

Lending Club Case Study

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Problem Statement/Goals

- ▶ 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.
- ▶ Lending loans to 'risky' applicants is the largest source of financial loss.
- ▶ Goal of this Case study is to use the information of previous loan defaulter and achieve the objective by identifying the driving factors behind the loan defaulter.

Problem Solving Approach

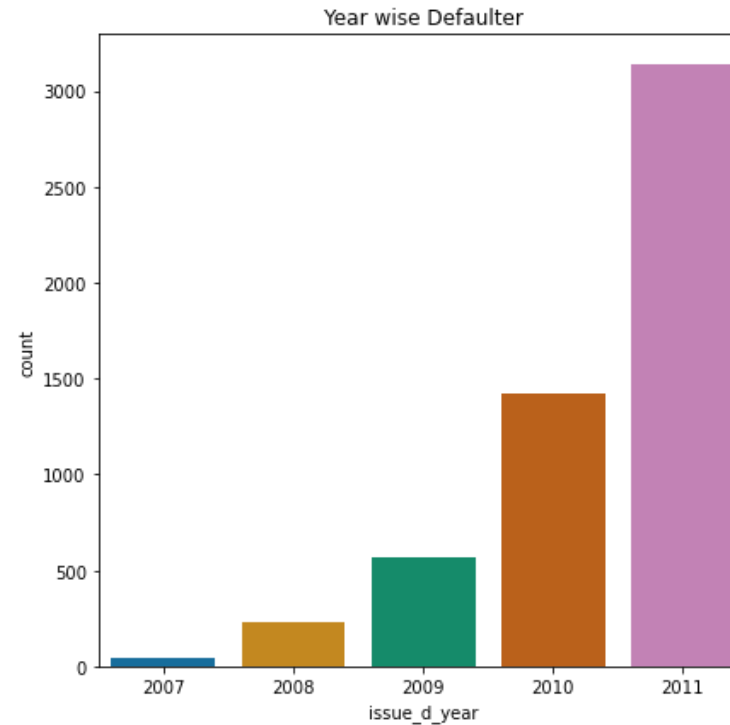
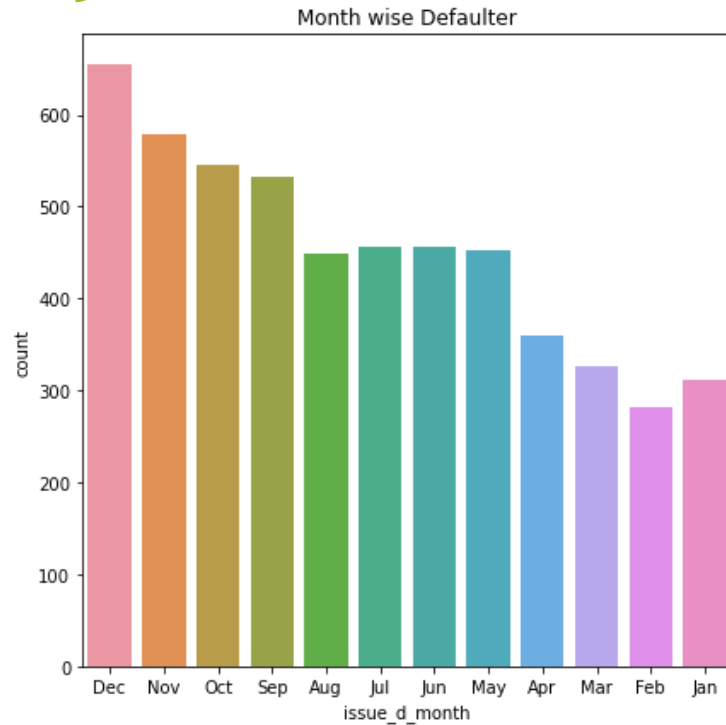
The Following Steps are used for approaching an Case Study.

- ▶ Data Understanding : Working with the Data Dictionary and getting knowledge of all the columns.
- ▶ Data Cleaning : Removing the null valued columns, unnecessary variables and checking the null value percentage and removing/correcting the respective rows.
- ▶ Univariate Analysis : Analyzing each column, plotting the distributions of each column.
- ▶ Bivariate Analysis : Analyzing the two variable behaviour.

Steps Followed

- ▶ Understanding the domain to have basic knowledge is an key element that was followed, In this Case Study needed knowledge on Banking Domain.
- ▶ Understanding the Data.
- ▶ Cleaning the Data.
- ▶ Identifying the outliers.
- ▶ Performing Univariate and bivariate analysis on the Data to identifying the customers who have probability of defaulting.

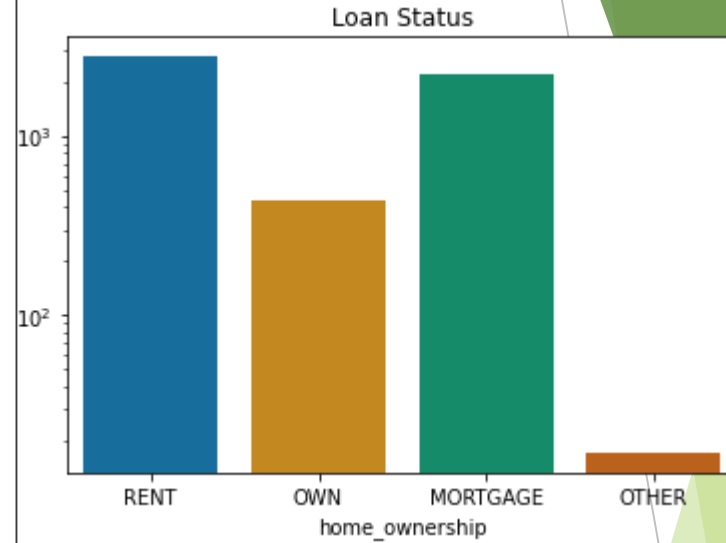
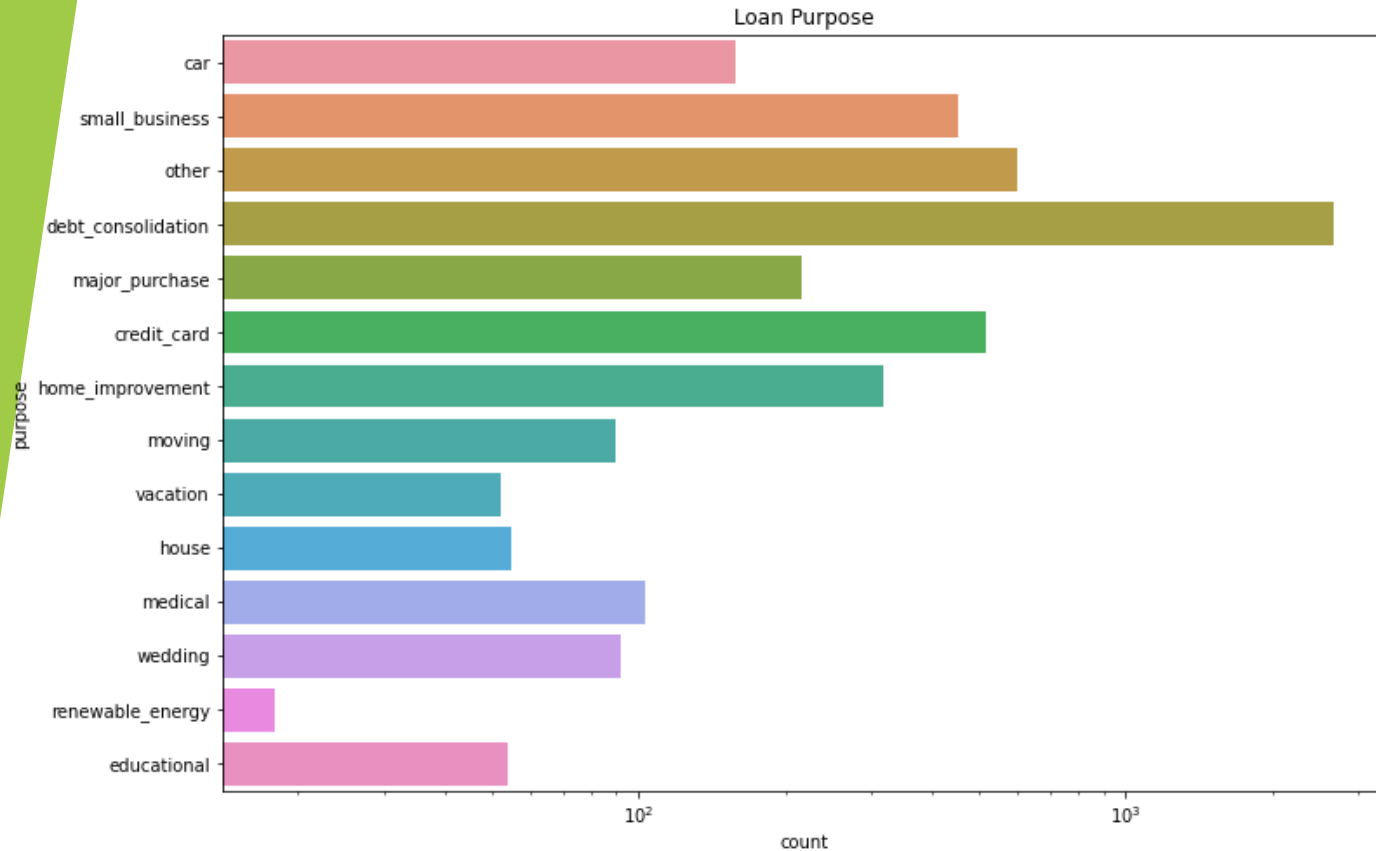
Analysis



From Above Analysis we can confirm Below Points.

- No of loan issue doubles as year passes.
- Loan increases as month of the year increases.

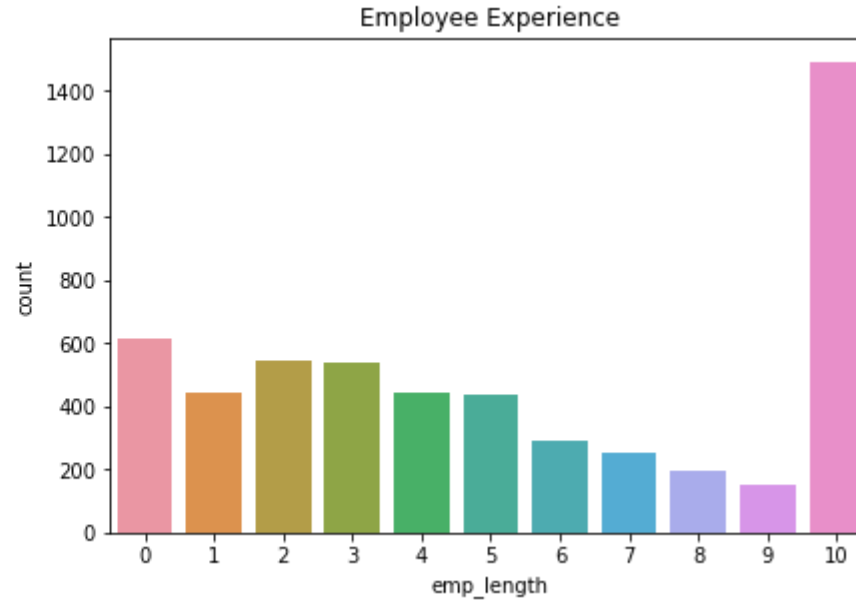
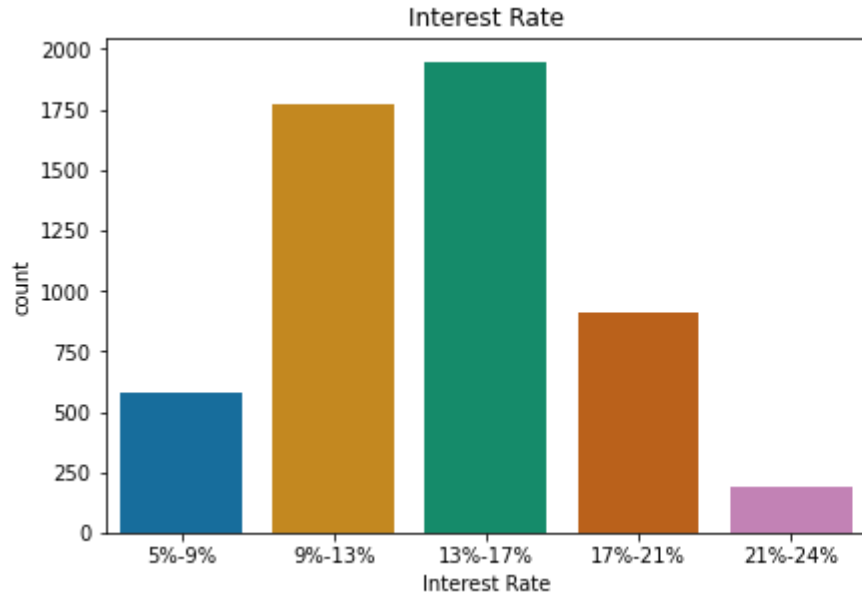
Analysis



From Above Analysis we can confirm below points There is a more probability of defaulting when

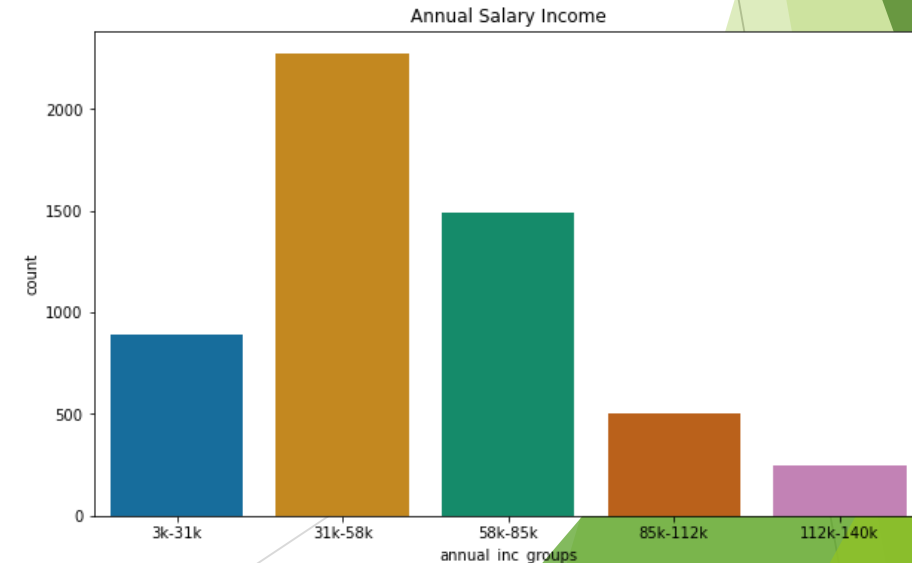
- Applicants having house ownership as 'RENT'
- Applicants who take the loan to clear other debts.

Analysis

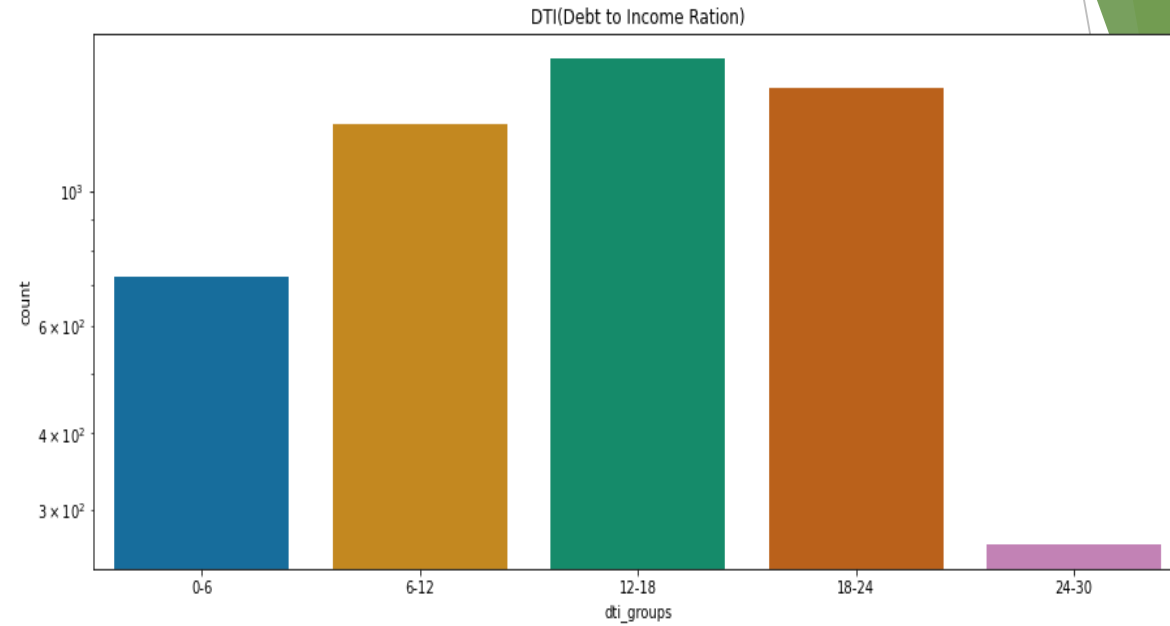
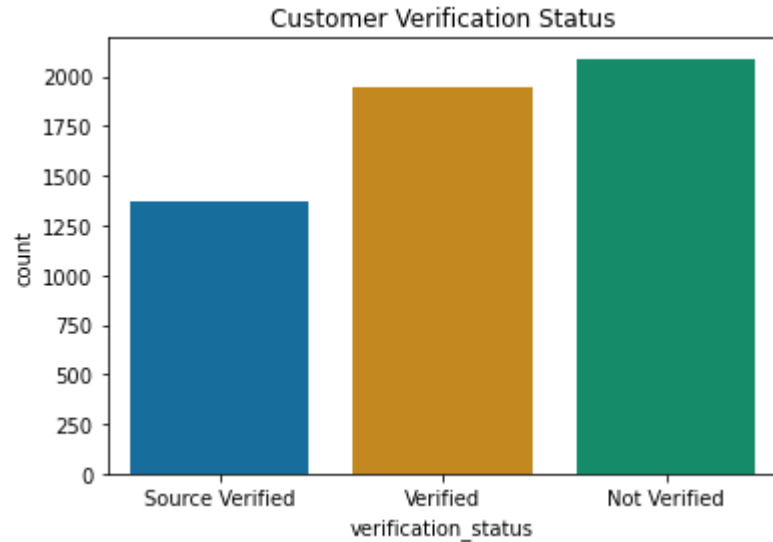


From Above Analysis we can confirm below points There is a more probability of defaulting when

- Applicants who receive interest at the rate of 13-17%.
- Applicants who have an income of range 31k to 58K.
- Applicants with employment Experience of 10 years

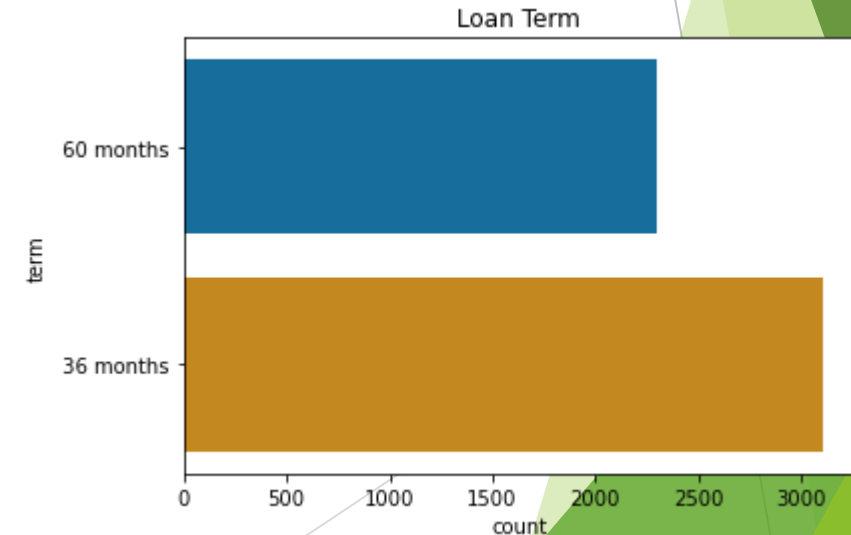


Analysis



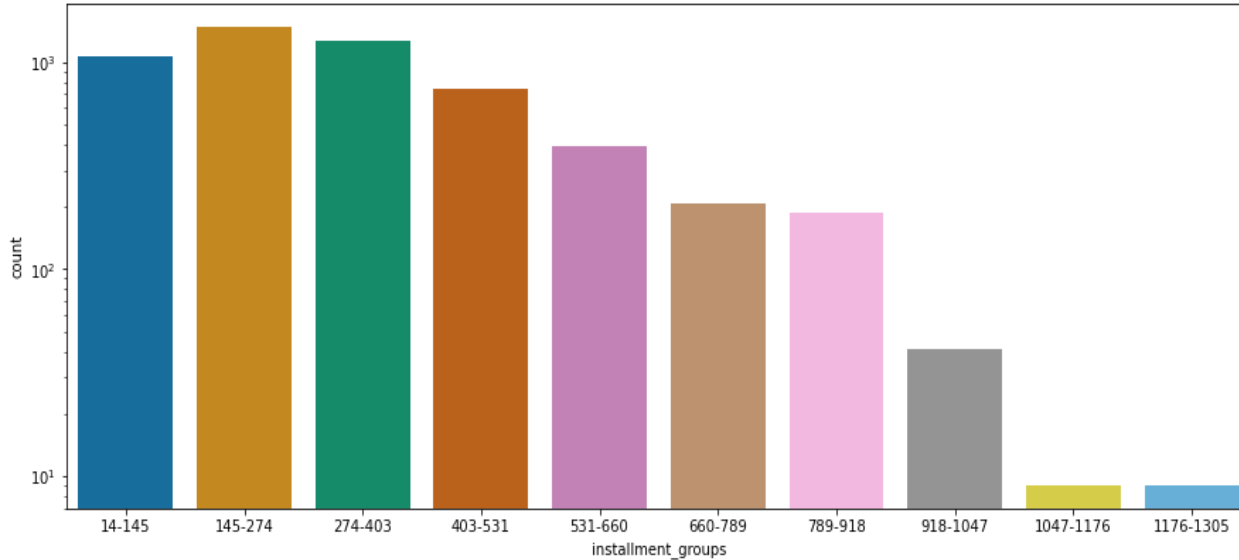
From Above Analysis we can confirm below points There is a more probability of defaulting when

- When the loan status is Not verified
- When loan term is 36 months.
- When Dti is between 12-18 should, can also consider 18-24 as there is no much difference.

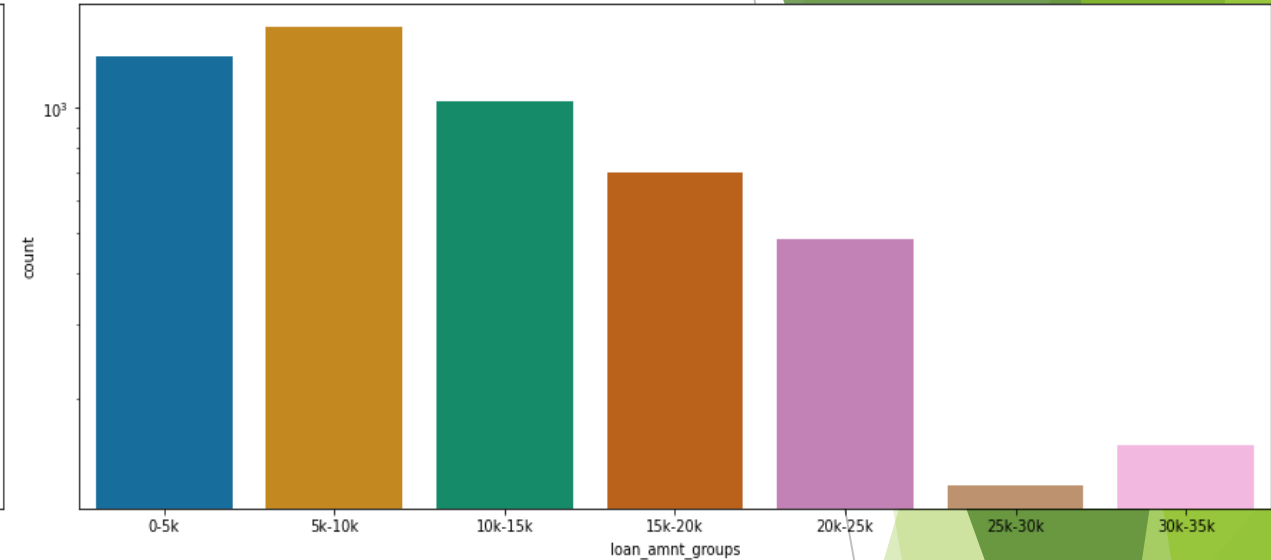


Analysis

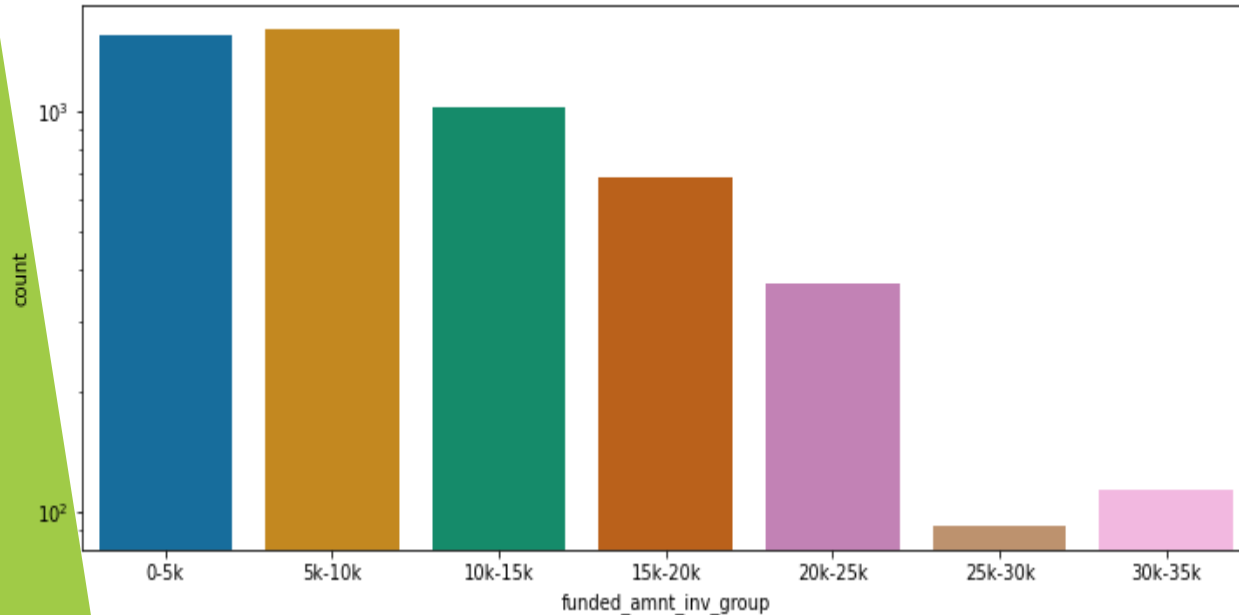
Installments



Loan Amount



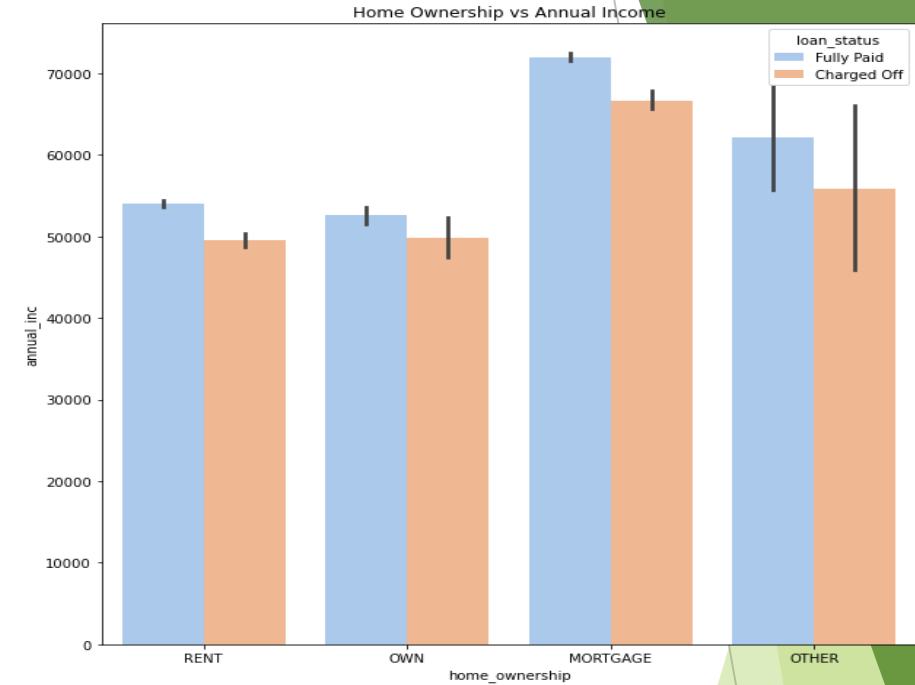
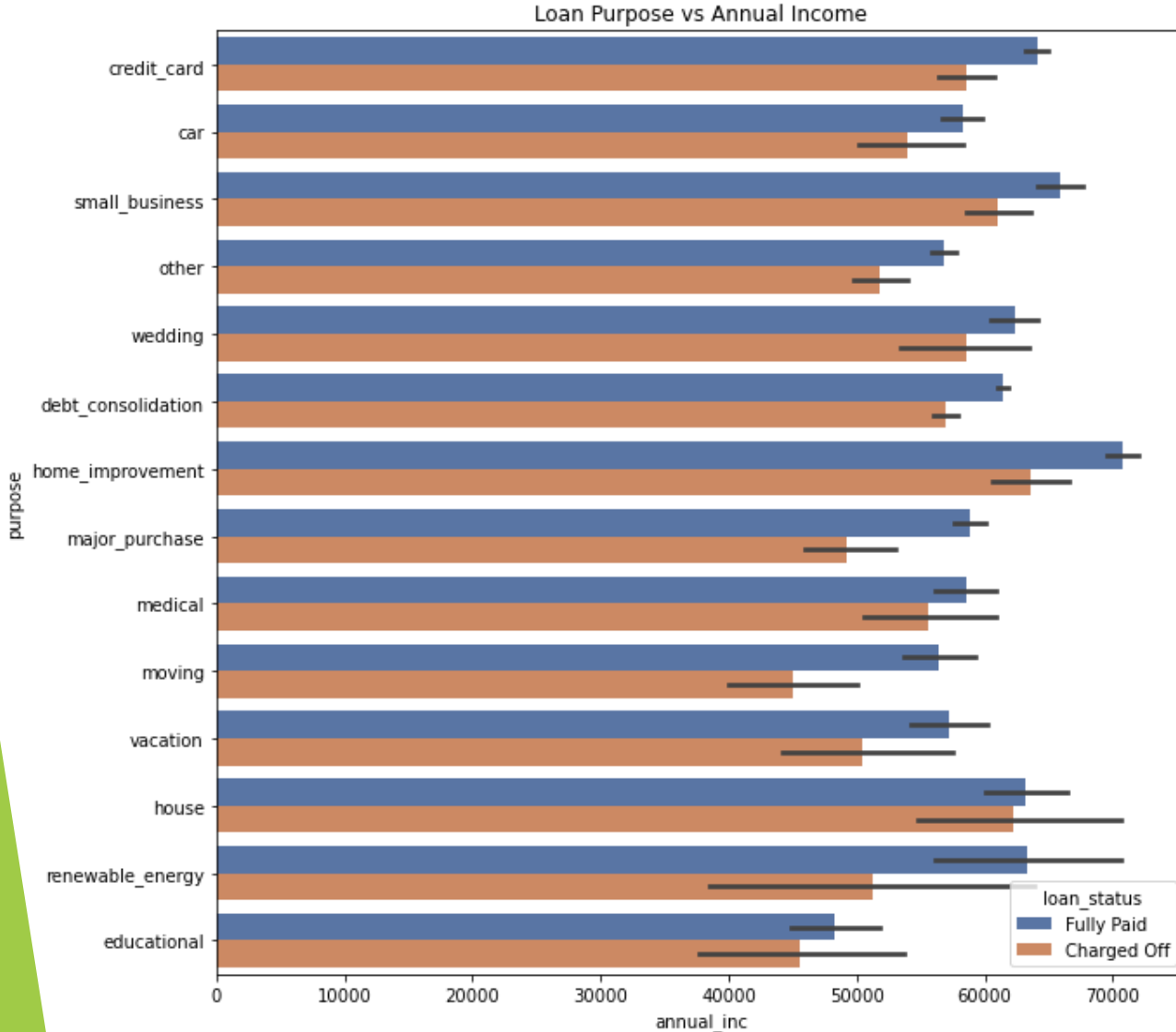
Funded Amount by Investors



From Above Analysis we can confirm below points There is a more probability of defaulting when

- When funded amount by investor is between 5k to 10k.
- When monthly installments are between 145 to 274.

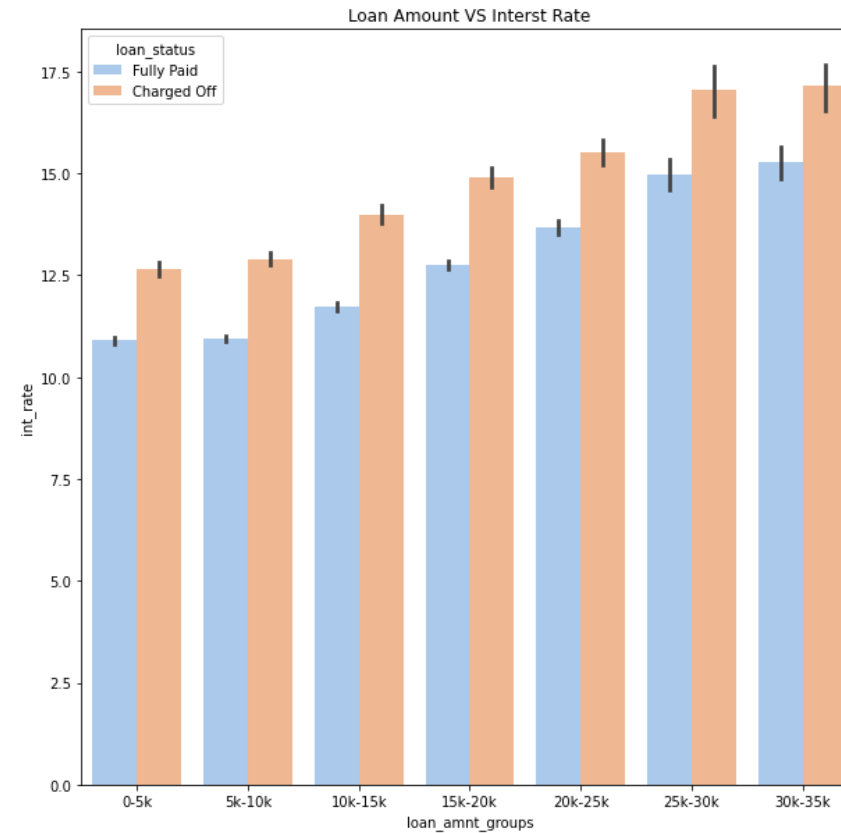
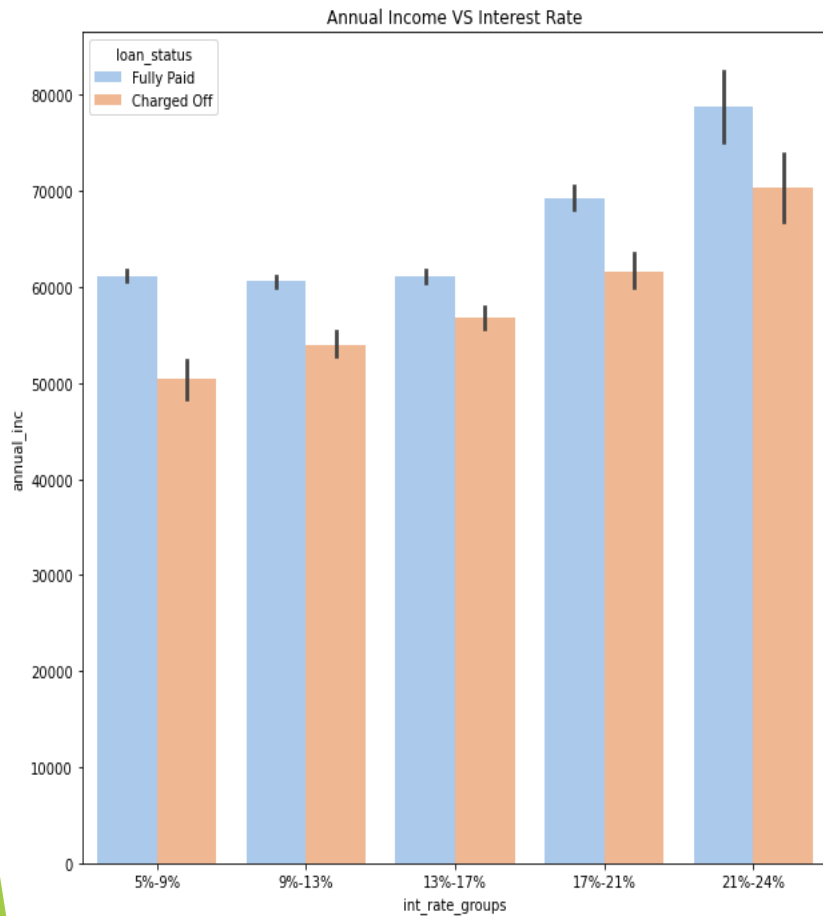
Analysis



From Above Analysis we can confirm below points There is a more probability of defaulting when

- When loan is for 'home improvement' and have income of 60k -70k.
- When applicant's home ownership is 'MORTGAGE' and have income of 60-70k.

Analysis

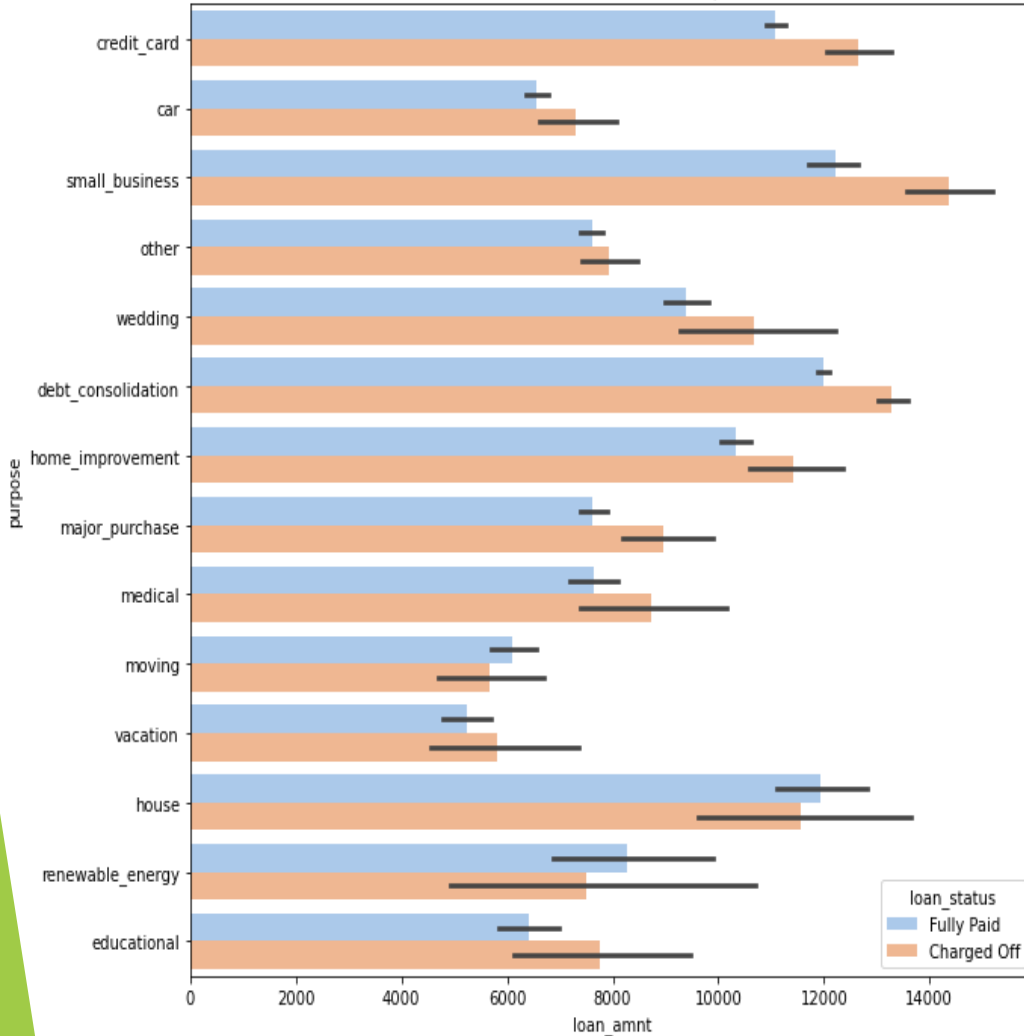


From Above Analysis we can confirm below points There is a more probability of defaulting when

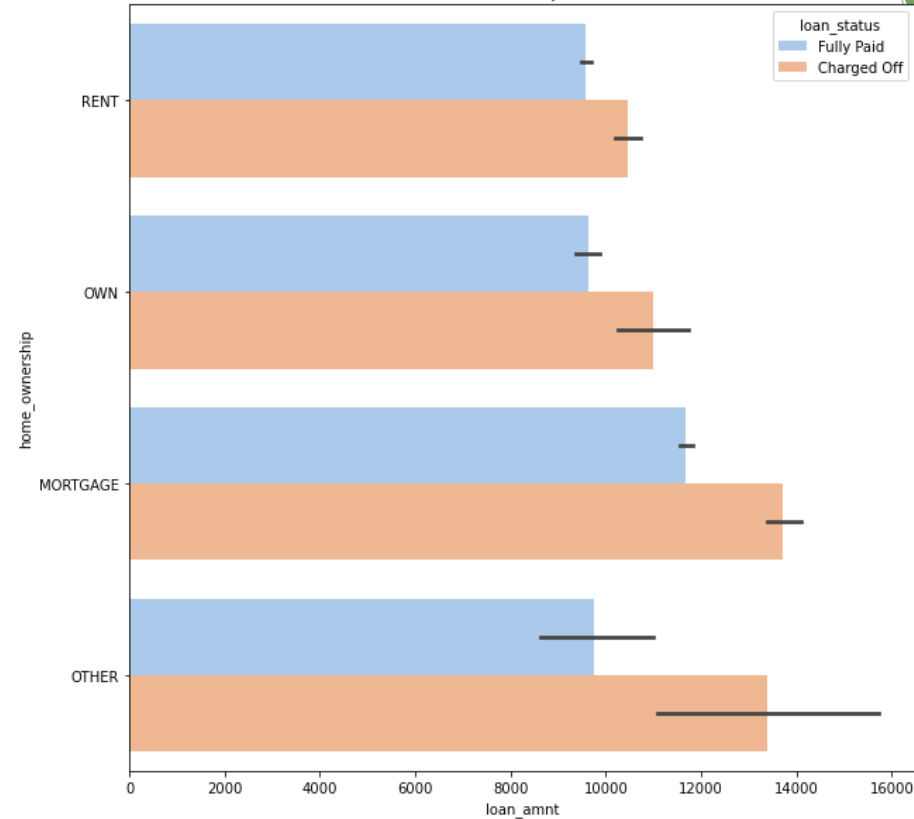
- Applicants who receive interest at the rate of 21-24% and have an income of 70k-80k
- Who have taken a loan in the range of 30k - 35k and are charged interest rate of 15-17.5 %

Analysis

Loan Amount and Loan Purpose



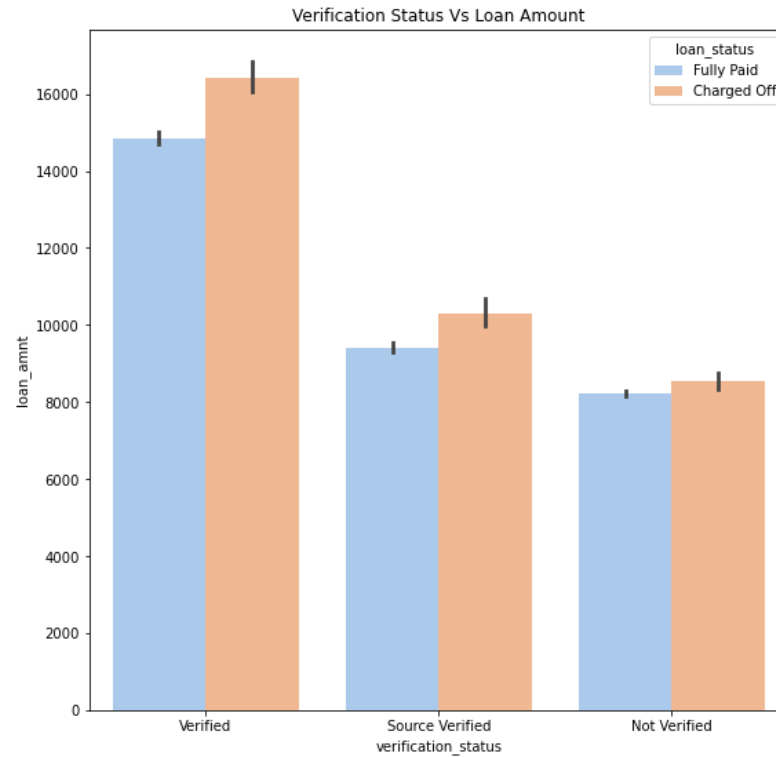
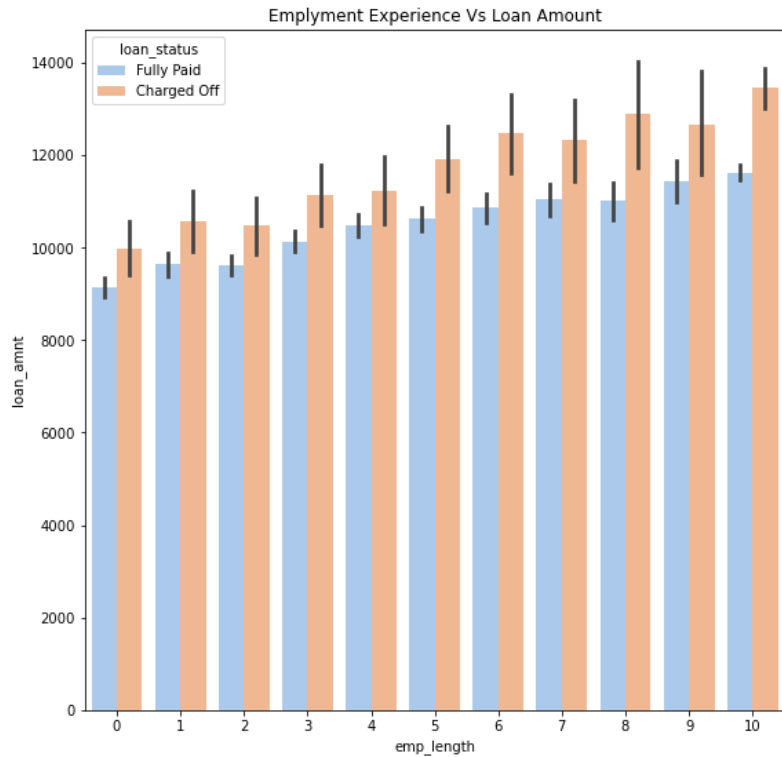
Customer Home Ownership and Loan Amount



From Above Analysis we can confirm below points
There is a more probability of defaulting when

- 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

Analysis



From Above Analysis we can confirm below points There is a more probability of defaulting when

- When employment experience is 10yrs and loan amount is 12k-14k
- When loan is verified and loan amount is above 16k