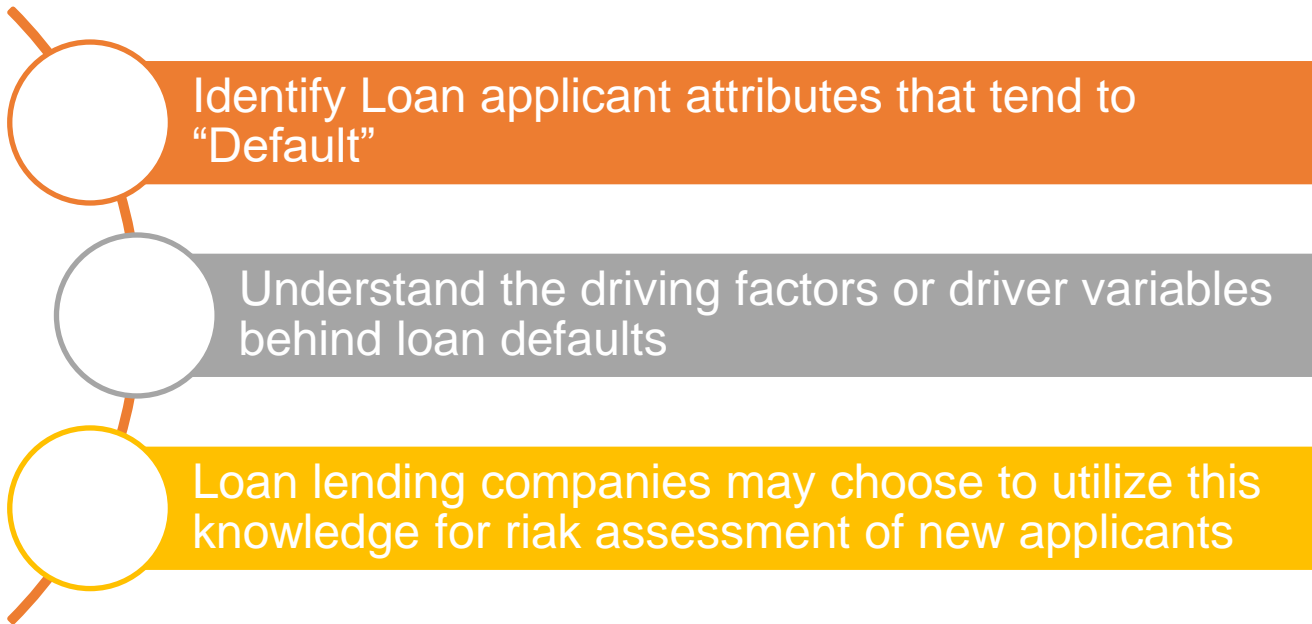


Lending Club Case Study Submission

Group members:

- Kapil Bajaj
- Shailesh Patil

Objectives





Examined data format, number of records, or field identities.

Explored data Queried & visualized it

Verify data quality to evaluate unnecessary or dirty data

Deleted unnecessary Columns

Removed Outliers very high & low values that affect the analysis

Treated Missing Values with appropriate approach

Removed Duplicate Data

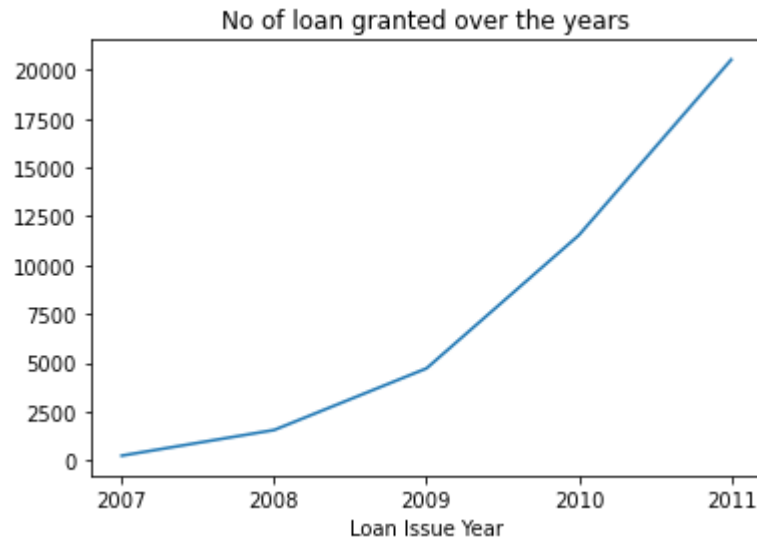
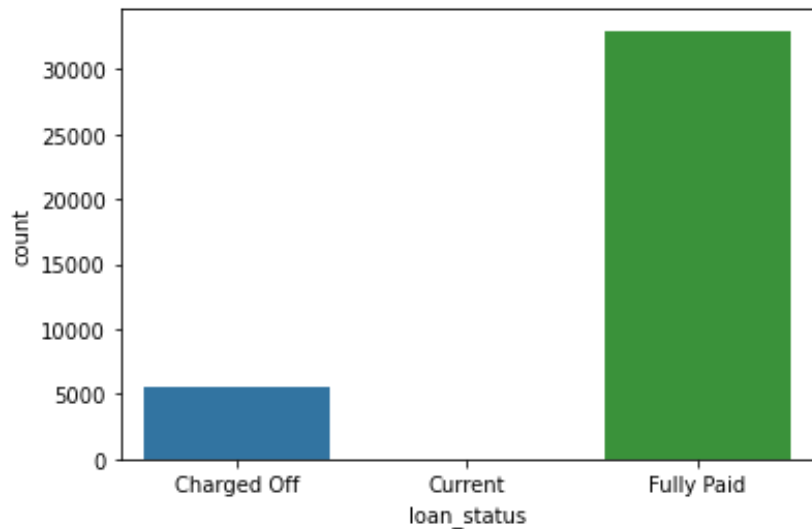
Created Derived Columns

Removed unnecessary strings from numerical data

Define Data type numeric / Categorical

Performed Univariate, Segmented univariate, Multivariate Analysis

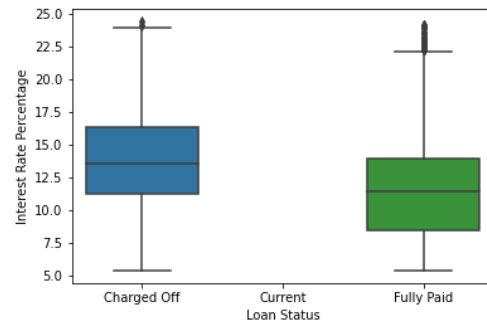
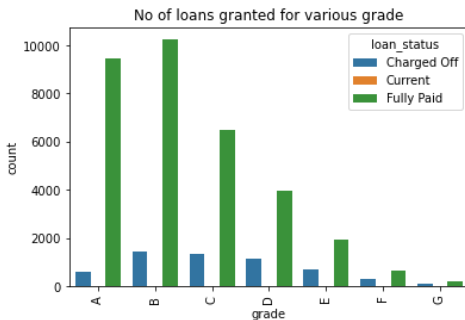
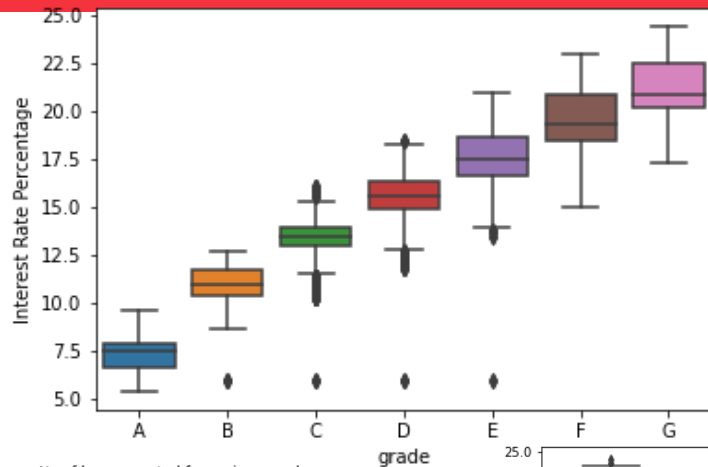
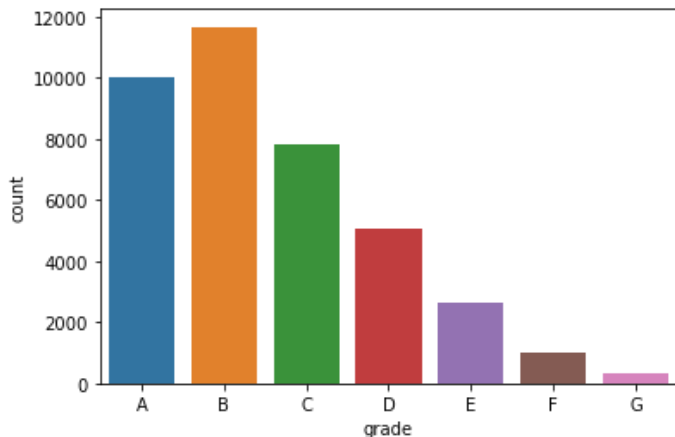
- This project is to analyze and understand how consumer & funded loan traits influence the tendency of defaulting
- Performed Data Cleaning & Preparation on the Loan dataset
 - Removed NA values from all the variables
 - Created 2 new columns
 - Profit & Loss
 - Ratio of funded amount & annual income
- Performed Univariate, Segmented univariate, Multivariate Analysis
 - Histograms, Bar Charts to check out the distribution of all the key variables
 - Box plot to detect outliers
 - Multivariate analysis to understand how different variables interact with each other



Observations:

- Most of the loans are Fully Paid. About 14% of loan are having status as defaulters.
- Loan Applicants have been increasing exponentially from year 2007 to 2011

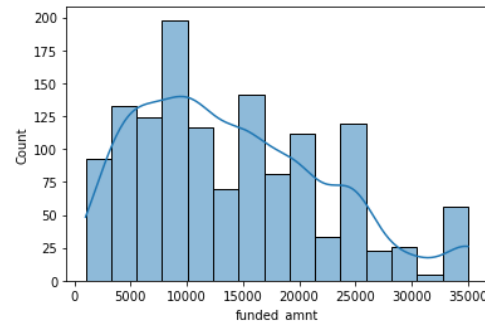
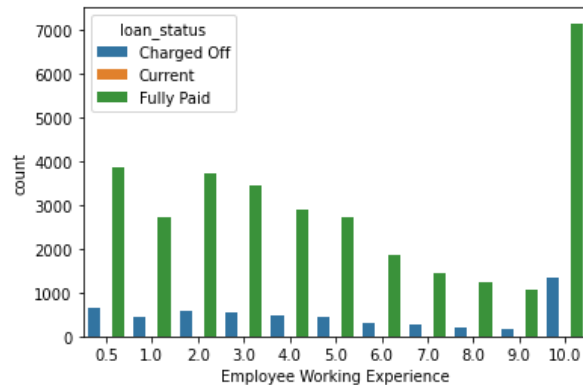
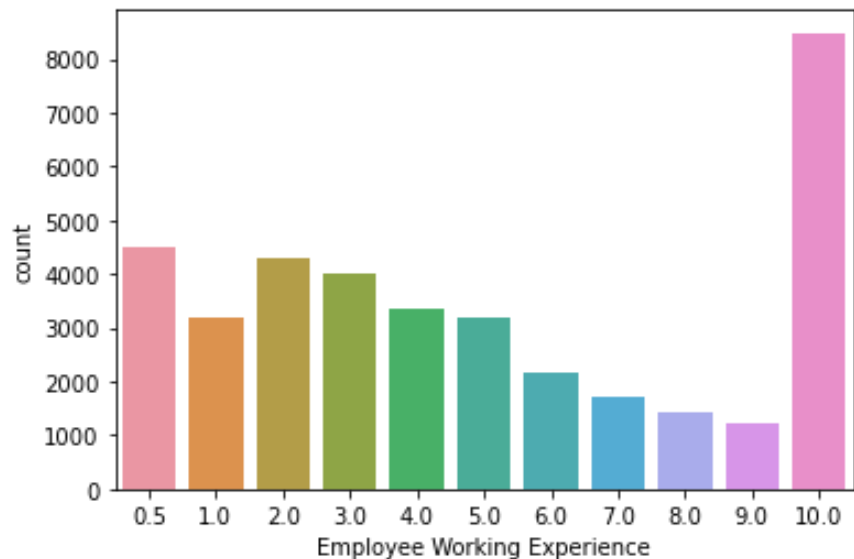
Loan Grade Analysis



Observations:

- Most of the loans have grade of A and B. Therefore stating most of the loans are high graded loans
- High quality loans have low interest rates
- High interest rate have higher tendency to default the loan

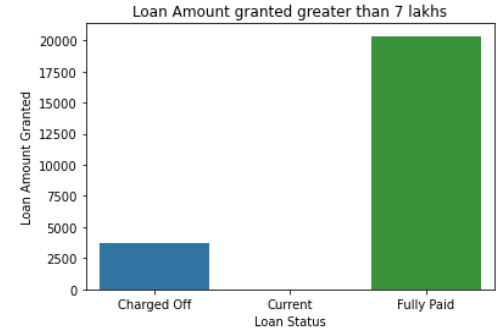
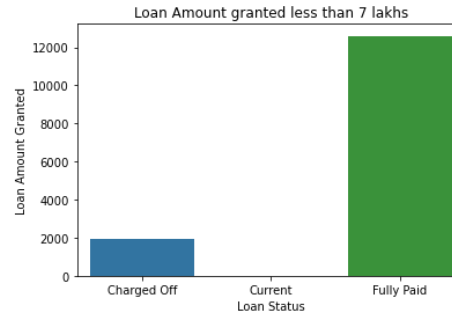
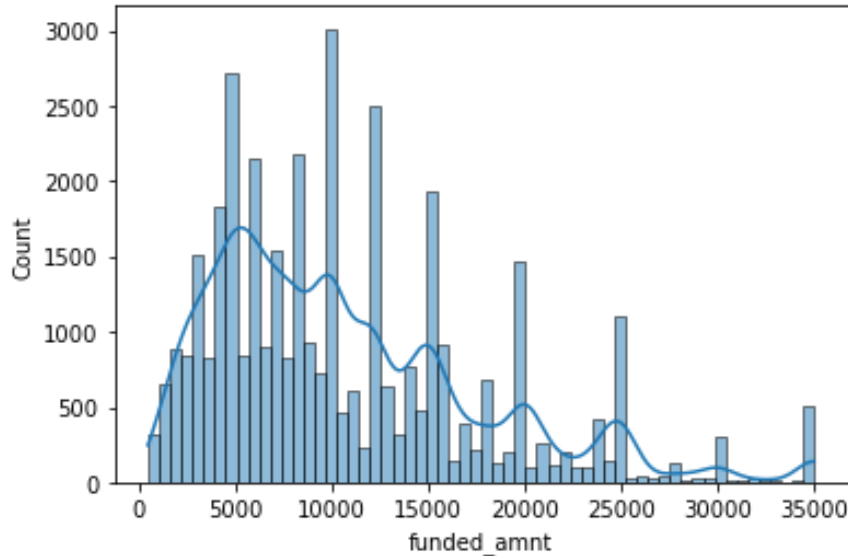
Loan Applicant Work experience



Observations:

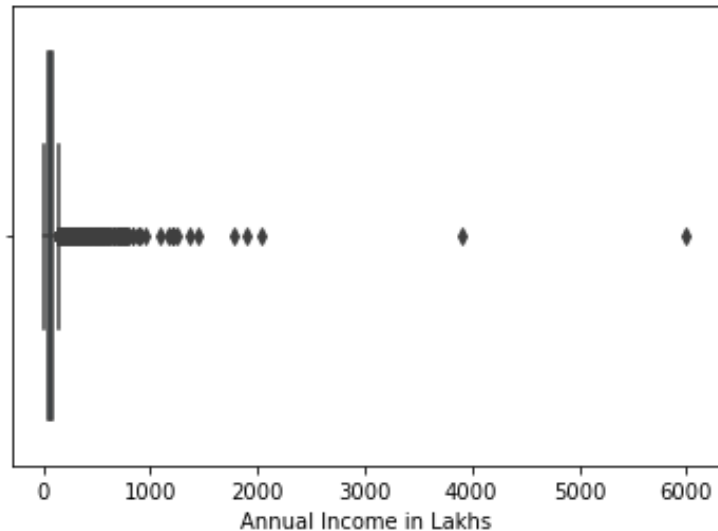
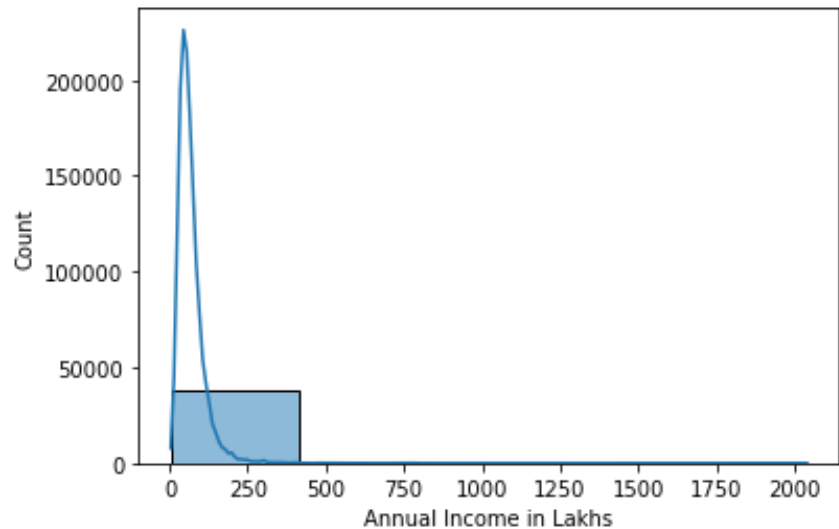
- Majority of employees applying for the loan have more than 10 years of experience
- Likelihood of person to be defaulter also very high with 10 years of experience having loan within 10 Lacs

Loan Amount Analysis



Observations:

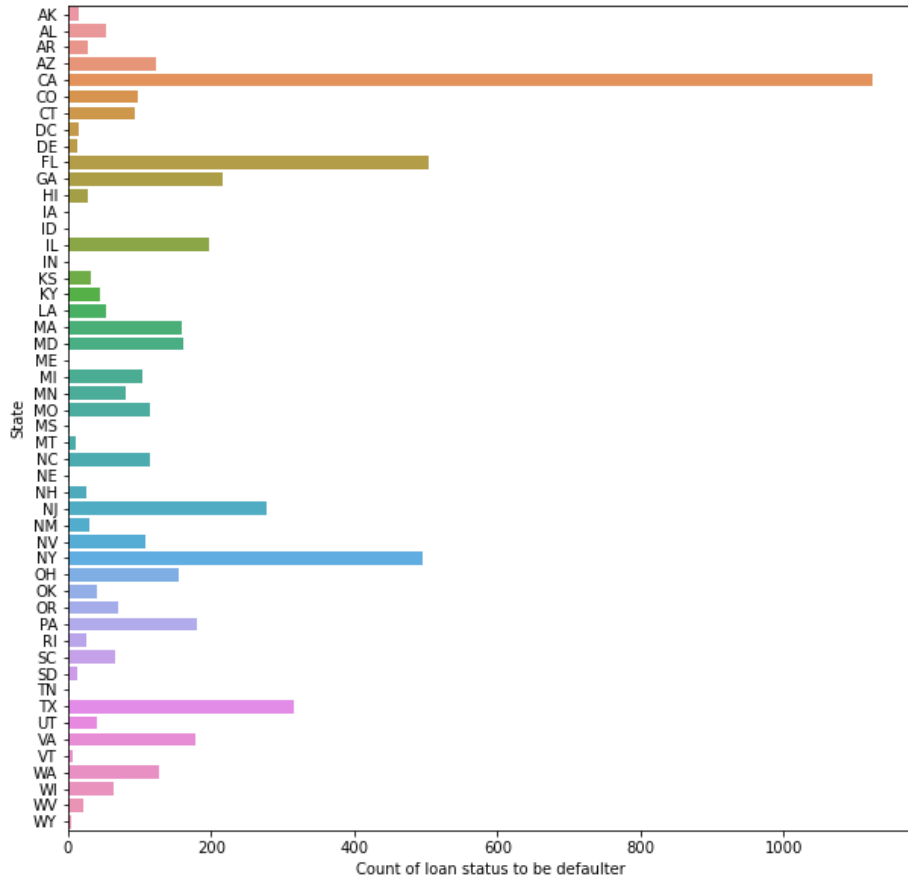
- Most of the loan amount given is below 7 Lacs
- Likelihood of people with loan amount more than 7 Lacs tends to default in comparison to less than 7 Lacs



Observations:

- Majority of loan applicants have income less than 5 lakhs
- There are only two applicants having annual income of more than 30 lakhs

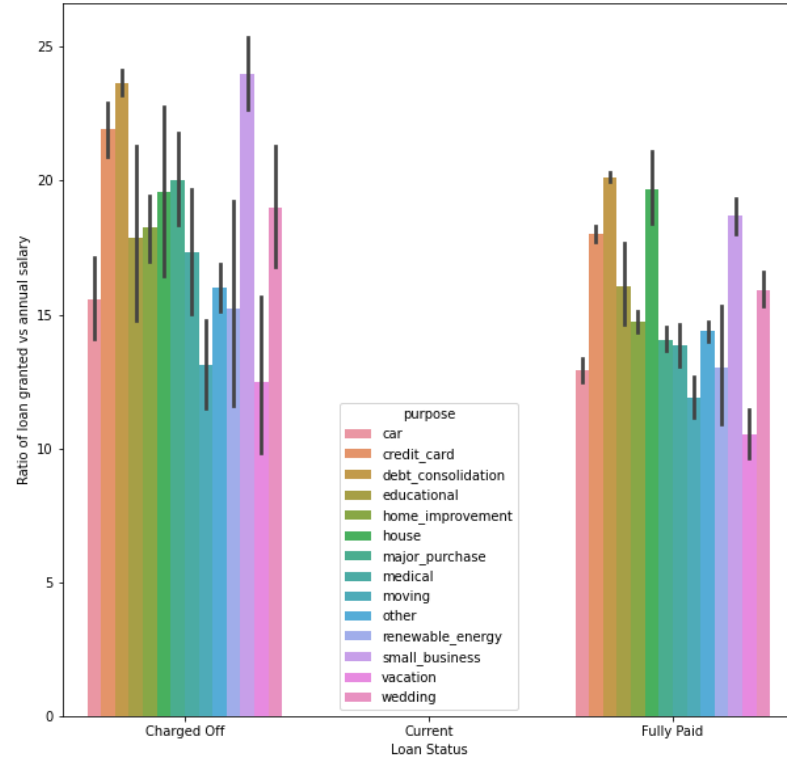
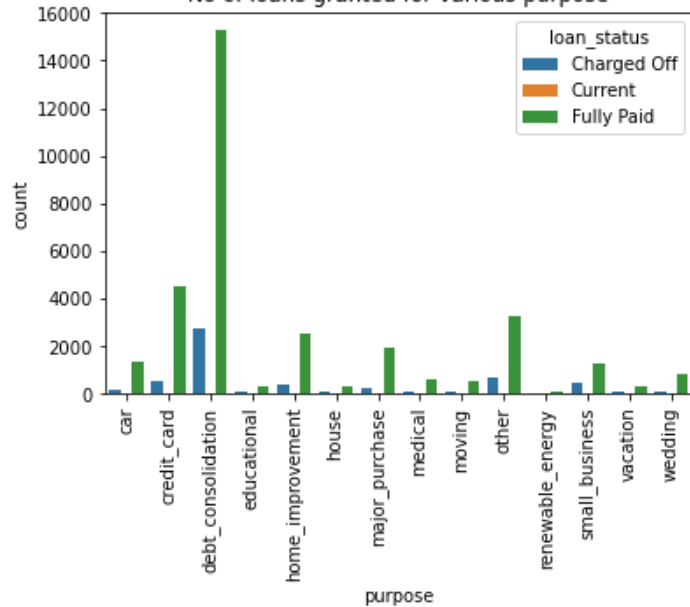
Loan Defaulters at State Level



Observations:

- Applicants from the state CA are having high probability to be default

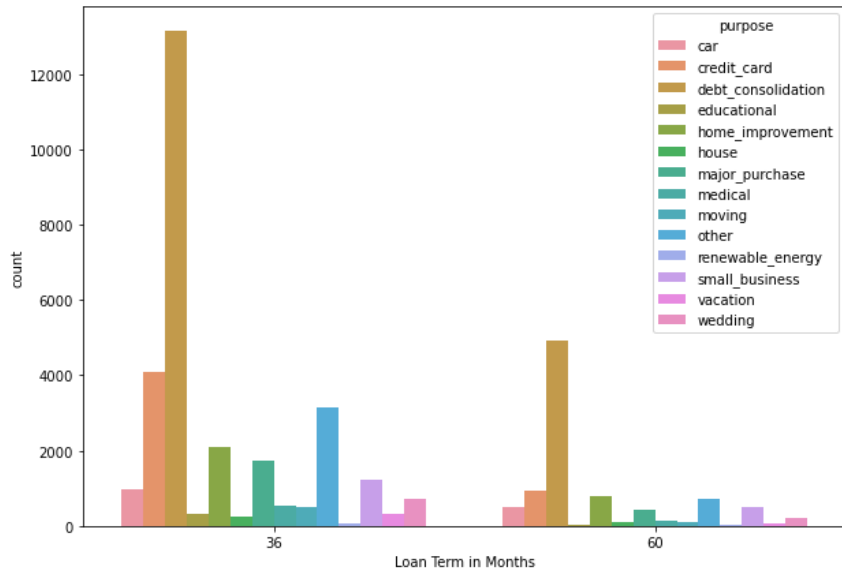
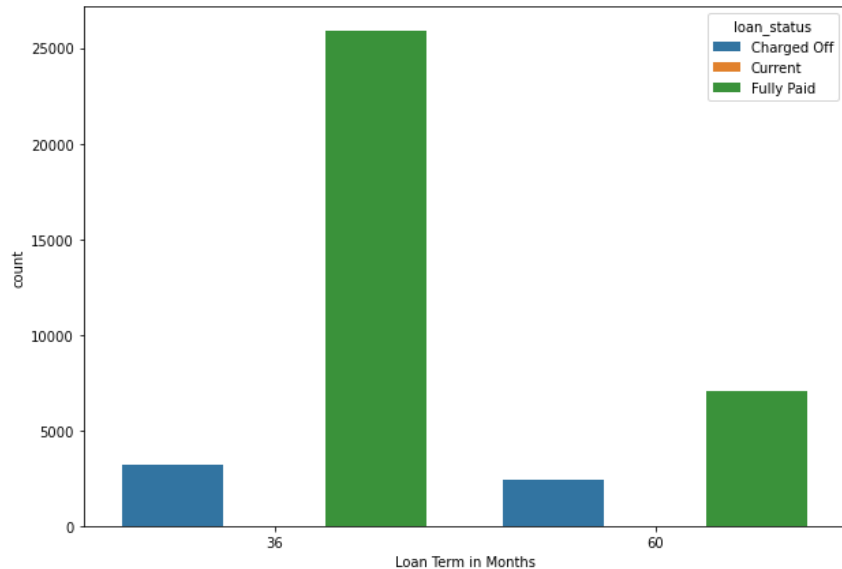
No of loans granted for various purpose



Observations:

- Majority of loan has been given for the debt consolidation purpose and has been fully paid.
- People having high income tends to default loan

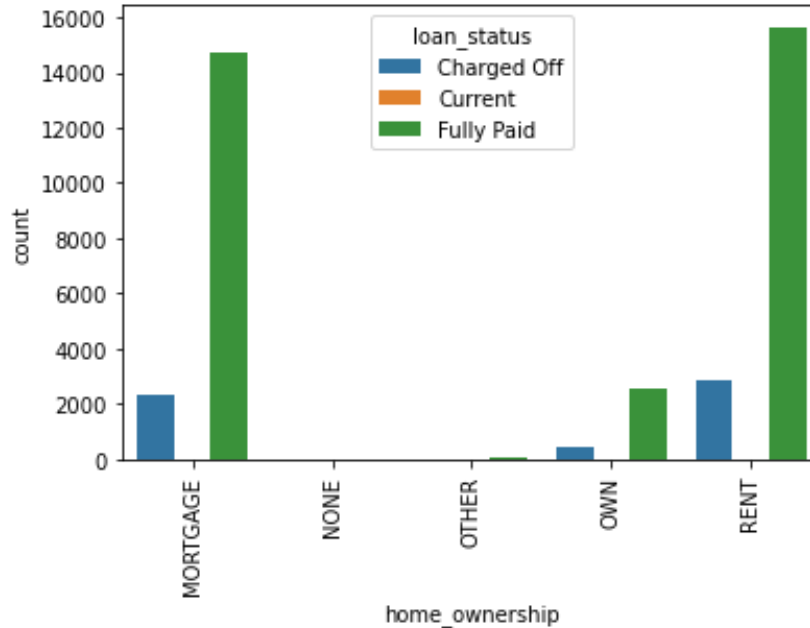
Loan Status vs Tenure



Observations:

- Most of the loans granted for 36 months
- Tenure of 60 months have high chance (%) to be defaulter
- Debt consolidation is the most common purpose of taking loan both for 36 & 60 months

Loan Status by Home Ownership



Observations:

- Applicant having home rented or Mortgage have high tendency to default the loan

- Low grade loans have high tendency to default, Grading system is working as expected
- High interest rate have higher tendency to default the loan
- Applicants from the state CA are having high probability to be default – Extra scrutiny must be done for the applicants belongs to CA
- Applicant having home rented or Mortgage have high tendency to default the loan - Extra scrutiny must be done for such applicants
- People having experience of 10+ years , taking loan less than 10 Lac have high tendency to default the loan - Extra scrutiny must be done for such applicants
- People taking loan for debt consolidation or mall business purpose and having high income high tendency to default the loan - Extra scrutiny must be done for such applicants