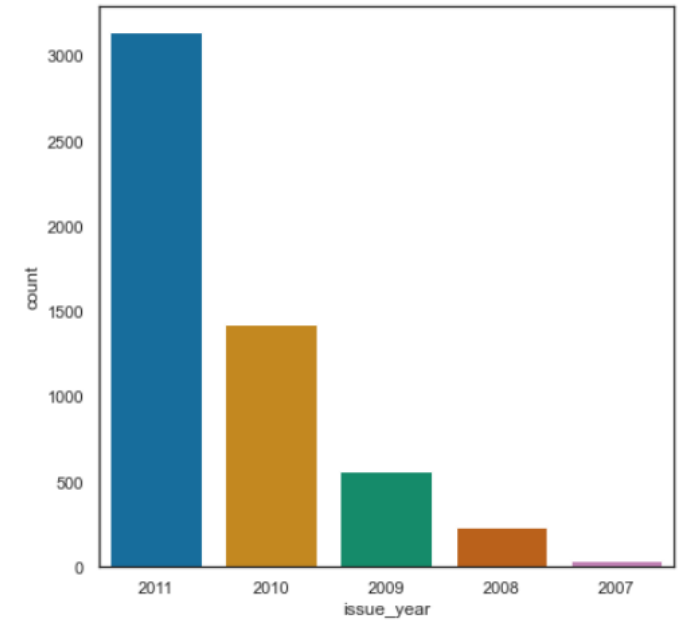
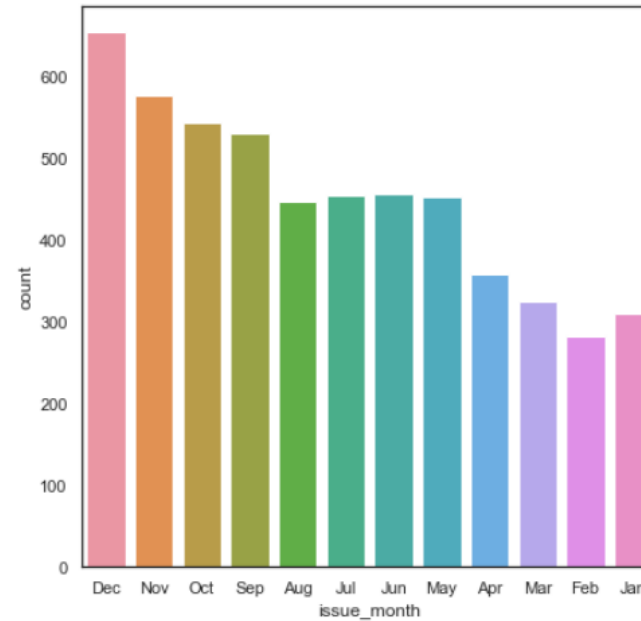
Analysis



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

- This can be a pretty strong driving factor for loan defaulting.

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

Summary of Observations

- Applicants taking loan for 'home improvement' and have income of 60k -70k
- Applicants whose home ownership is 'MORTGAGE' and have income of 60-70k
- Applicants who receive interest at the rate of 21-24% and have an income of 70k-80k
- Applicants 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
- Applicants whose home ownership is 'MORTGAGE' and have loan of 14-16k
- When grade is F and loan amount is between 15k-20k
- When employment length is 10yrs and loan amount is 12k-14k
- When the loan is verified and loan amount is above 16k
- For grade G and interest rate above 20%

Thank
you

