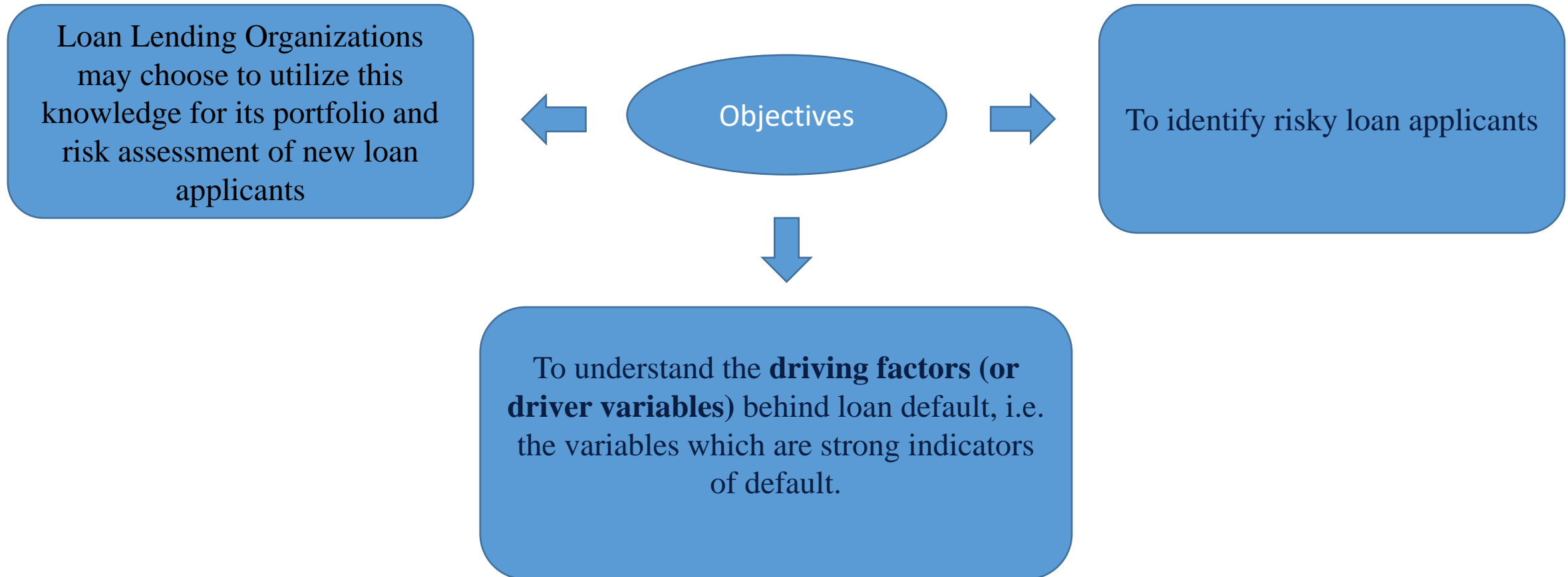


LENDING CLUB CASE STUDY

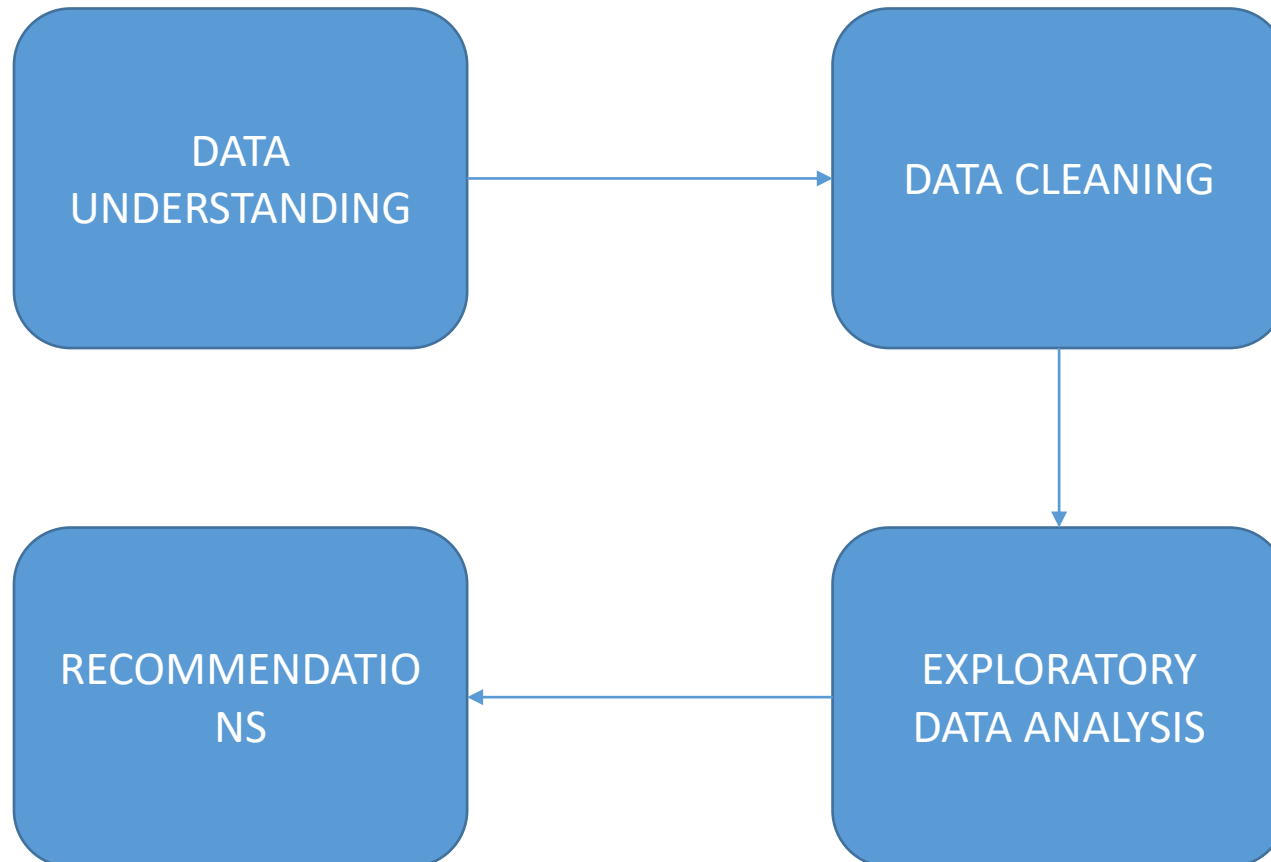
Group Facilitator: Rahul Agnihotri

Group Member : Aakash Singh

Problem Statement



Problem solving methodology



DATA UNDERSTANDING

- Read the data to Python dataframe
- Check the datatype of various columns
- Correct the datatype of the column if required
- Check columns where you may require to extract numerical data.
- Identify the target column

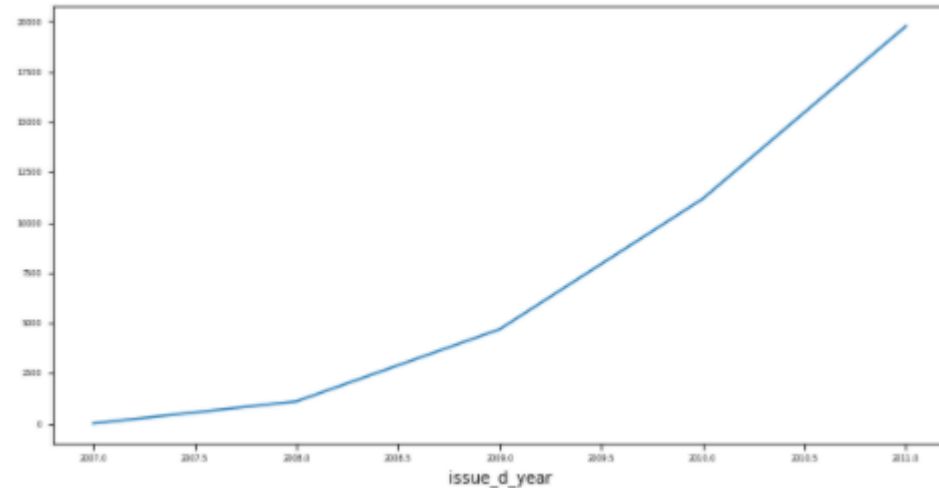
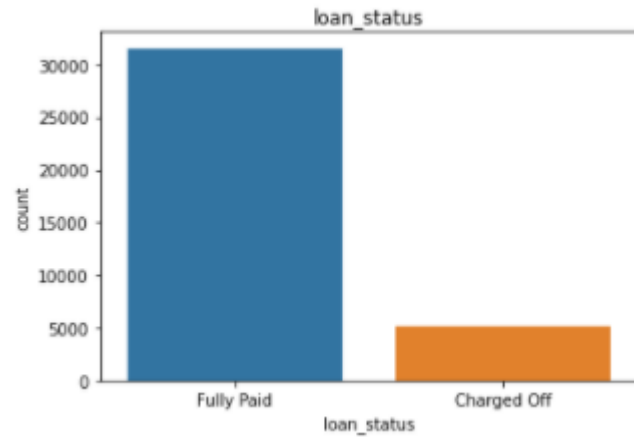
DATA CLEANING

- Check the percentage of missing values
- Remove all those with very high missing percentage
- For columns with less missing percentage: perform Imputations
- Drop rows where the missing percentage is quite high

EDA

- Univariate(Boxplot,Hist)
- Segmented(Displot,Hist)
- Bivariate(Barplt,Boxplot,Heatmap)
- Multivariate(Pairplot,Heatmap)

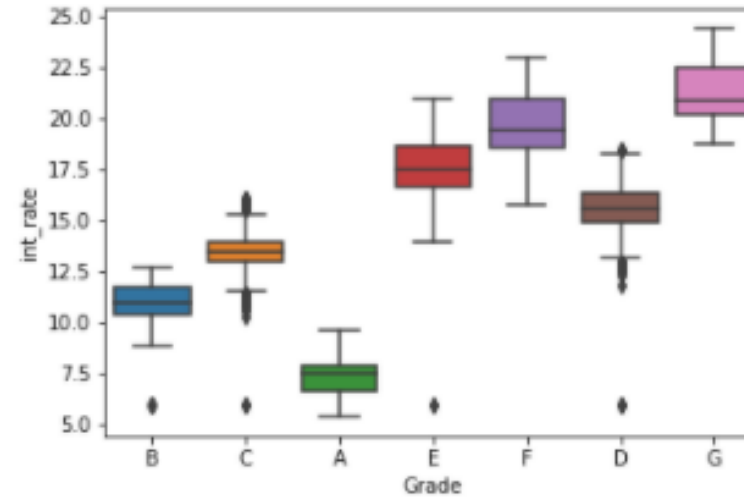
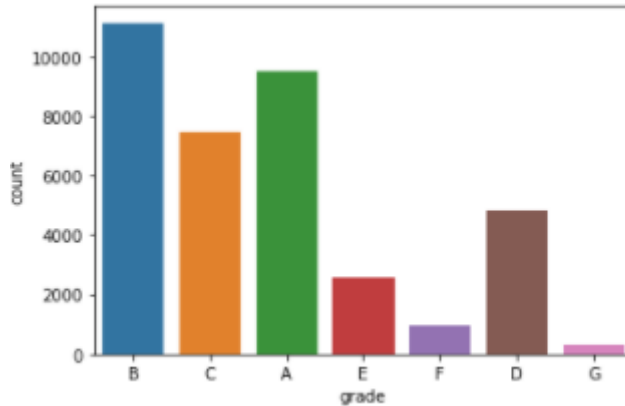
Loan Status Analysis



Observations:

1. Most of the loans are Fully Paid.
2. About 14.16% of loan are having status as defaulters.
3. The loan has been increasing exponentially over the years.

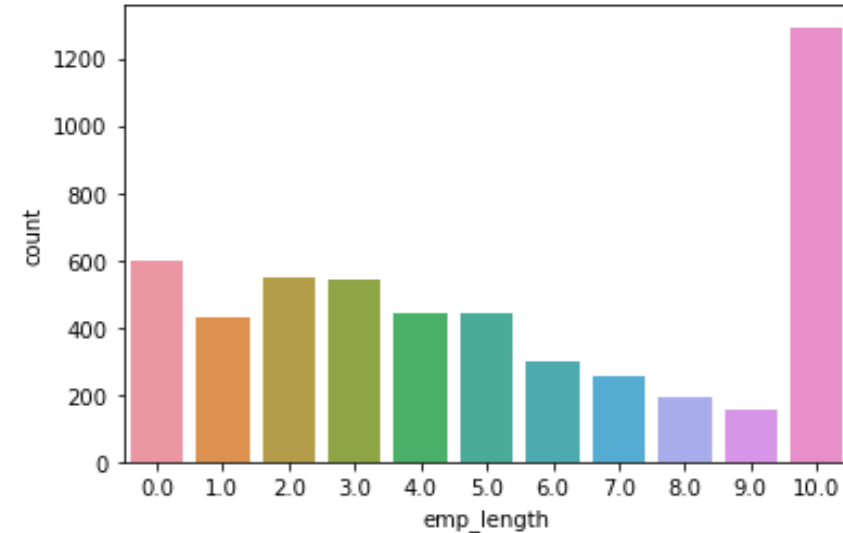
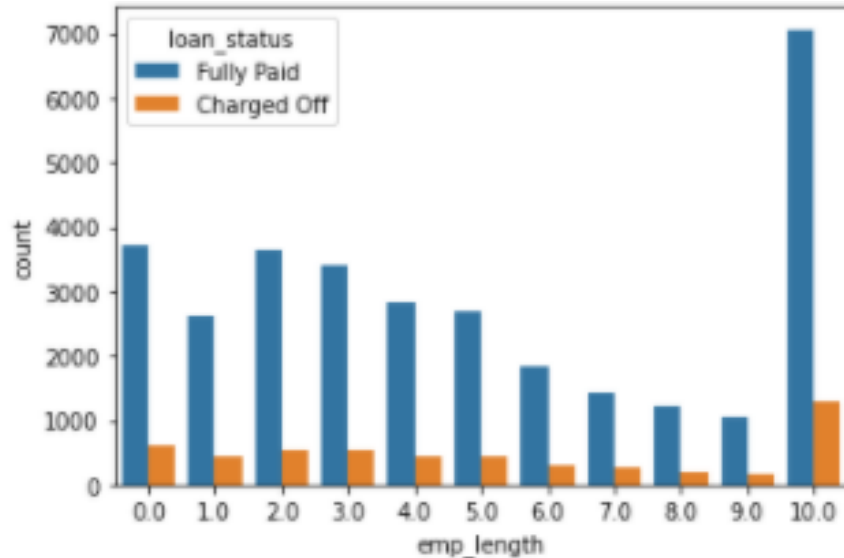
Loan Grade Analysis



Observation:

1. Most of the loans have grade of A and B. Therefore stating most of the loans are high graded loans.
2. High Quality loans have low interest rate.
3. Which depicts, higher interest rate have higher tendency to default the loan.

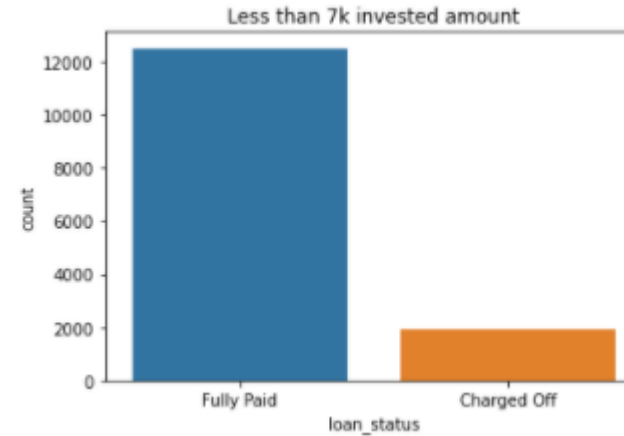
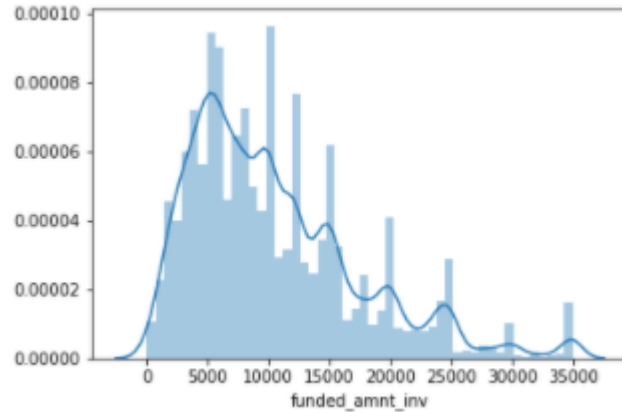
Loan Applicants work Experience Analysis



Observation:

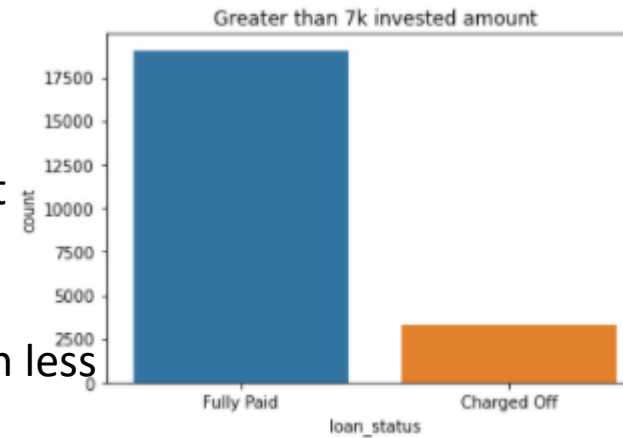
1. Majority of employees applying for the loan have more than 10 years of experience
2. Tendency of person to default the loan with 10 years of experience is also high. So company need to be careful when granting loan.

Funded Loan Amount Analysis

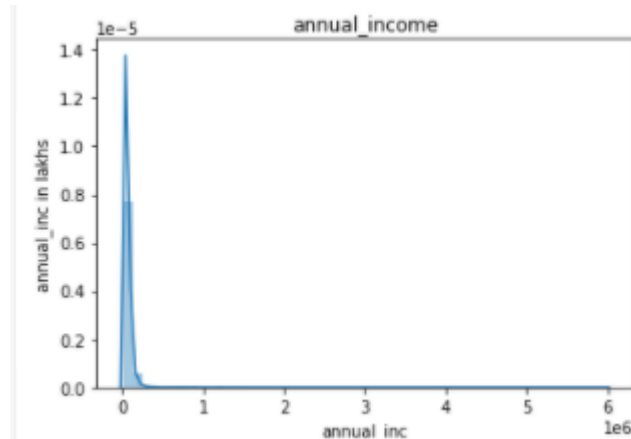
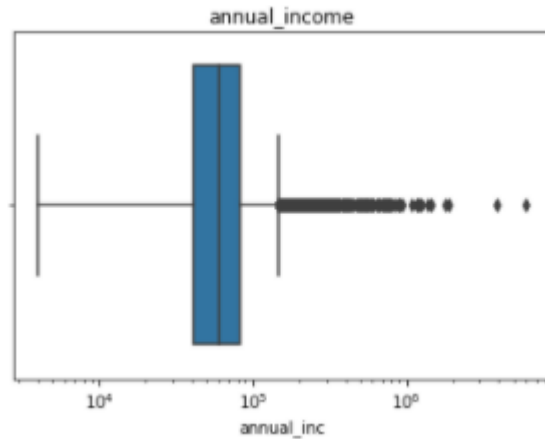


Observation:

1. Funded amount is left skewed. Most of the loan amount given is below 7 thousands.
2. Probability of people with loan amount greater than 7 thousands tends to default is more than the people with less than 7 thousands.



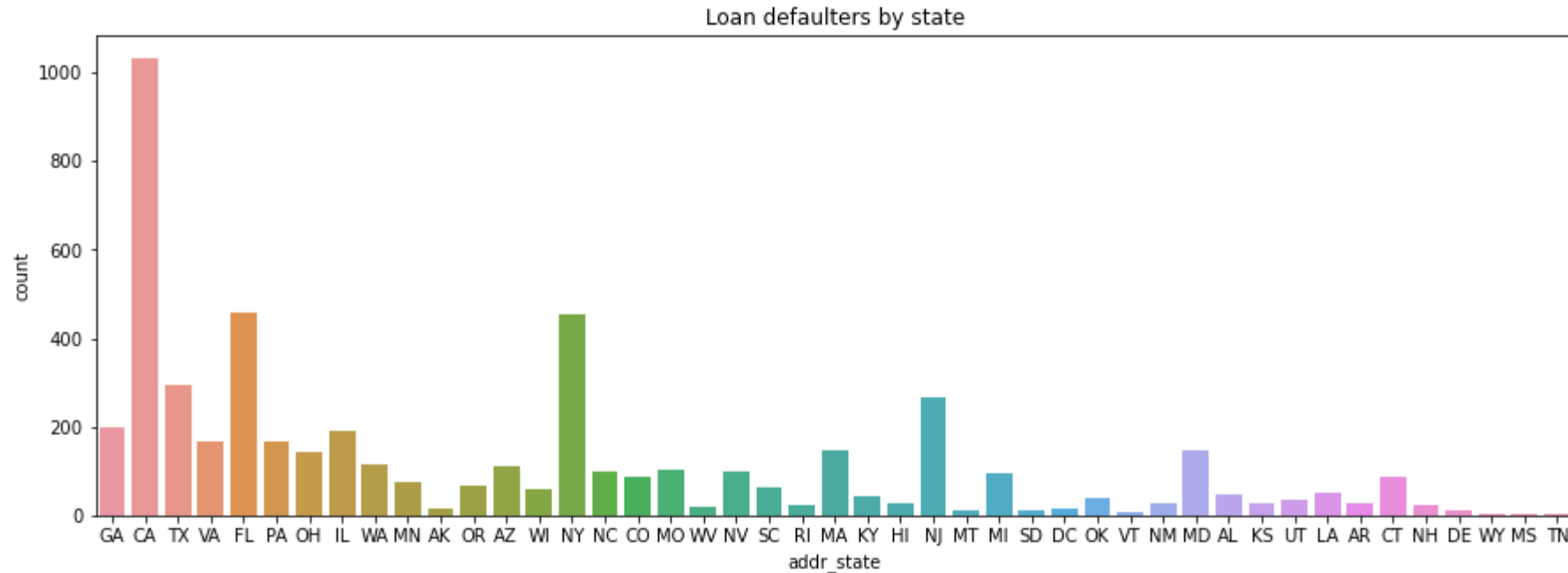
Income Analysis for the loan applicants



Observation:

1. Most of the applicants have income between 0 to 5 lakhs.
2. There are 164 applicants having income above 30 lakhs

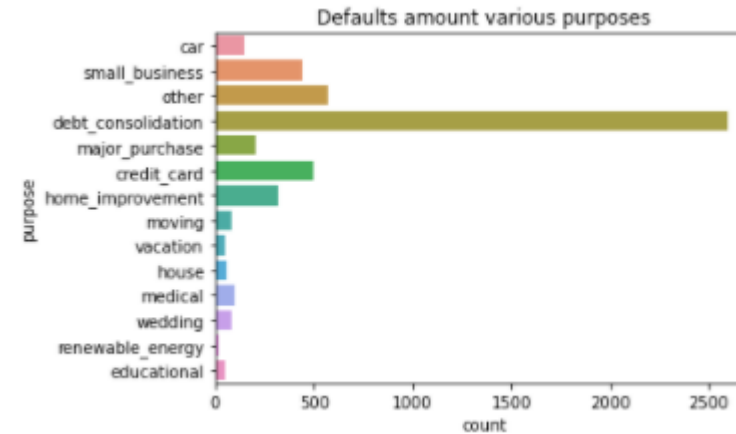
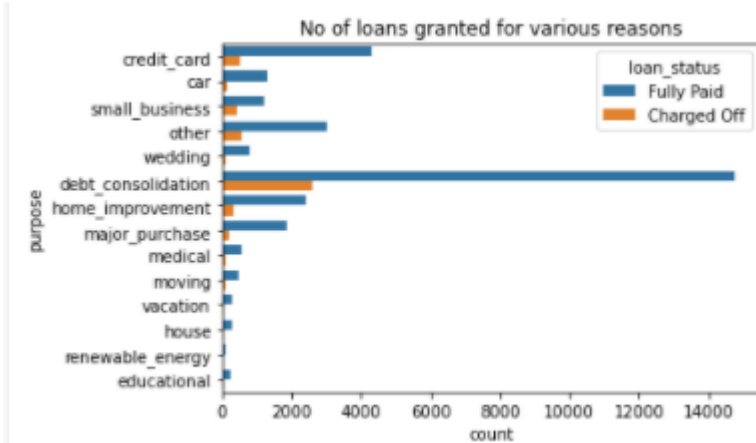
Loan Defaulter by State Analysis



Observation:

Applicants from state CA
have high tendency to
default the loan

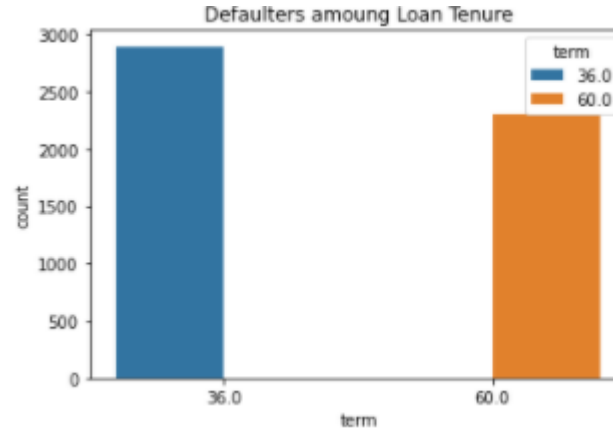
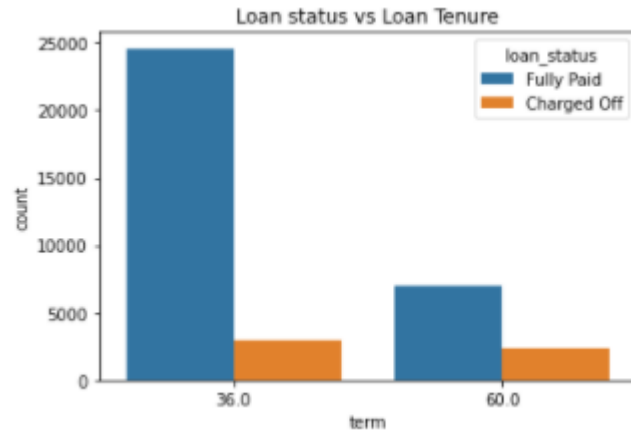
Purpose for applying Loan Analysis



Observation:

1. Most of the loans are granted were for debt consolidation.
2. Applicants having higher income tends to default the loan.

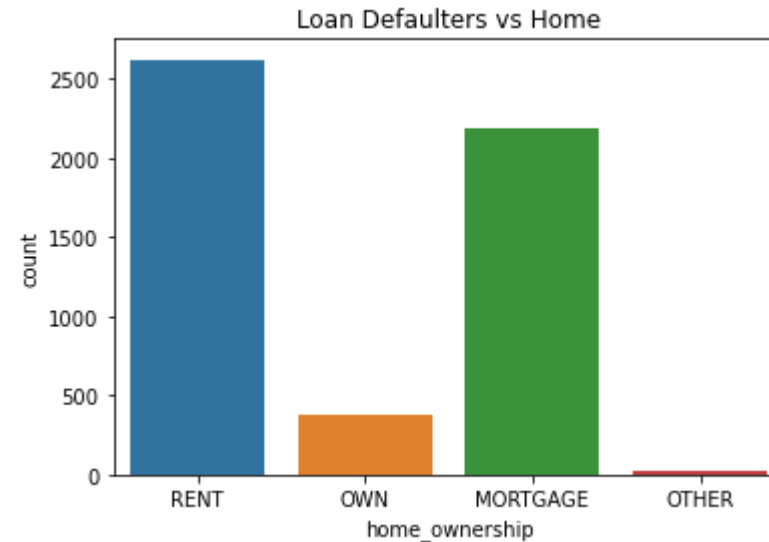
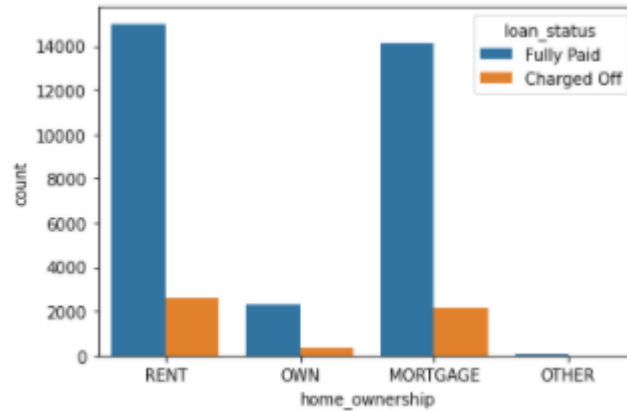
Loan Status vs Loan Tenure



Observation:

1. Most of the loans granted were of 36 months.
2. And loans granted for 36 months have slightly high tendency to default.
3. Additionally, Debt Consolidation is the most common purpose and loans are granted for 36 months and 60 months.

Loan Status by Home Ownership



Observation:

Applicants having their home rented or on mortgage have almost equal tendency to default the loan.

Recommendations

In Order to lower the Credit Loss

- Interest Rate should be low
- Employment Length should be less than 10
- Funded Amount Investment should be kept low as amount greater than leads to default
- Applicants from state CA have more chances to default
- Applicants having purpose as Debt Consolidation has greater tendency to default
- Applicants taking loan term 36 months have higher chances to default
- Applicants having Rented or Mortgaged Home are frequent defaulters