

# Lending Club Case Study

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## GROUP MEMBERS:

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Today when businesses offers lending services it has risks associated with it . It has become hard to compete in market if we do not identify risks associated with it. So, it is important to make thorough research into historical data and find out how we would reduce risk while dealing with our clients.

This dataset contains complete loan data for all loans issued through the time period 2007 to 2011. This notebook tries to do analysis on this data. This EDA tells us how consumer attributes and loan attributes influence the tendency of default.

The goal of the EDA is to identify the driving factors behind loan default. The company can utilize this knowledge for its portfolio and risk assessment.

## APPROACH:

### ➔ Data loading and data understanding.

1. We used data dictionary to understand the data attributes

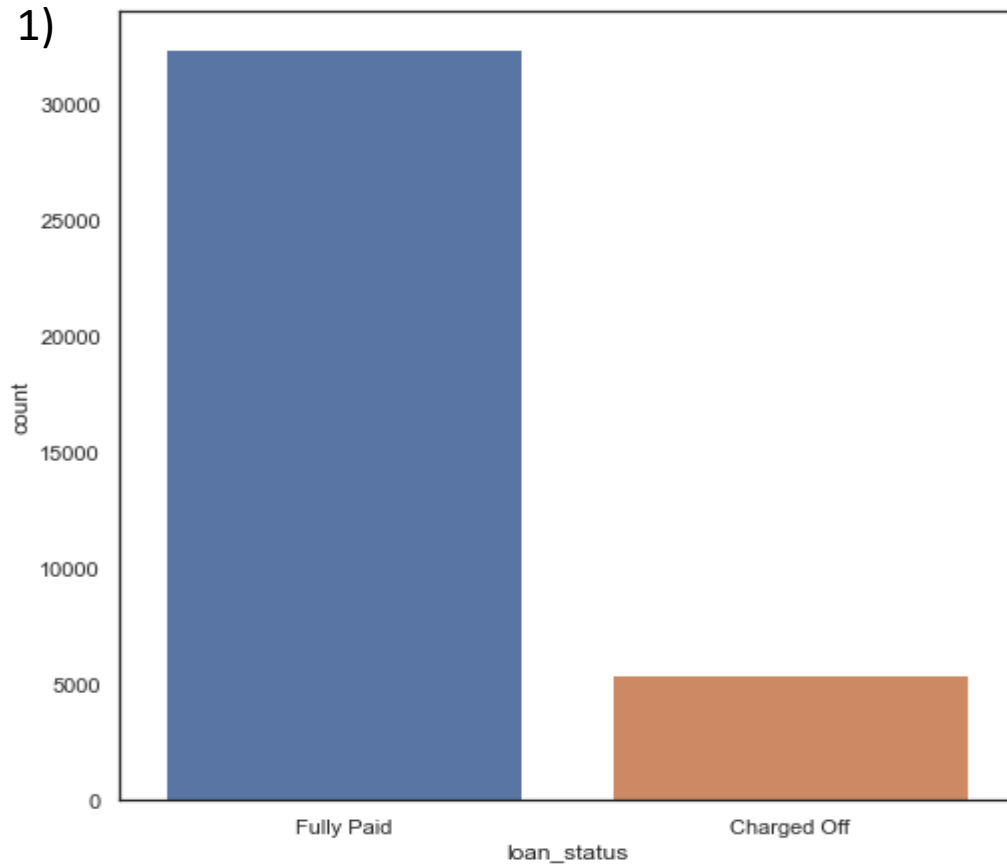
### ➔ Data cleaning

1. First we filtered out all the current loan status customers.
2. Missing value check
3. Null value check
  - Dropped the columns with null values
4. Set datatypes appropriately

### ➔ Data Visualization

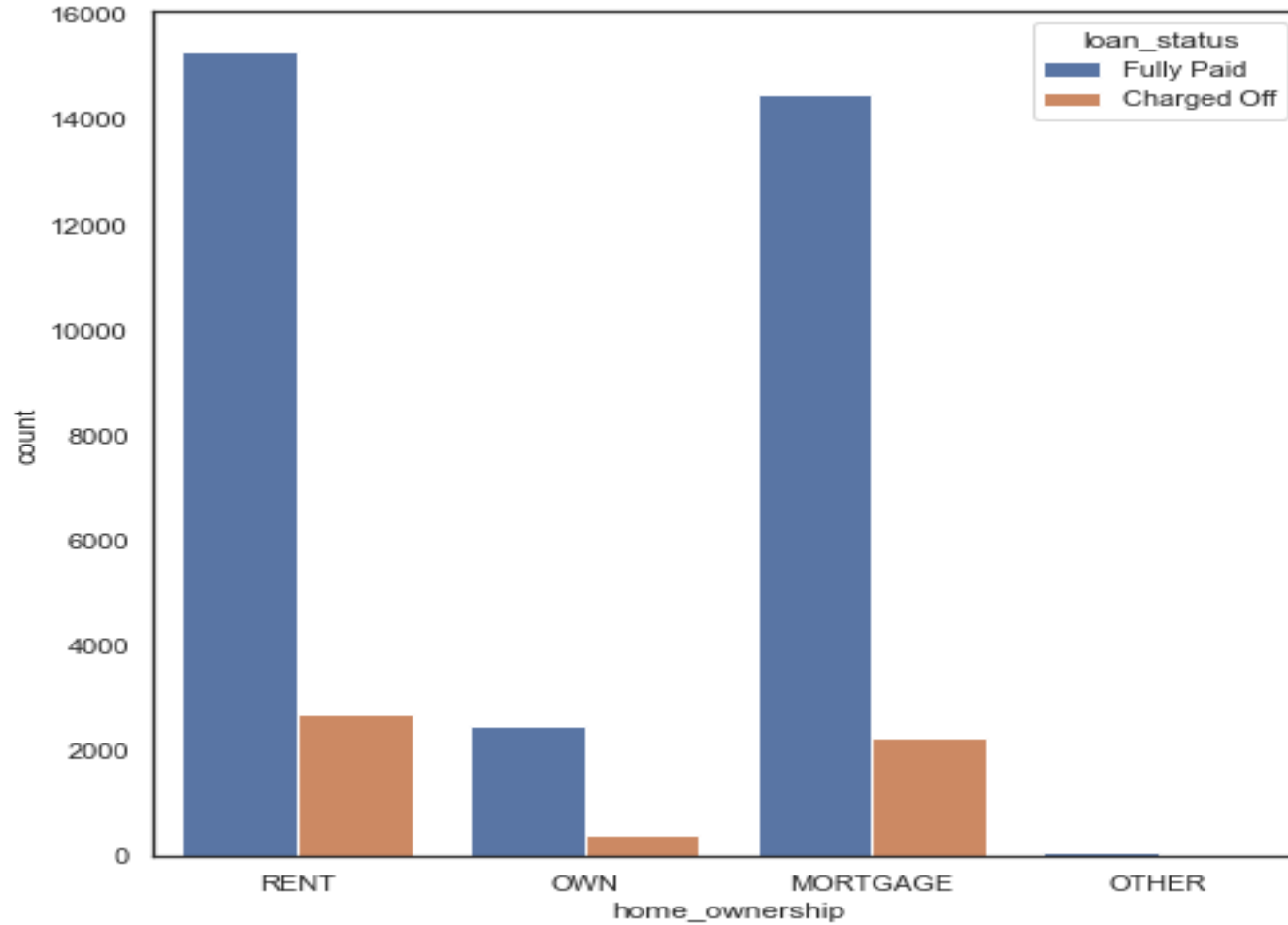
1. Univariate Analysis
2. Bivariate Analysis

## EDA Graphs and Insights



After filtering out current customers  
We have 85% fully paid and 14% charged  
off customers.

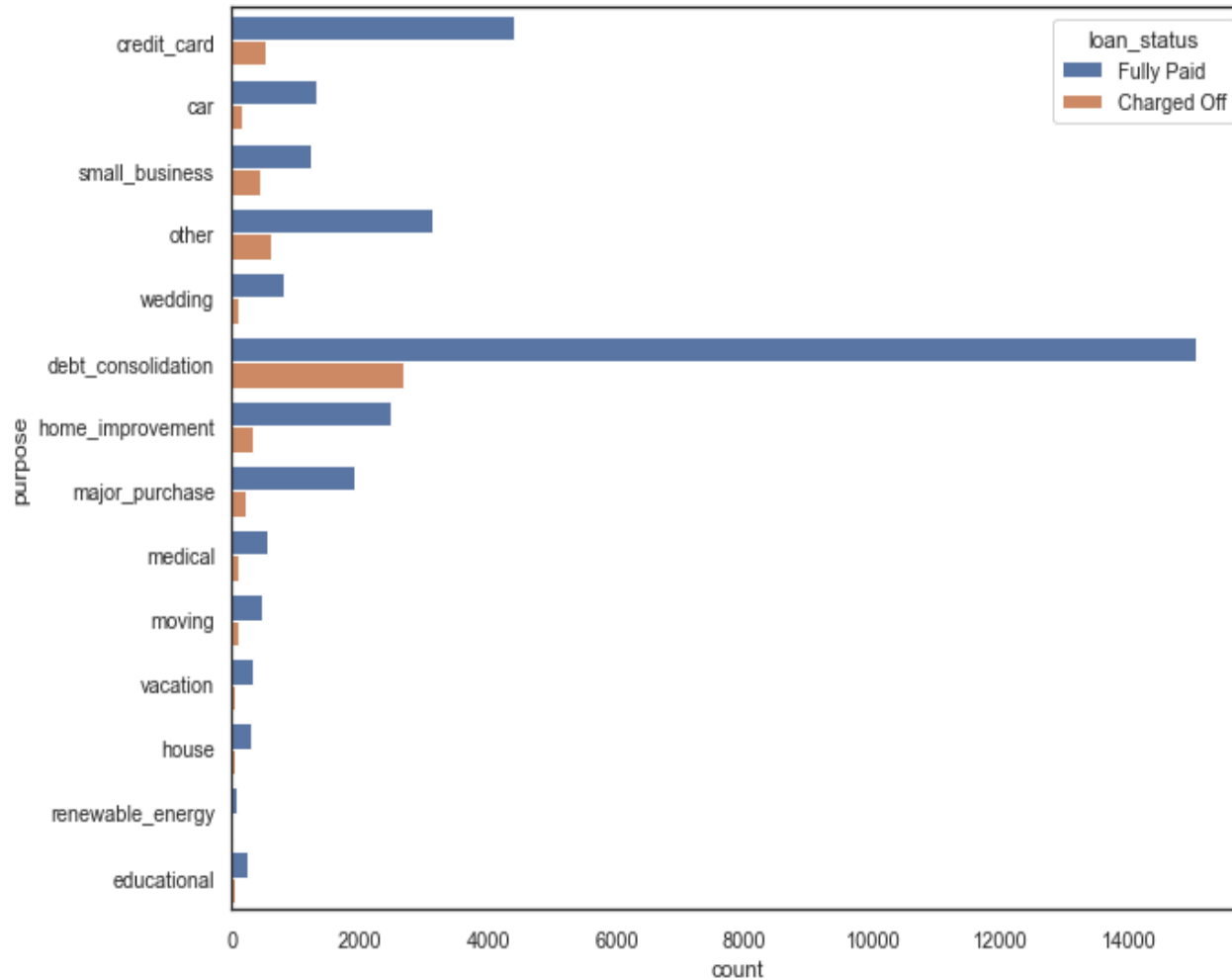
## 2) Home Ownership Analysis



From the graph we can conclude that

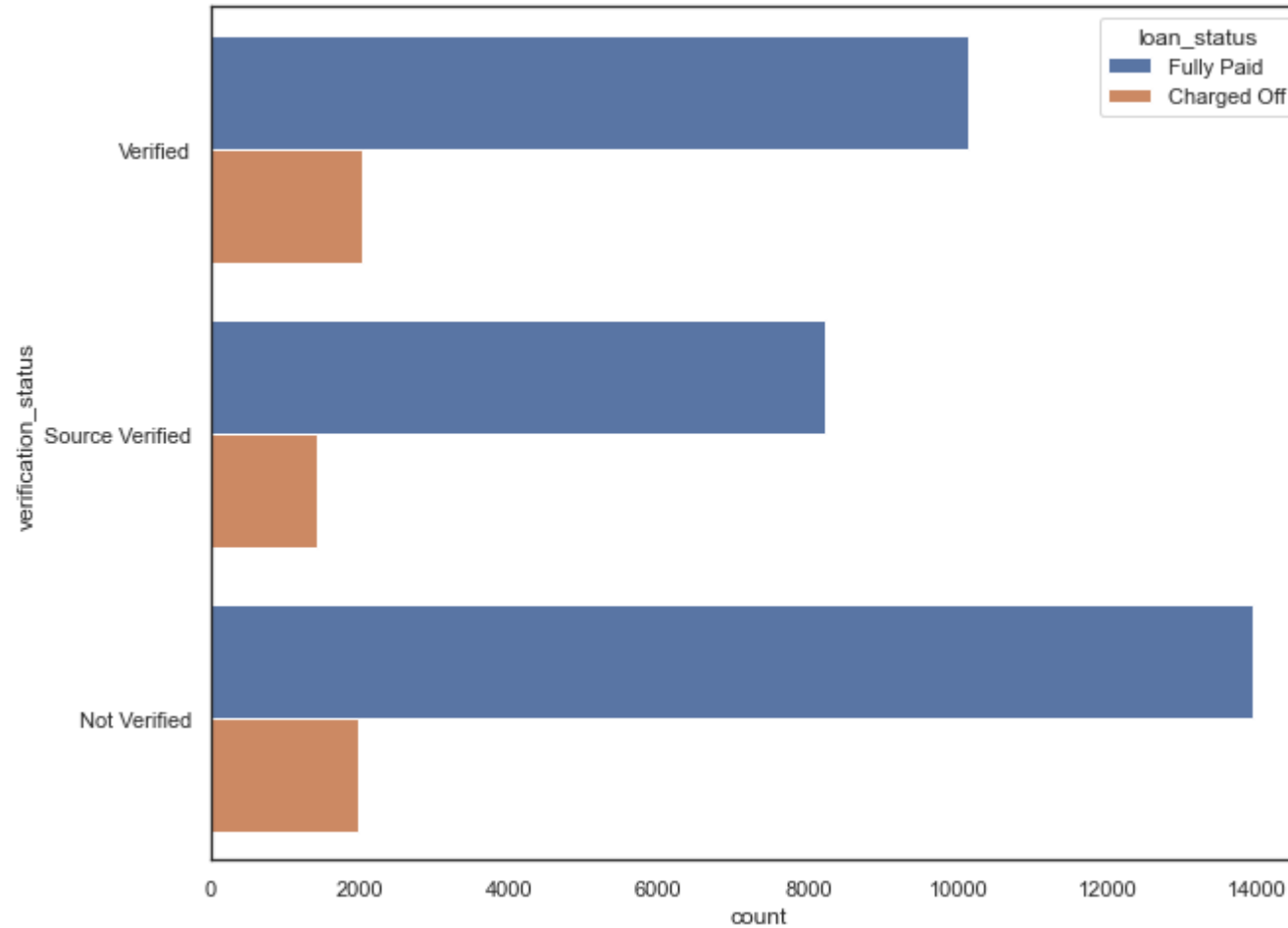
- Most of fully paid customers have their homes on rent
- Charged off customers Mostly live in home which is on rent or home is mortgaged.

### 3) Loan Amount and Purpose of Loan Analysis



- Hence fully paid customers mostly has debt consolidation as purpose while next fully paid customer reason is for the credit card
- Most Charged off customers also have debt consolidation as purpose.

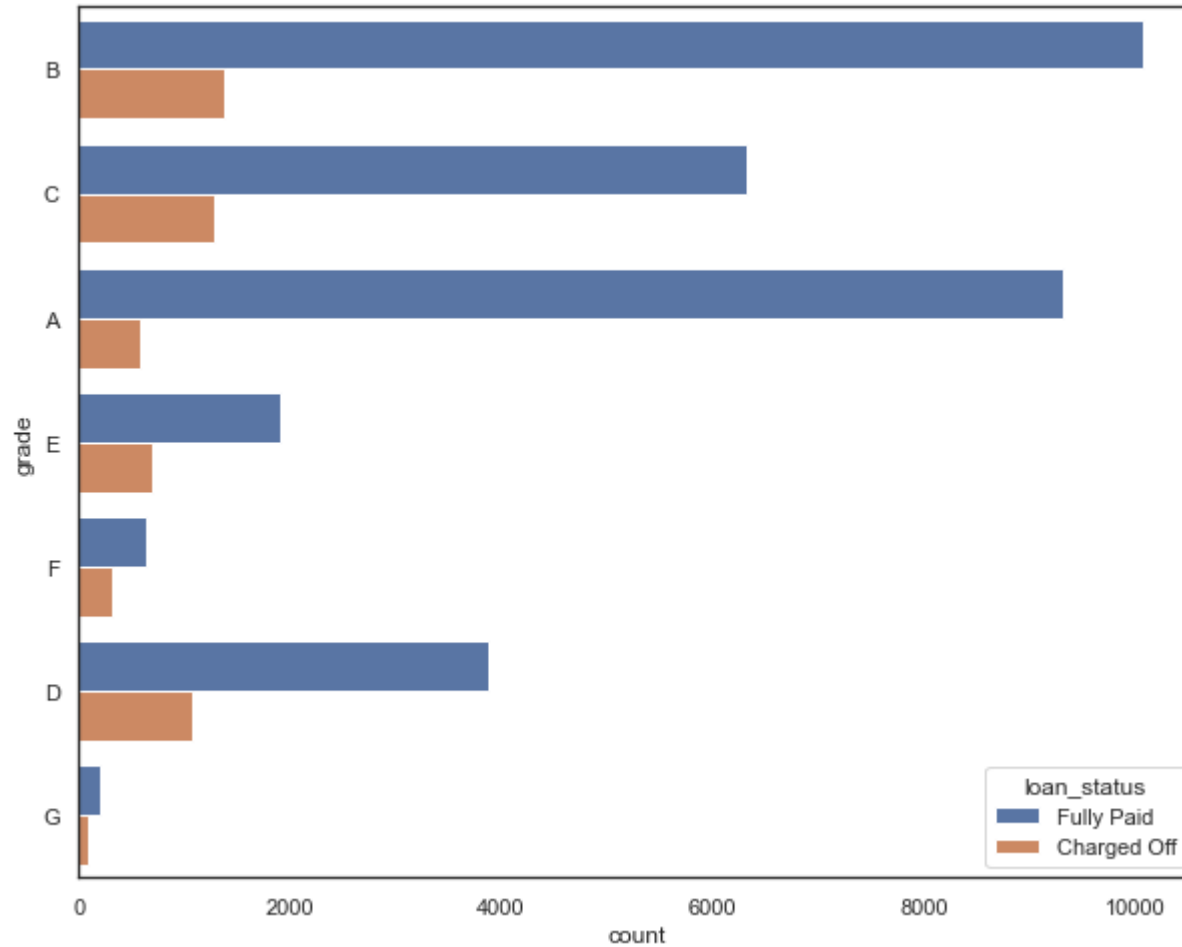
#### 4) Income source verification Analysis



- Hence most of the fully paid customers are having their income source not verified while most of charged off customers are having their income verified

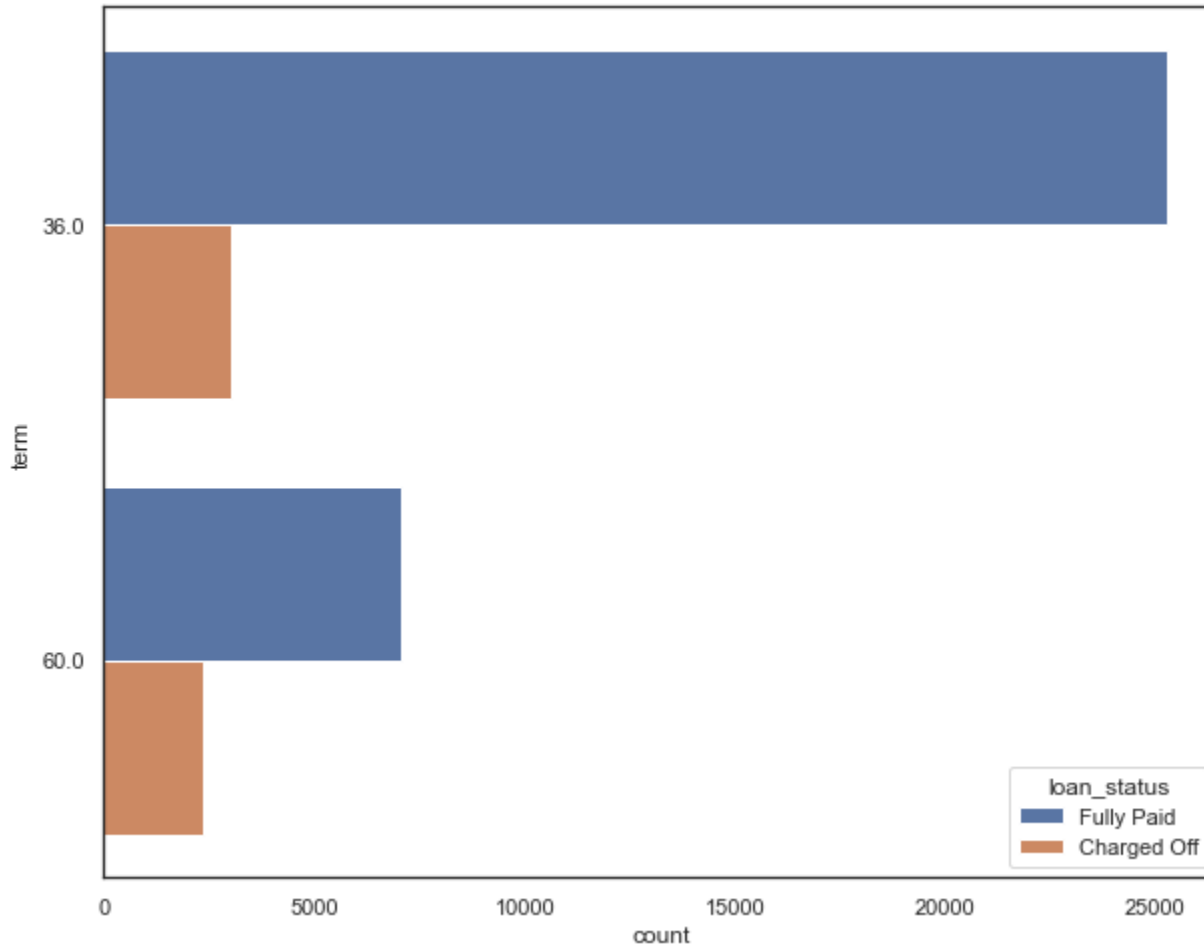


## 5) Loan Grade Analysis



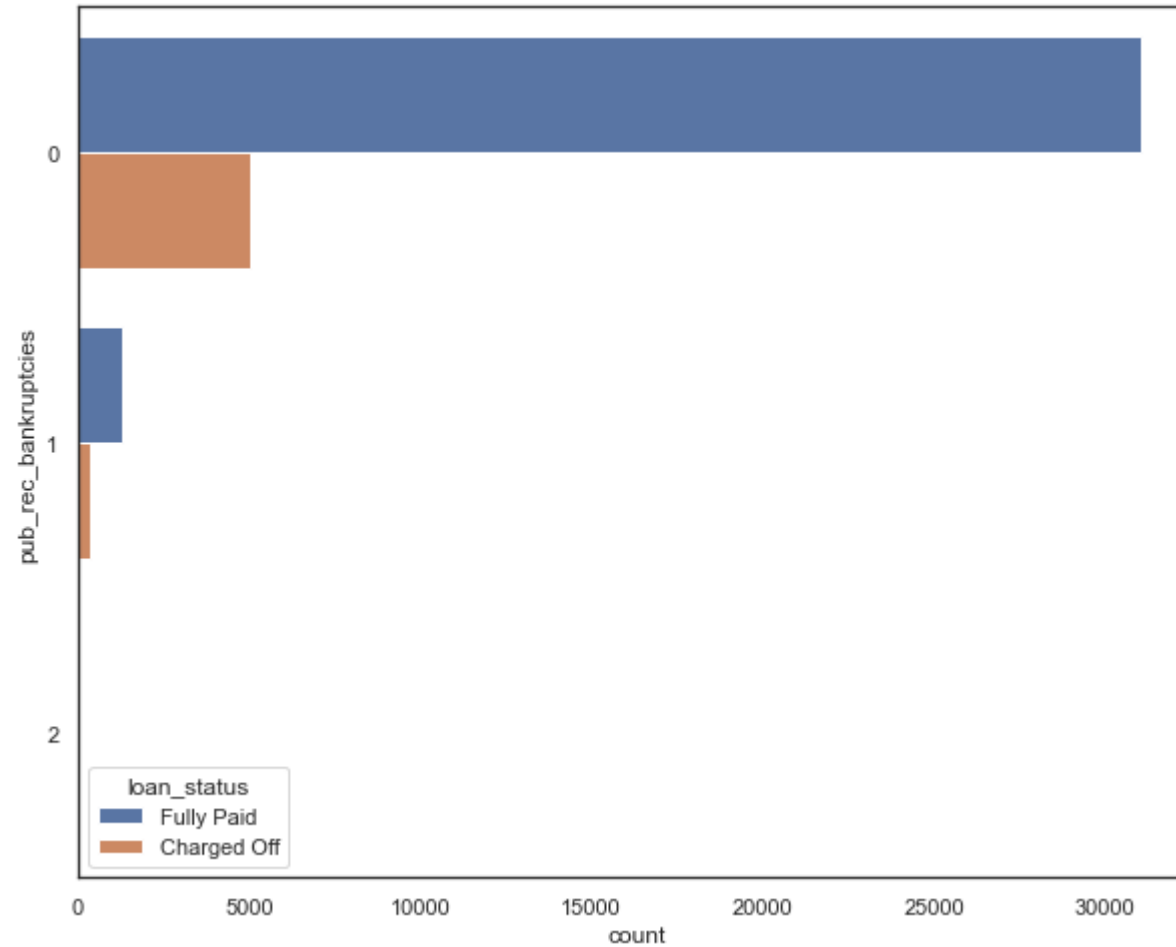
- Hence most of defaulters are from B,C,D grade

## 6) Loan Term Analysis



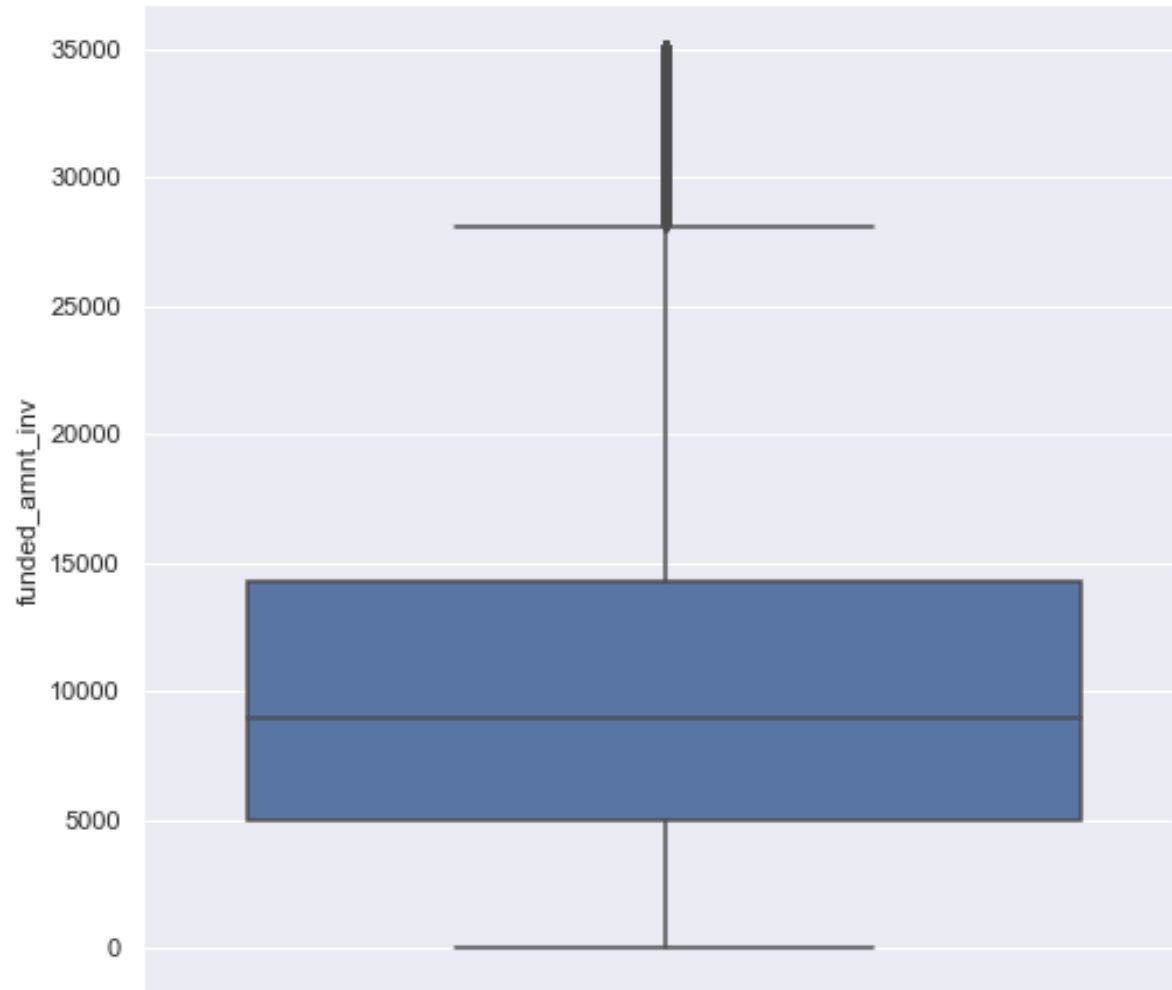
- Most of fully paid customers have 36 month as loan term
- While loan term is not affecting the charged off customers

## 7) Analysis of the public record of bankruptcies



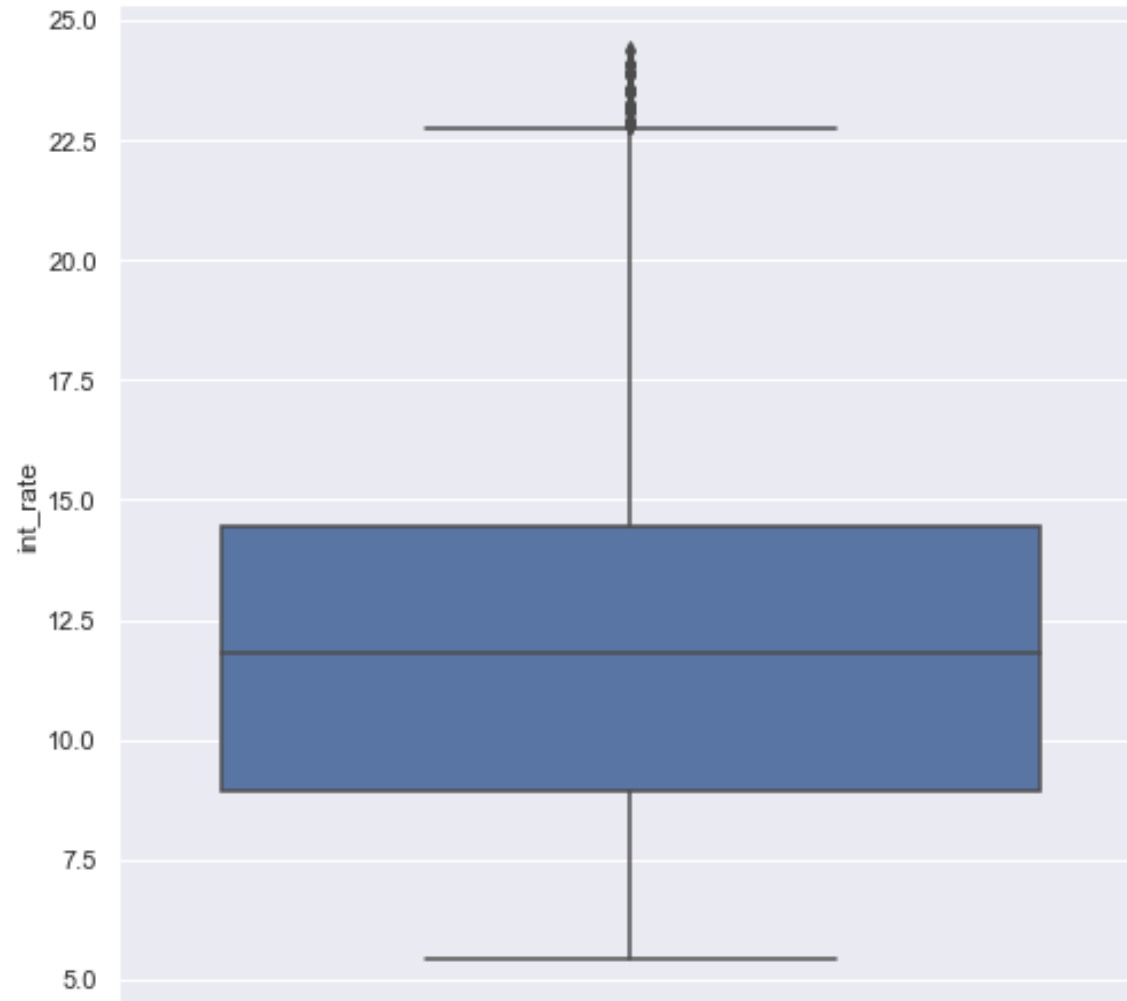
- if loan case come into public record it has most probability to be paid off

## 8) Analysis on total funded amount



- Most of funded amount is between 5000 to 14000

## 9) Analysis on interest rate



- Most of loans are offered at 8-14% interest rate