

Lending Club Case Study

SUBMISSION

Group Members

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Abstract

Lending Club 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.

But lending loans to ‘risky’ applicants is the largest source of financial loss to Lending Club.

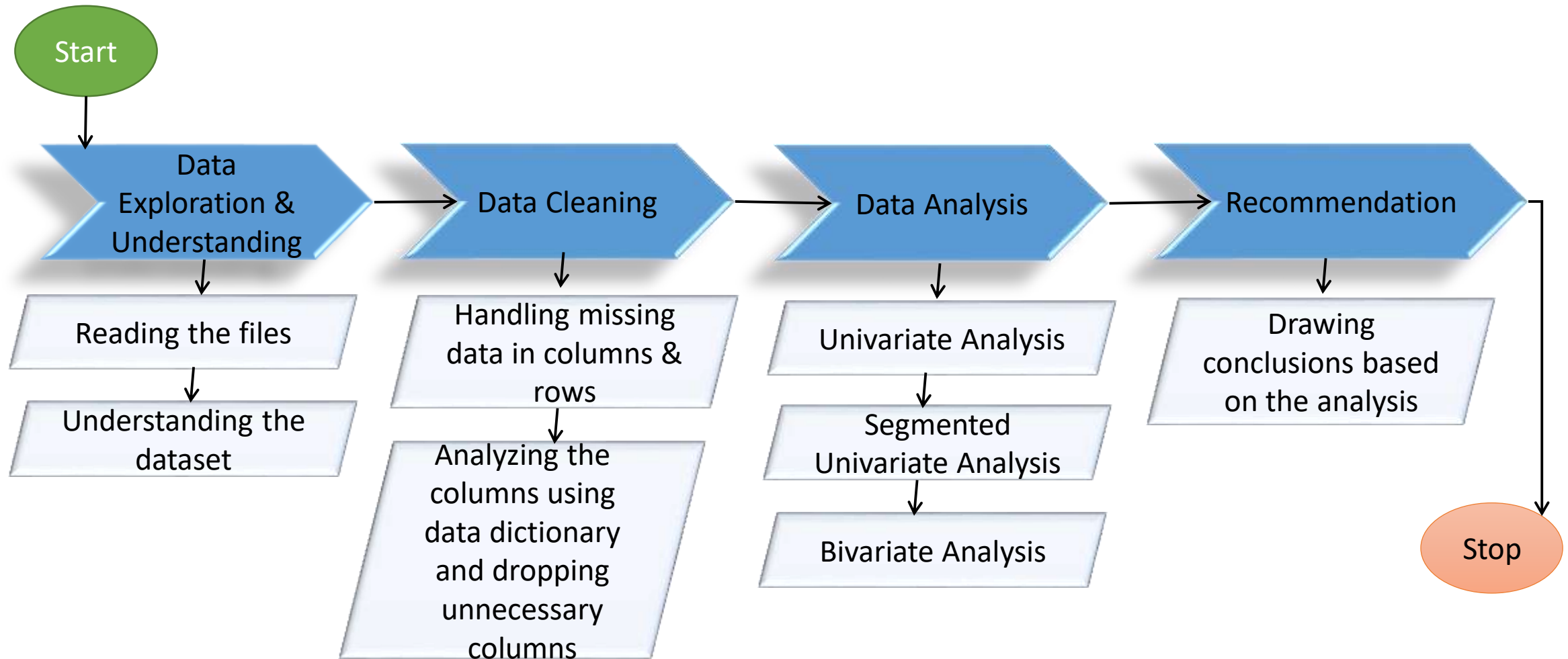
The objective of this Lending Club Case Study is to understand the **driving factors** behind loan default, i.e. the **driver variables** which are strong indicators of default.

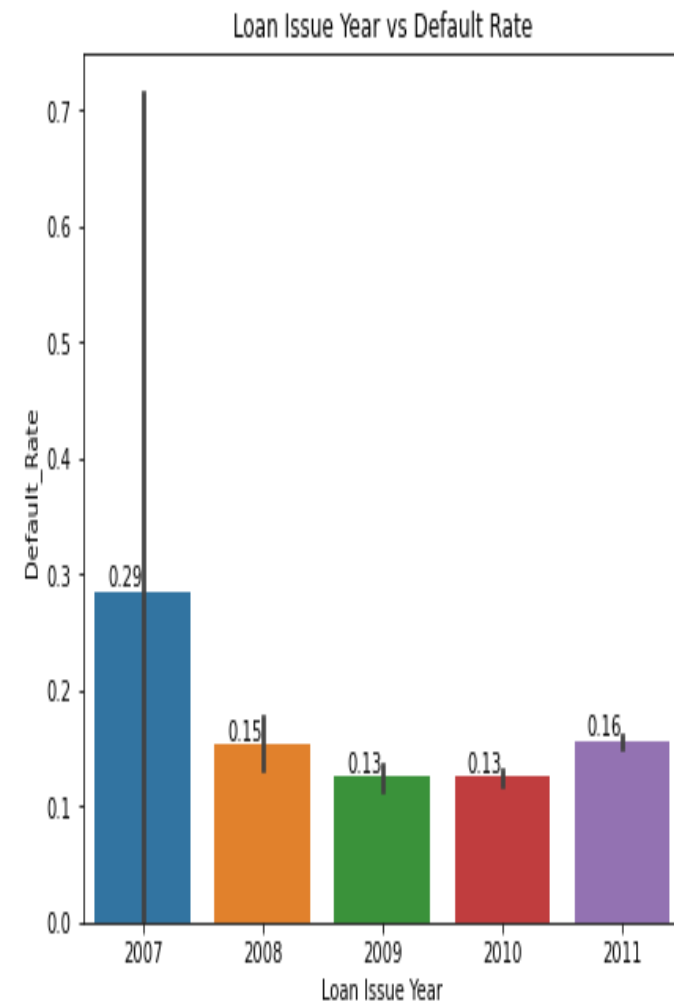
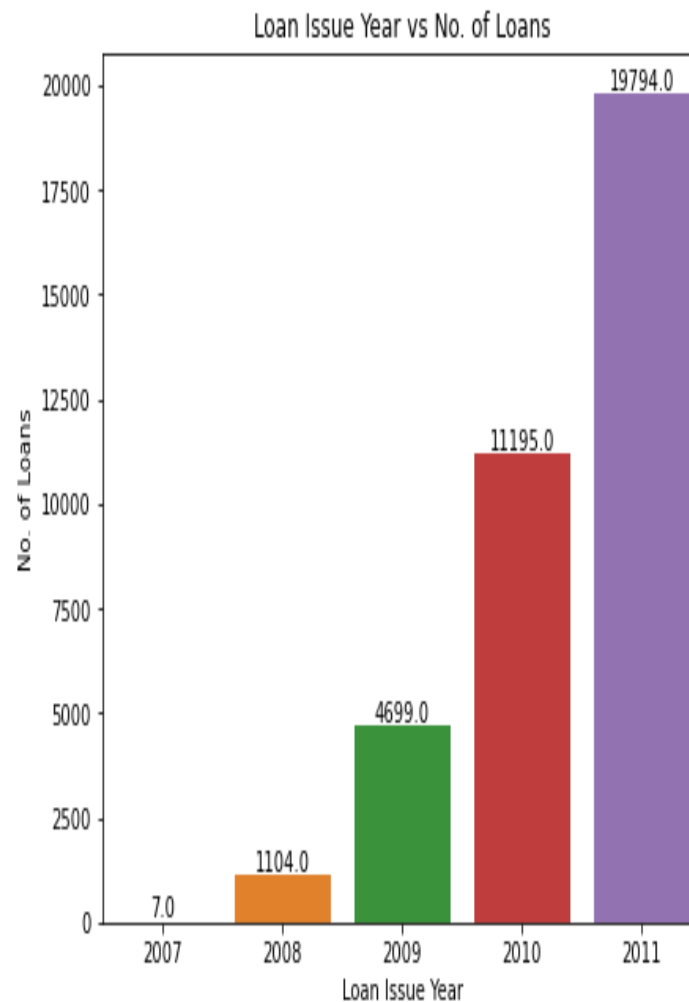
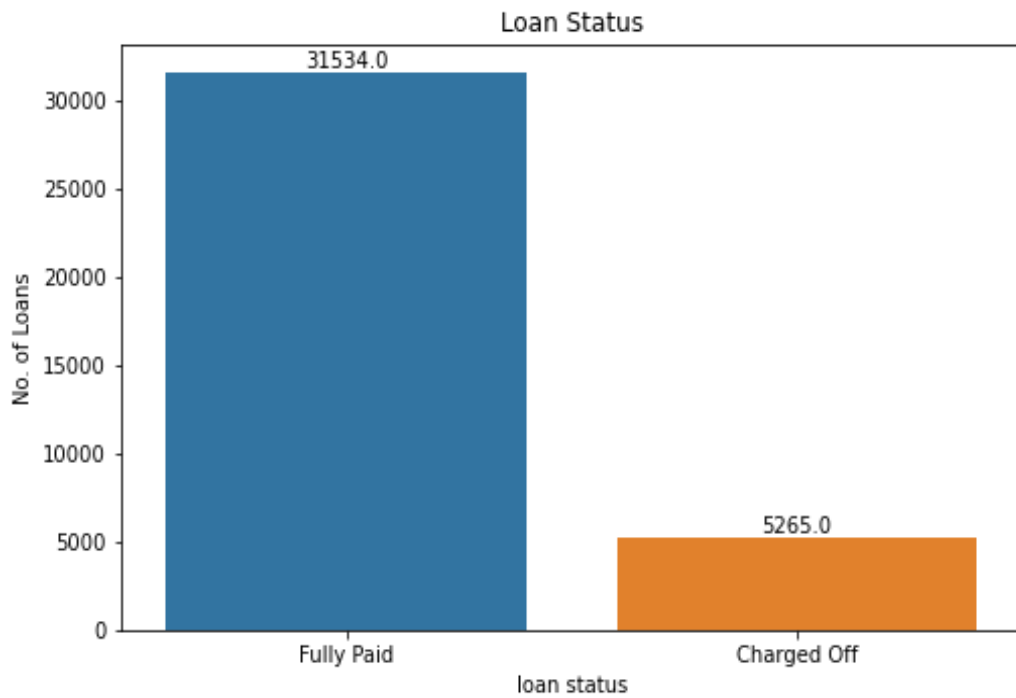
The company can then utilise this knowledge for its portfolio and risk assessment.

The course of this case study using EDA to understand various driving factors includes following milestones:

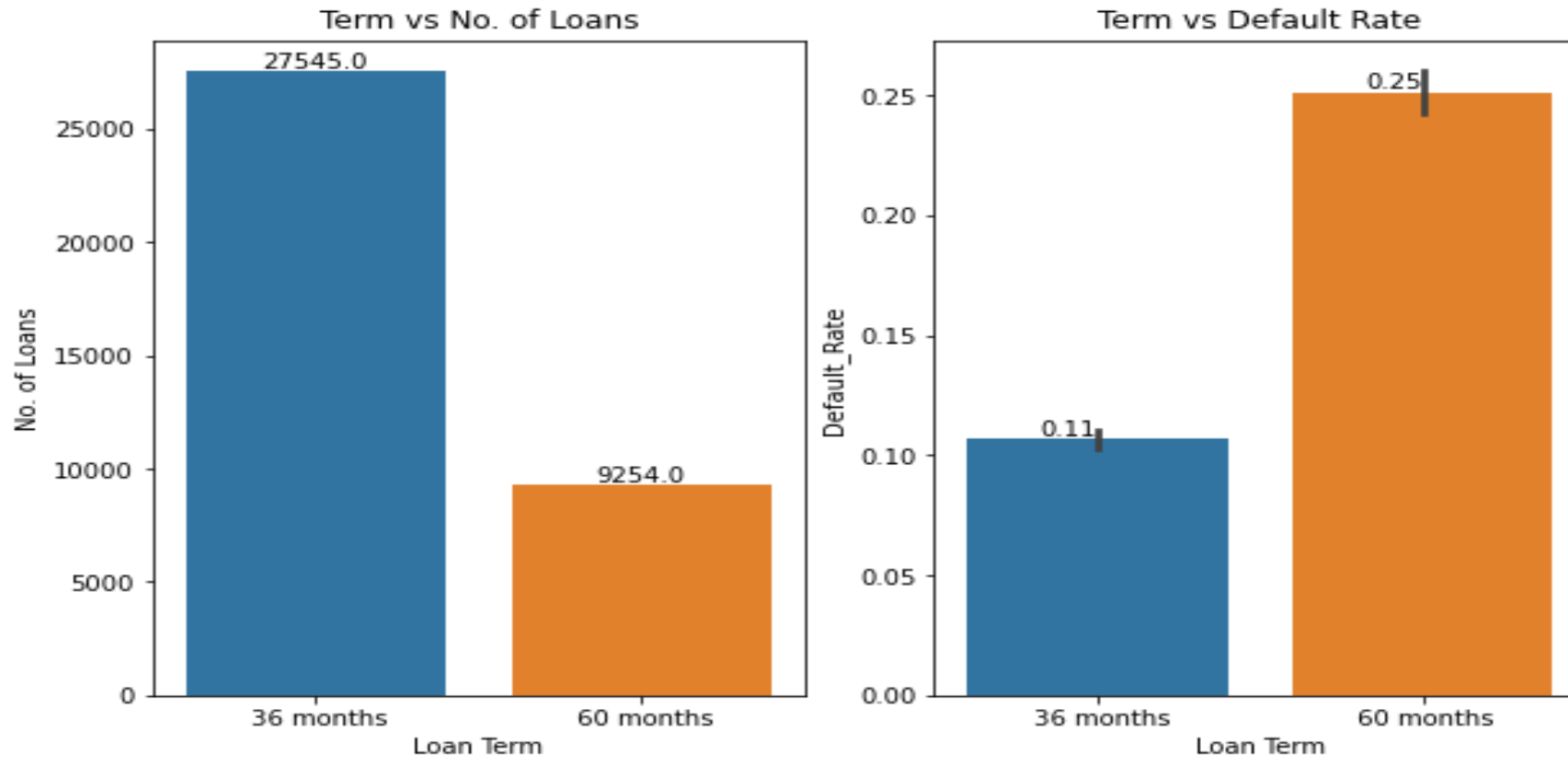
- Data Exploration and Understanding
- Data Cleaning and handling missing data
- Analysing the data to narrow down the driving factors leading to loan default
- Conclusion and Recommendation

Problem solving methodology

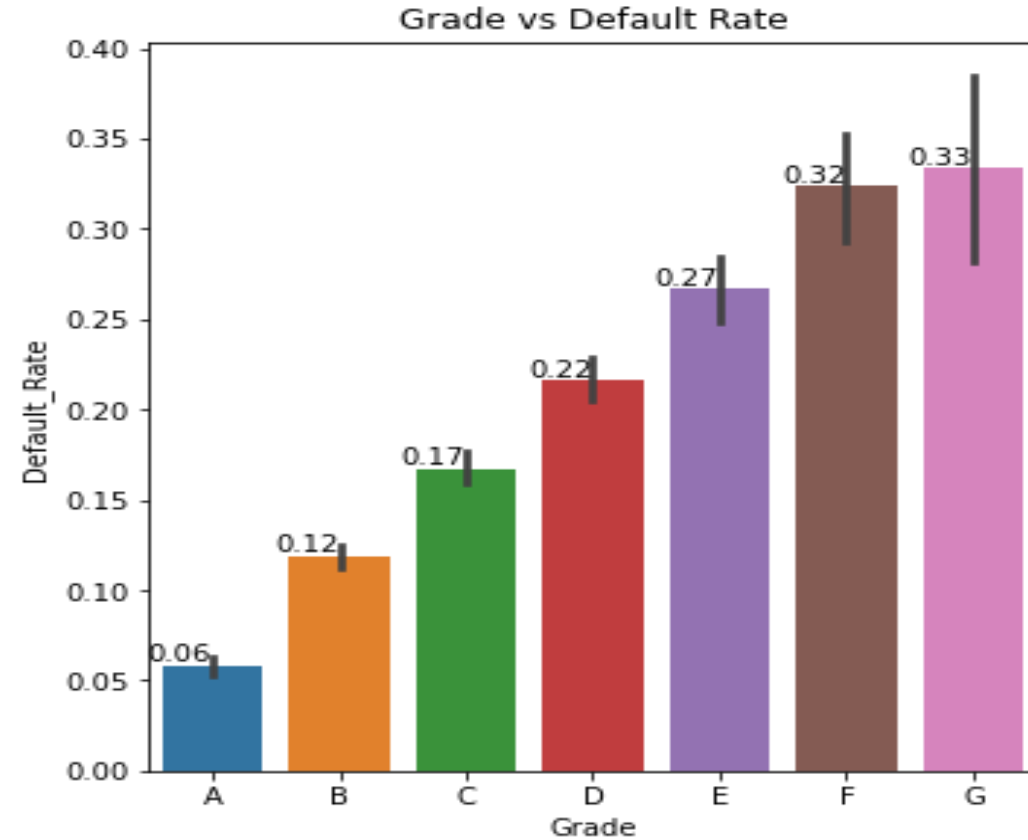
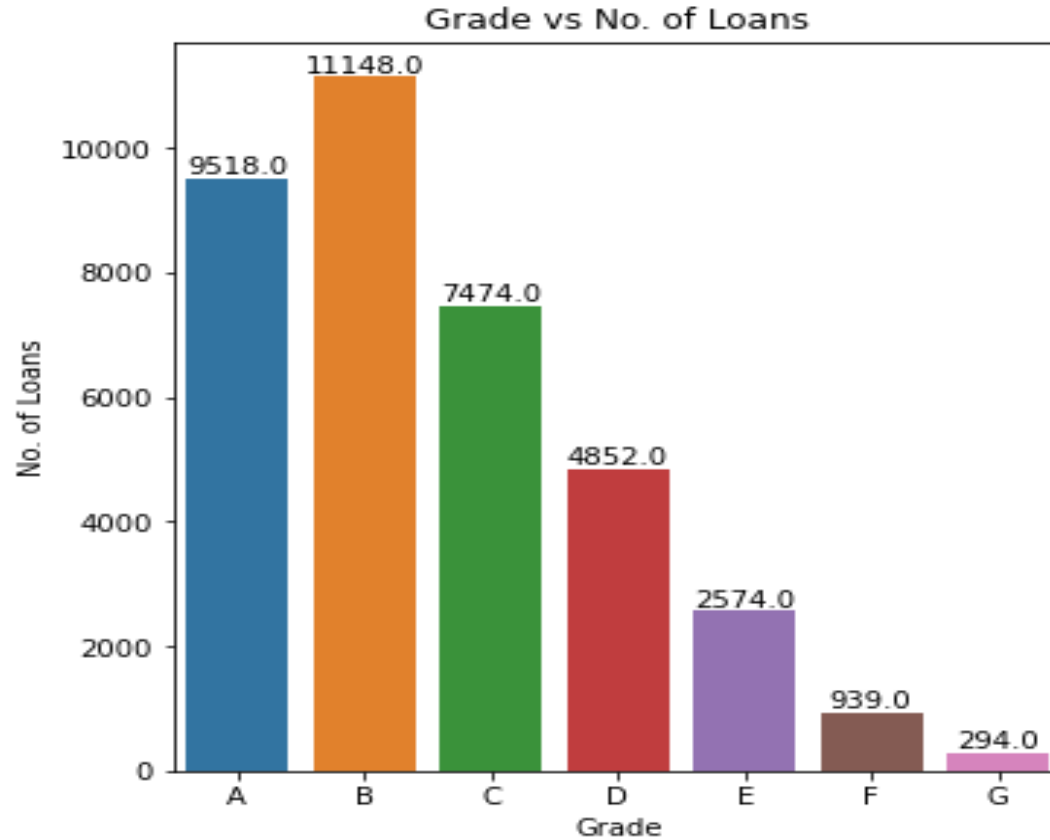




1. Around 14% of loans have defaulted.
2. There has been a considerable rise in no. of loans over the years from 2007-2011

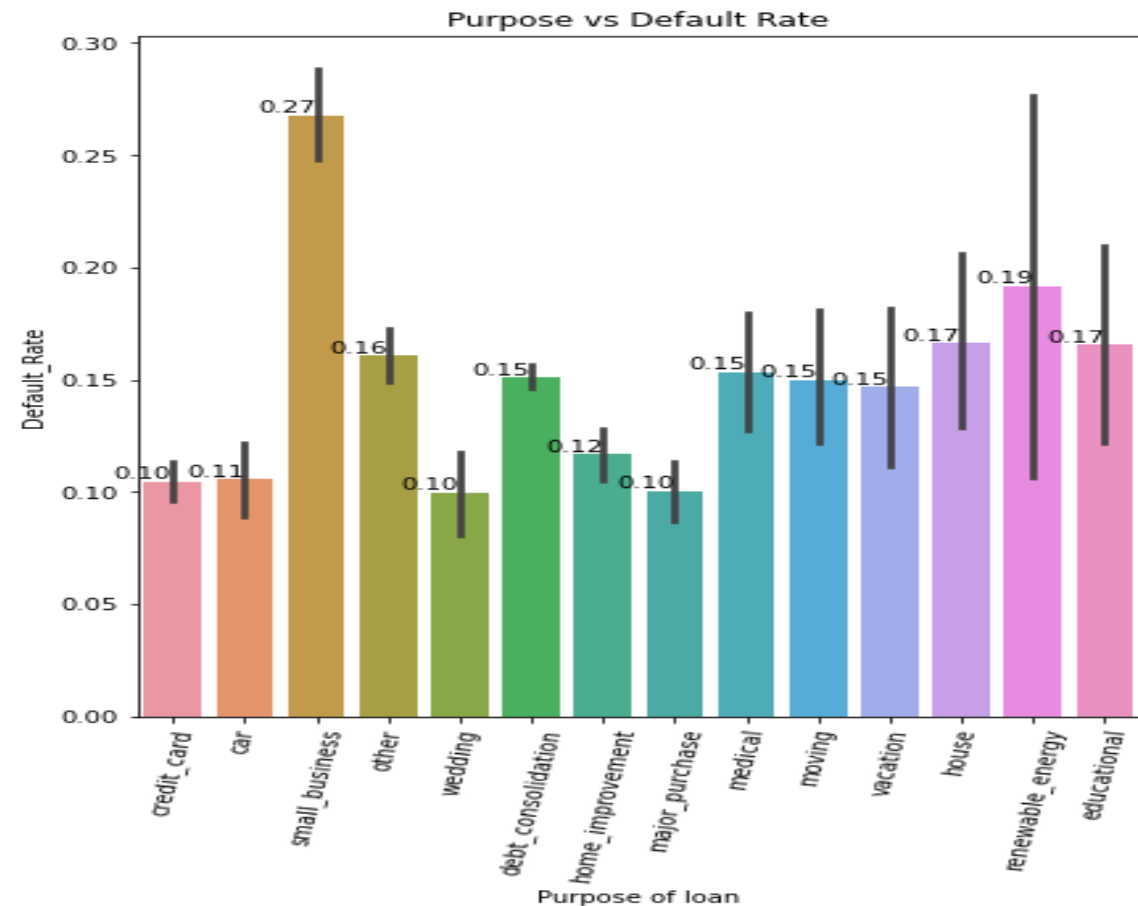
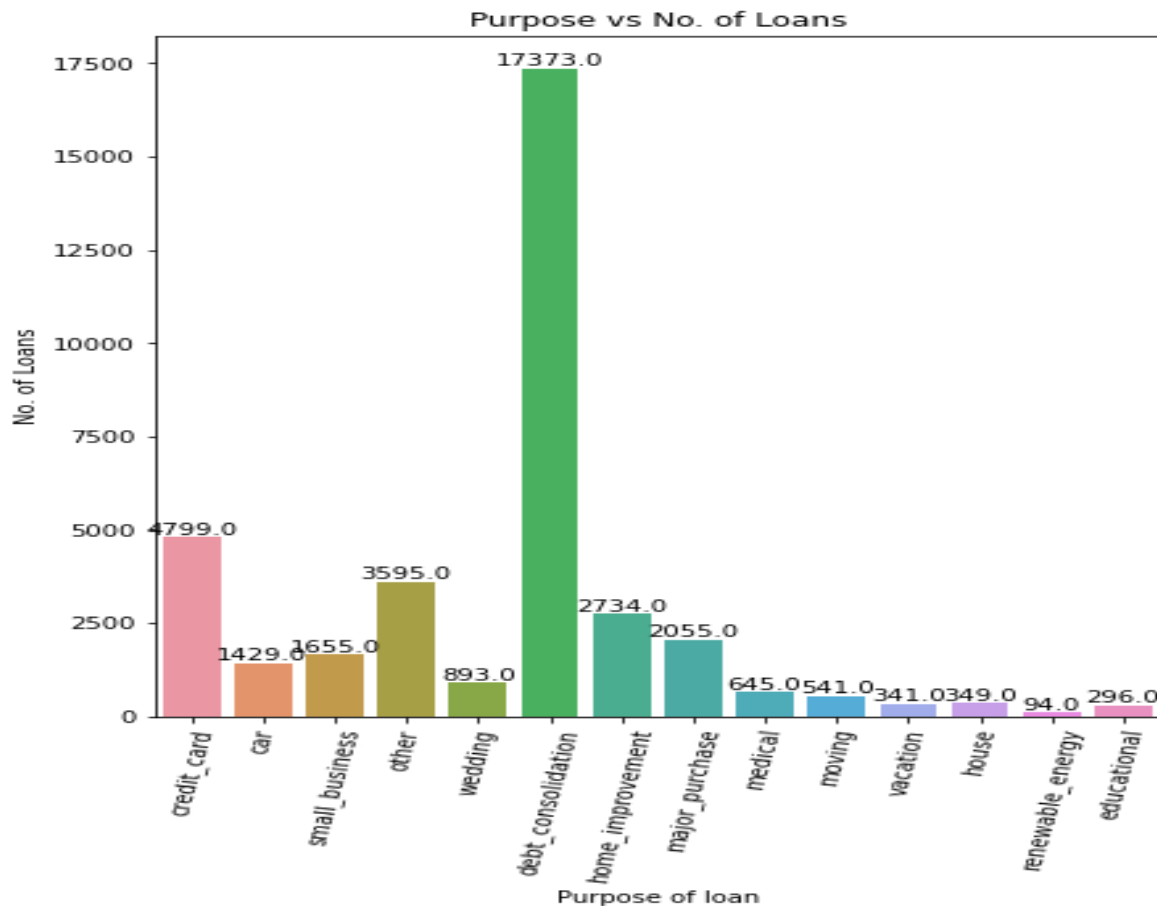


1. More loans are granted for 36 months term than 60 months term
2. The Default Rate is higher for 60 months term



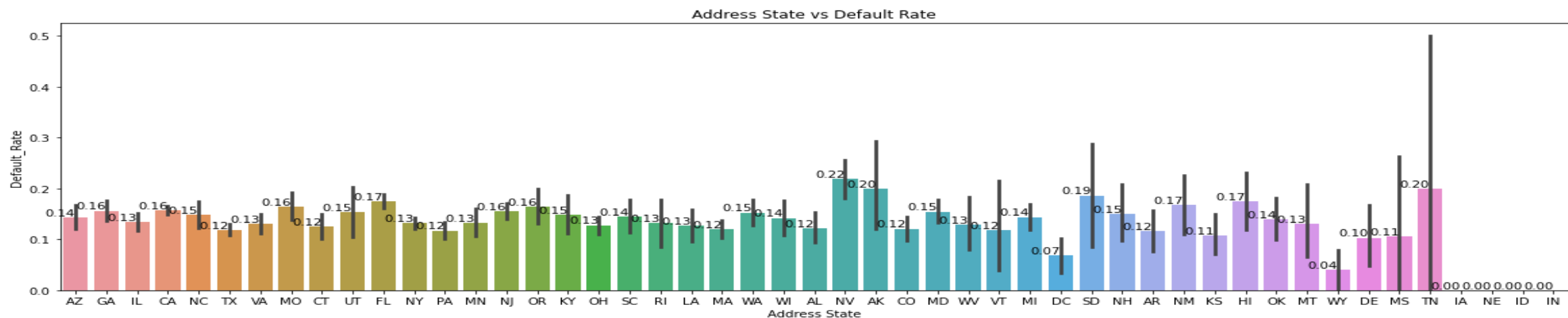
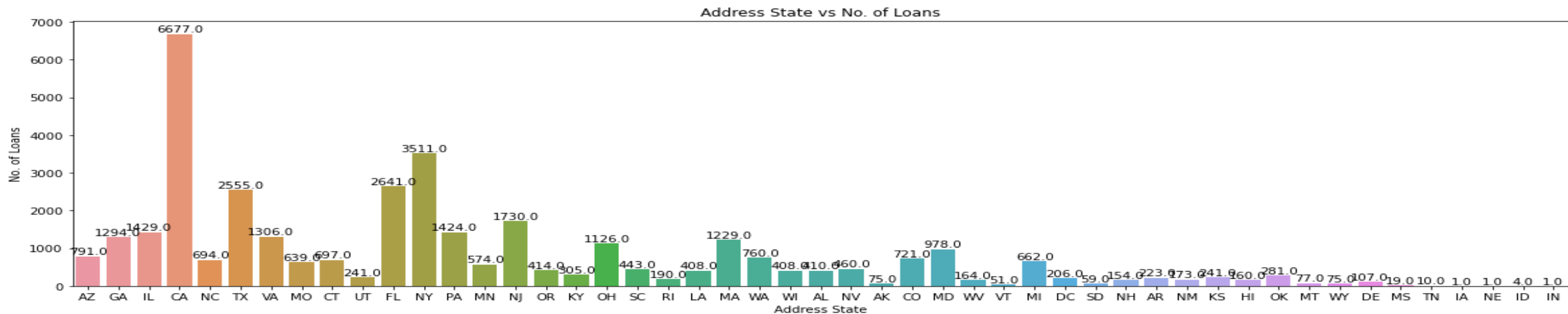
1. More loans are granted for grades A, B, C, these are high graded loans.
2. The Default Rate is higher for grades E , F and G, these are low graded loans and have higher interest rates

Purpose of Loan analysis



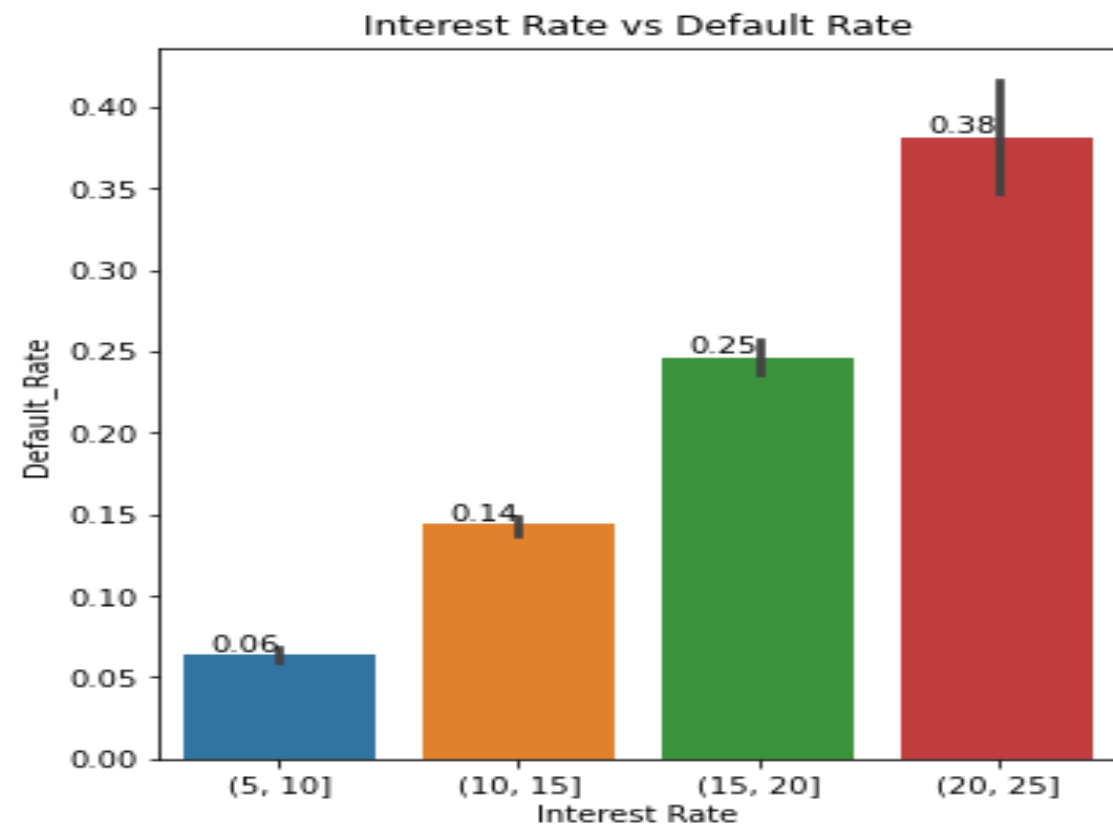
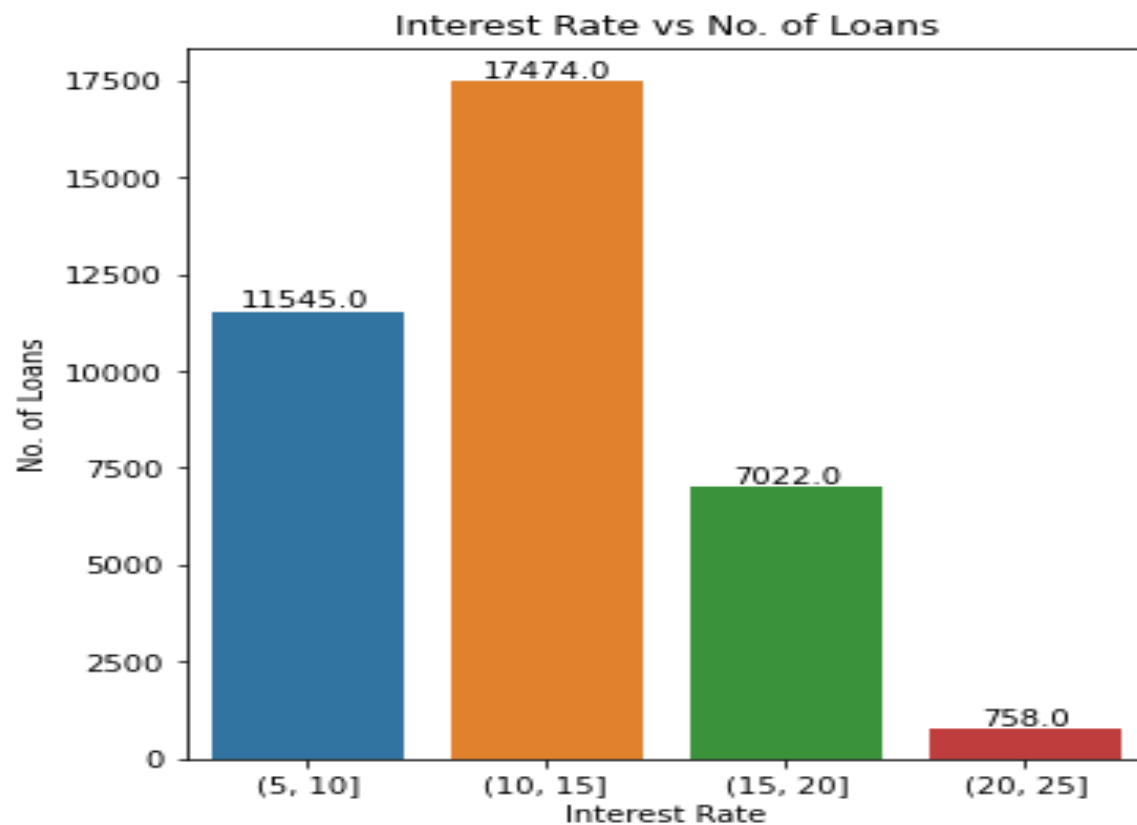
1. More loans were granted for the purpose of debt consolidation
2. Default Rate is higher when loan is applied for purpose of Small business or renewable energy

Address State analysis

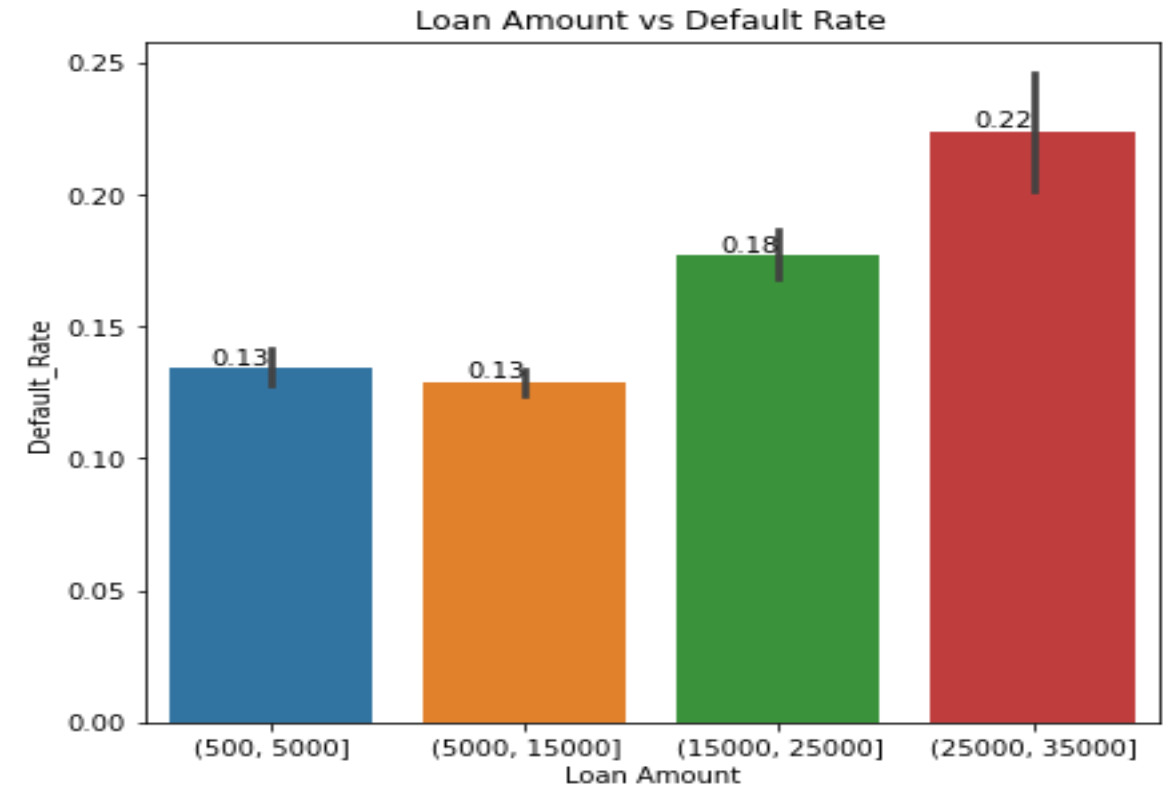
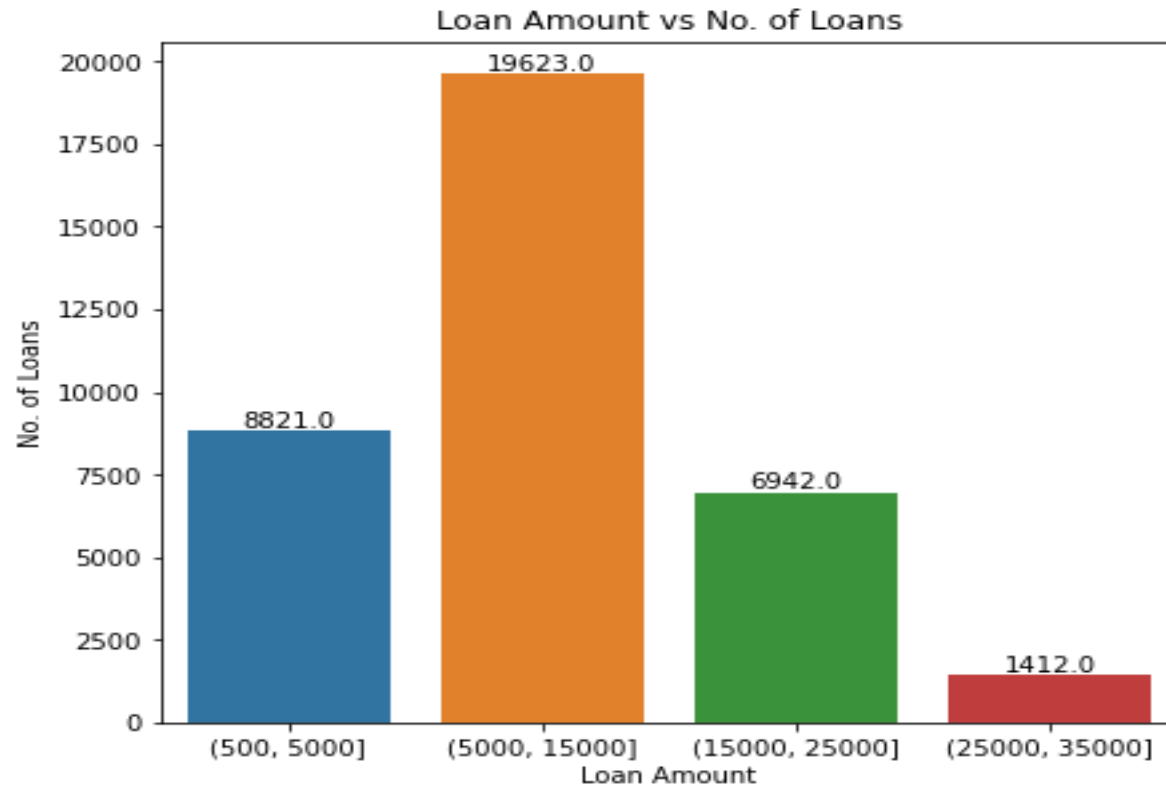


1. More loans were applied from the state of CA, NY and FL
2. Default Rate was higher for state of NV, AK and TN

Interest Rate analysis

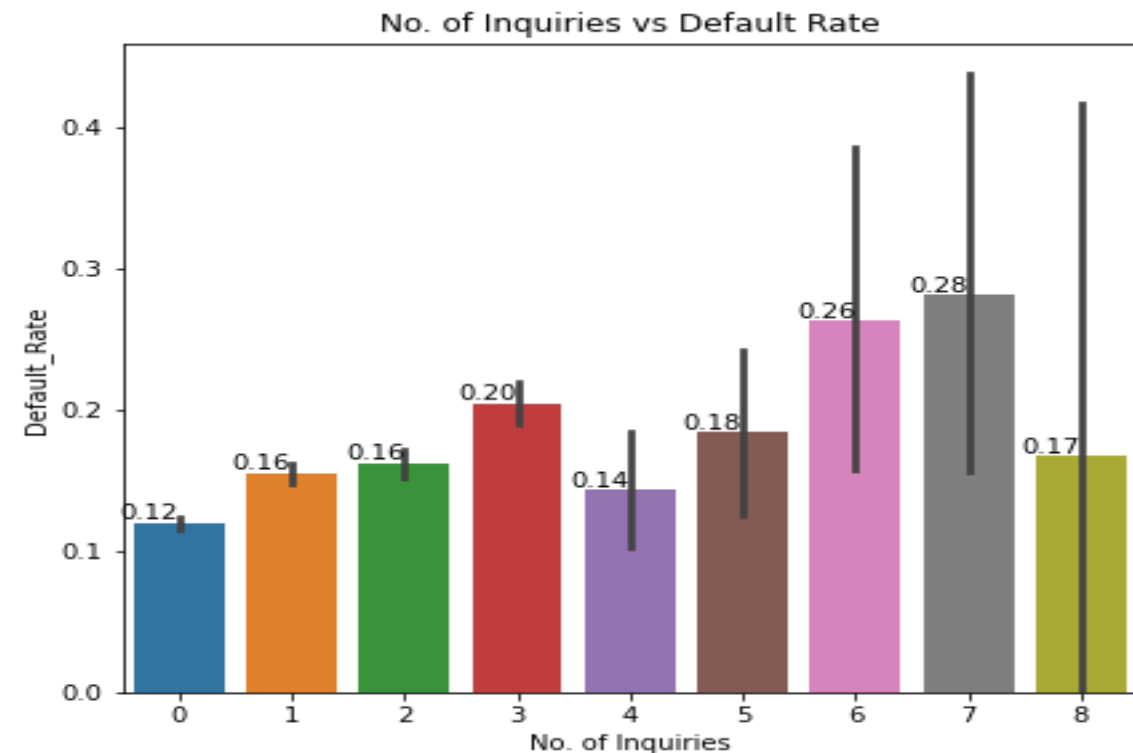
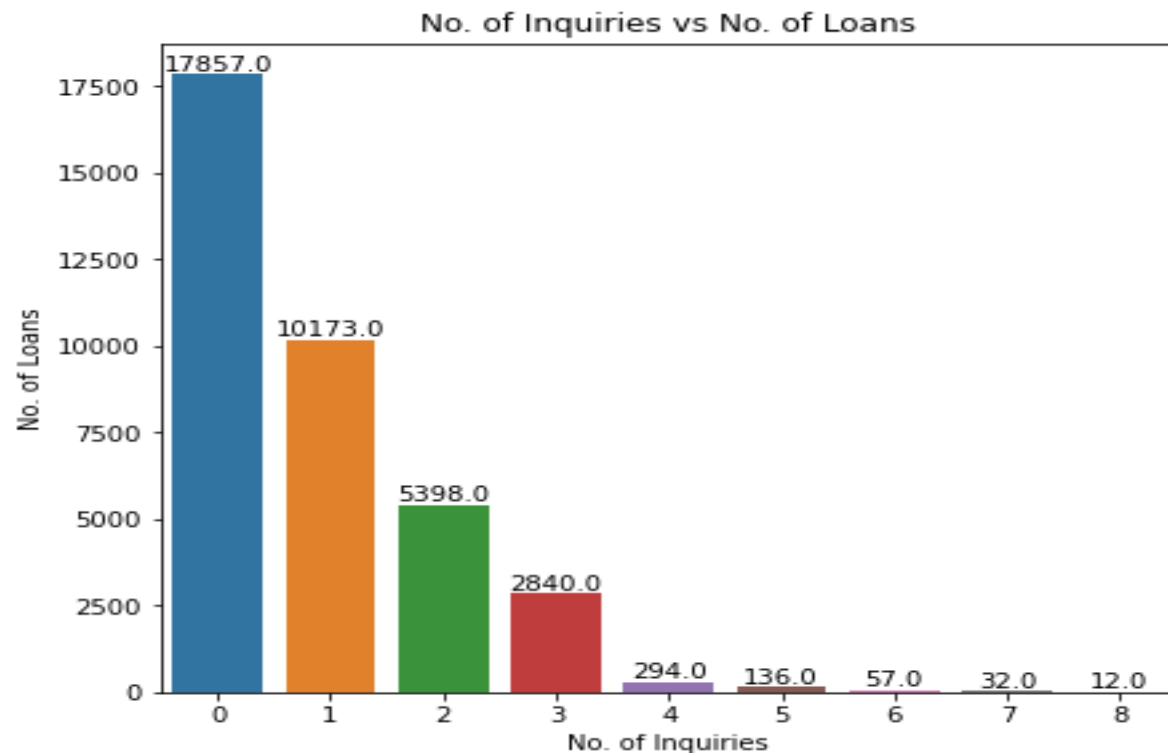


1. Maximum interest rates lie in the range of 10-15%
2. Default Rate increases as the interest rate increases, could be due to badly graded loan or high loan amount



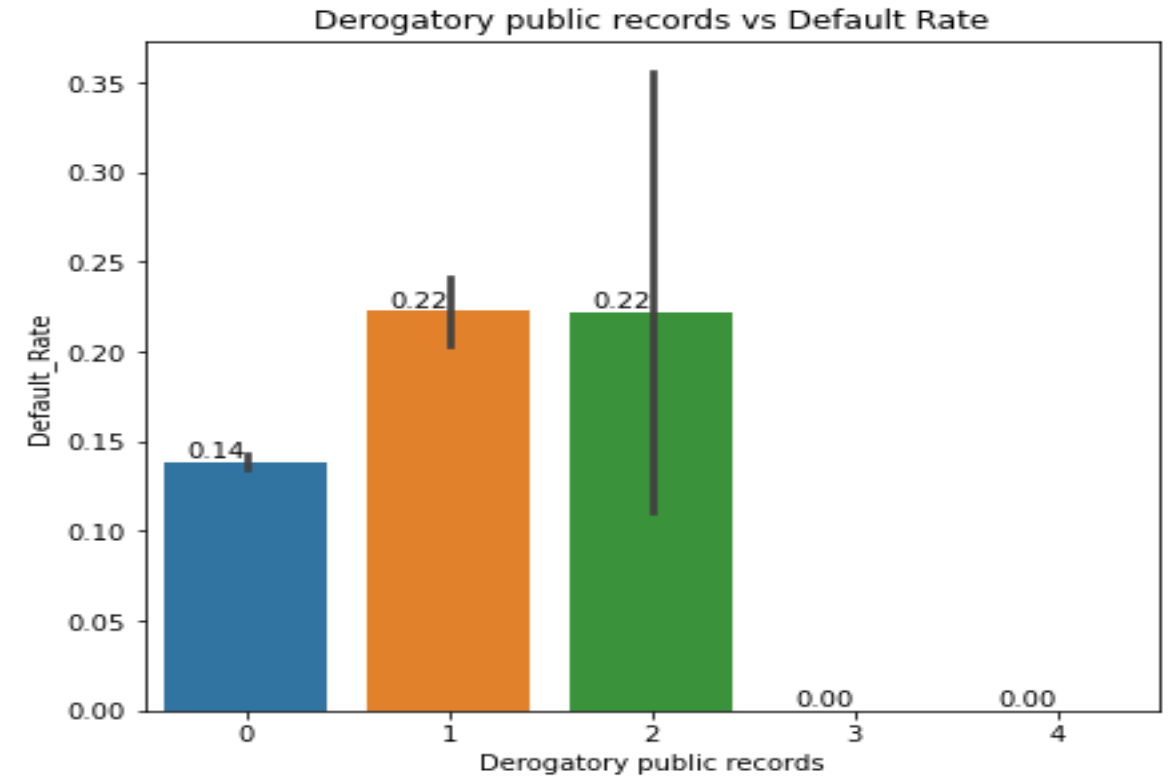
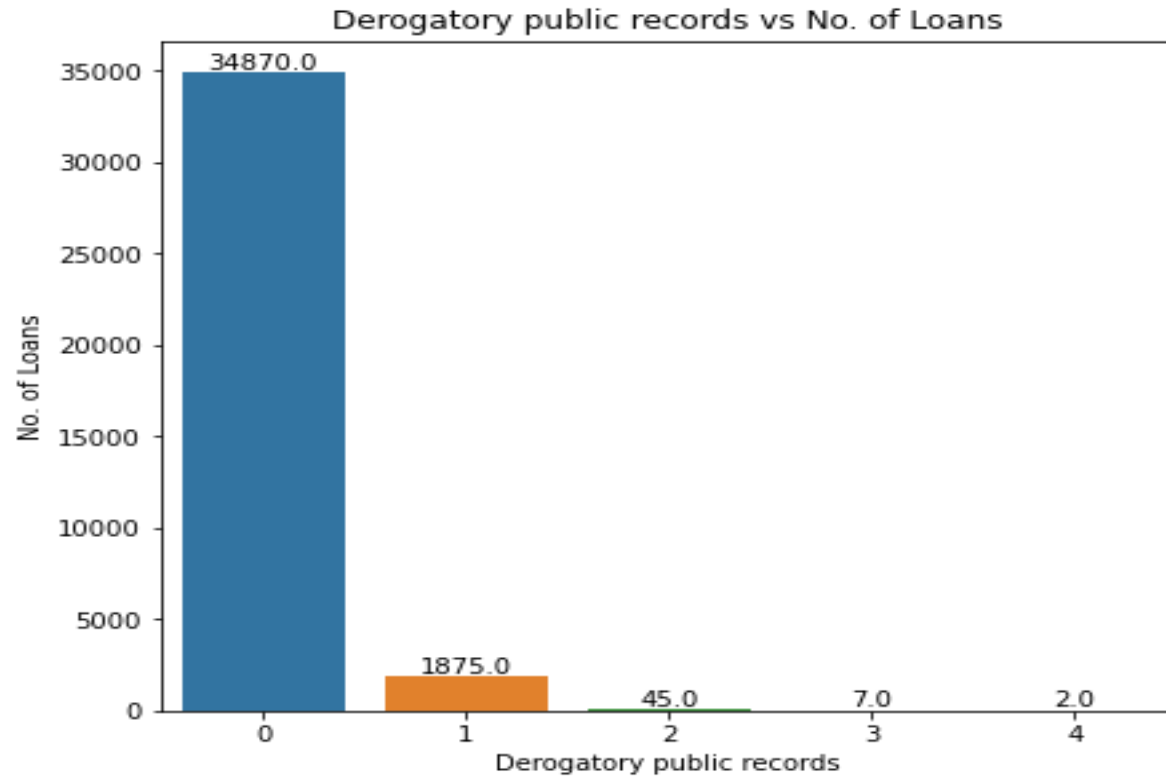
1. Maximum no. of loan amounts are in the range 5000 – 15000
2. Default Rate is high for higher loan amounts

No. of Credit Inquiries in 6 months analysis



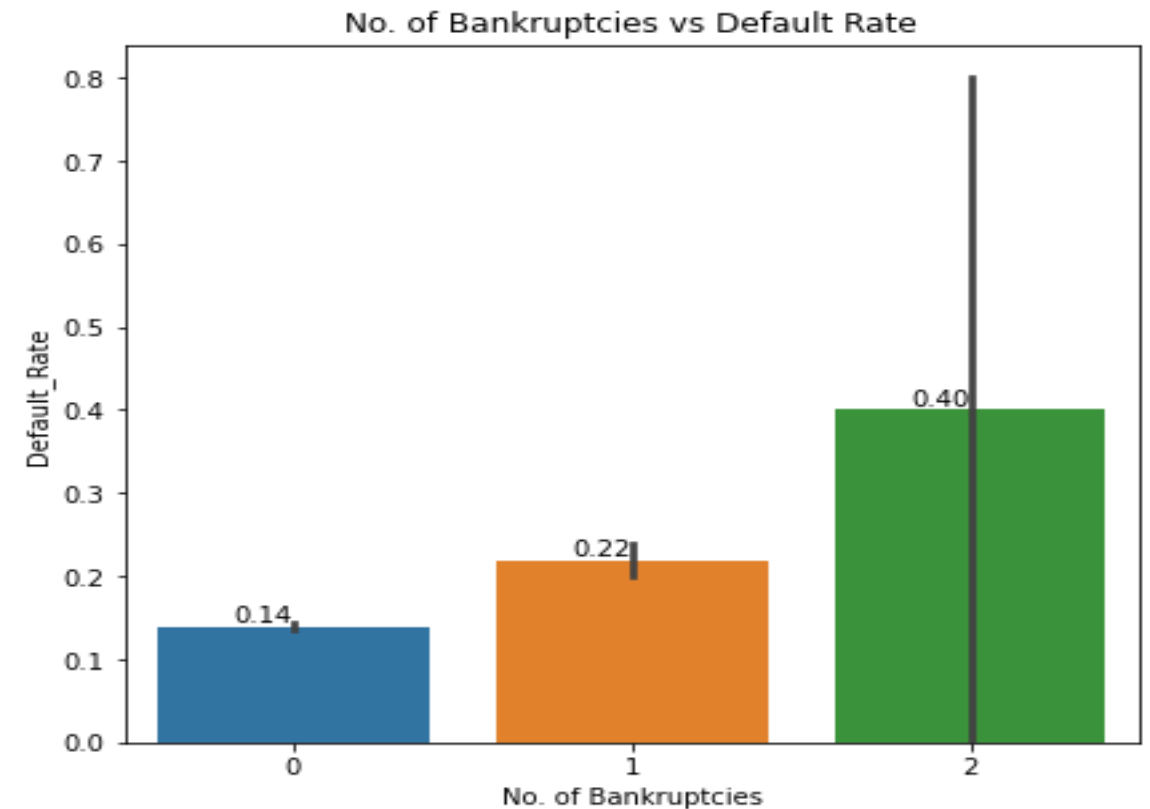
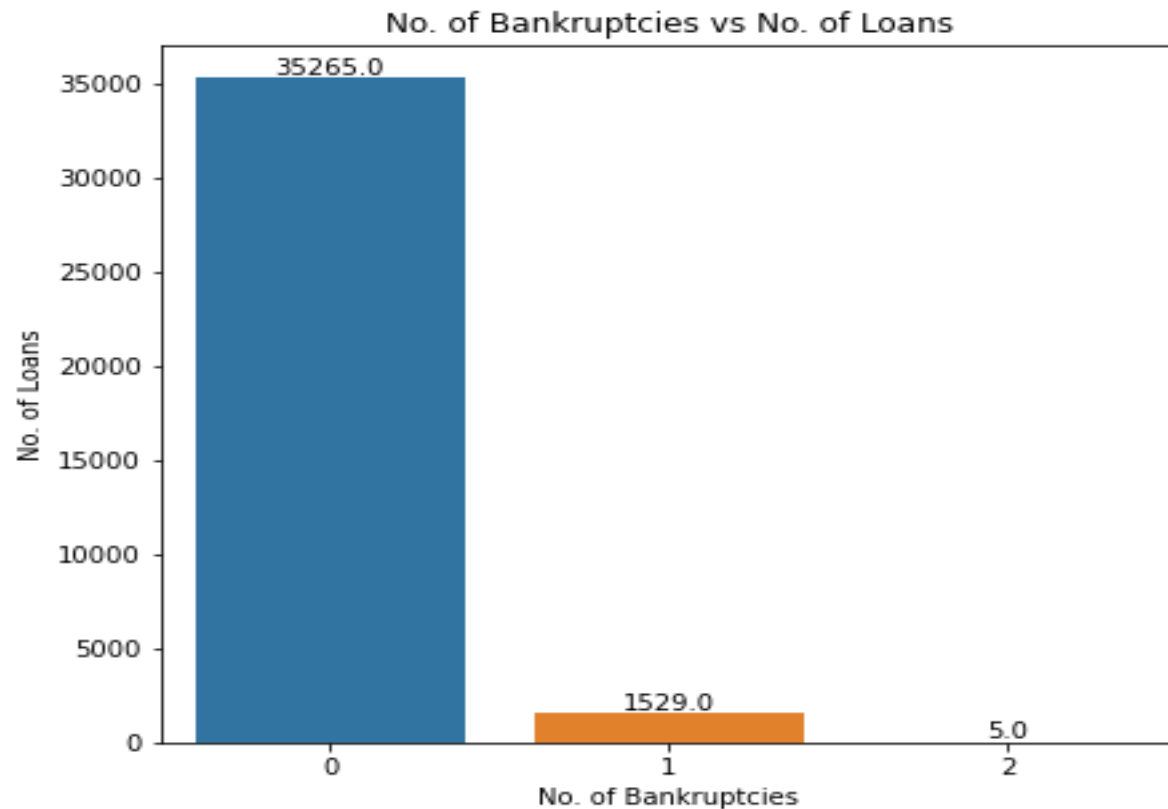
1. Borrowers get loan easily when do not have any or lesser credit inquiries
2. Borrowers with more no. of credit inquiries tend to default more .

Derogatory Public Records analysis



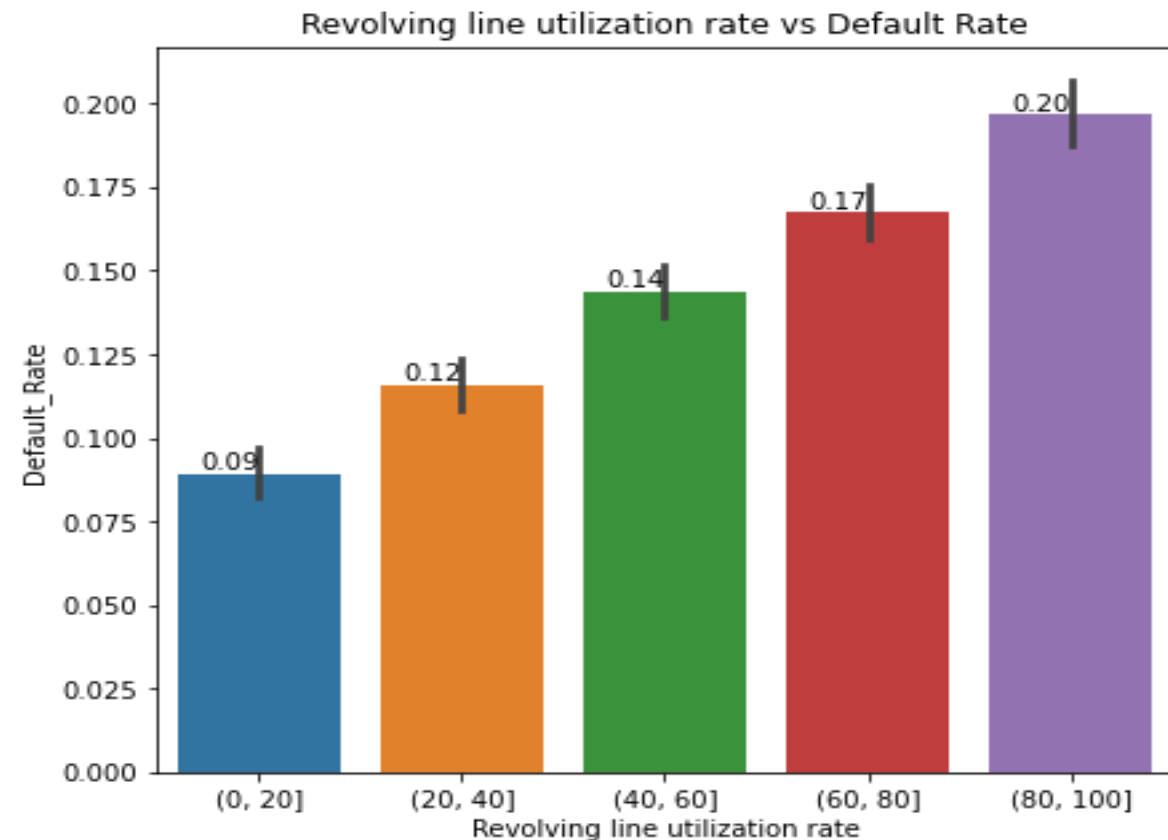
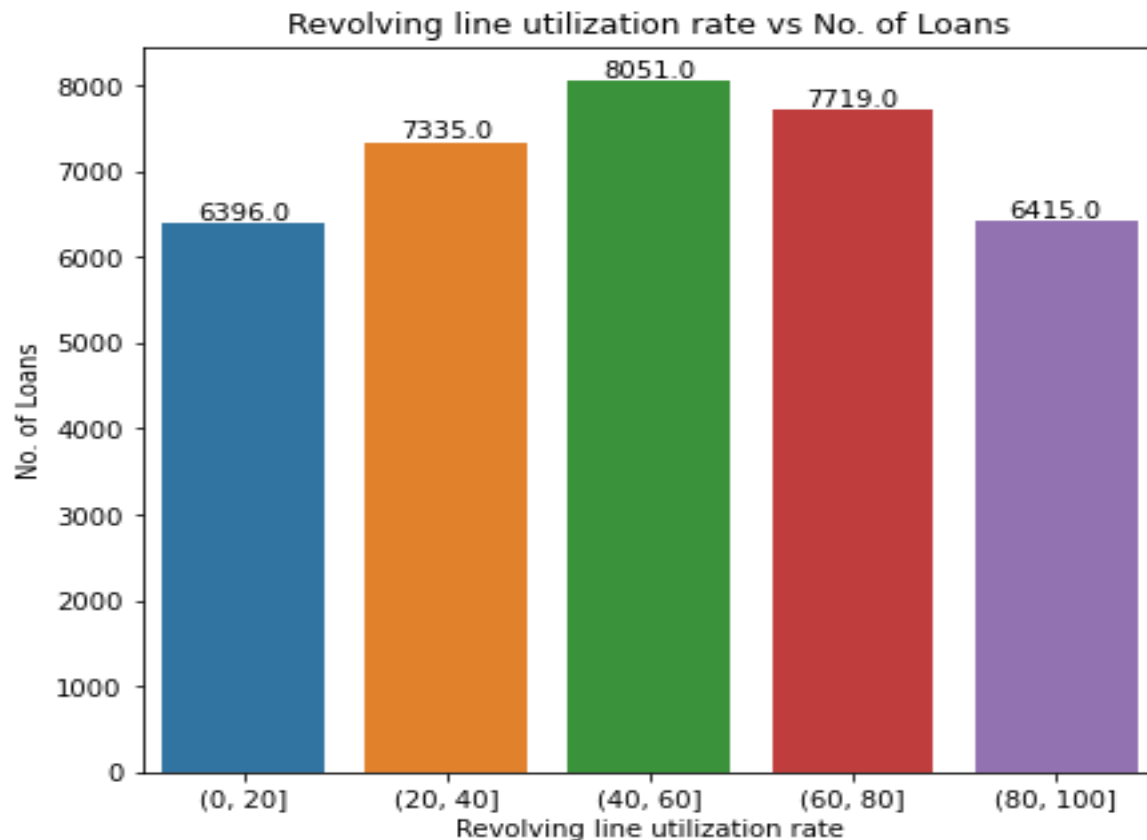
1. Borrowers get loan easily when do not have any derogatory public record
2. Borrowers with derogatory public records tend to default more

No. of Bankruptcies analysis



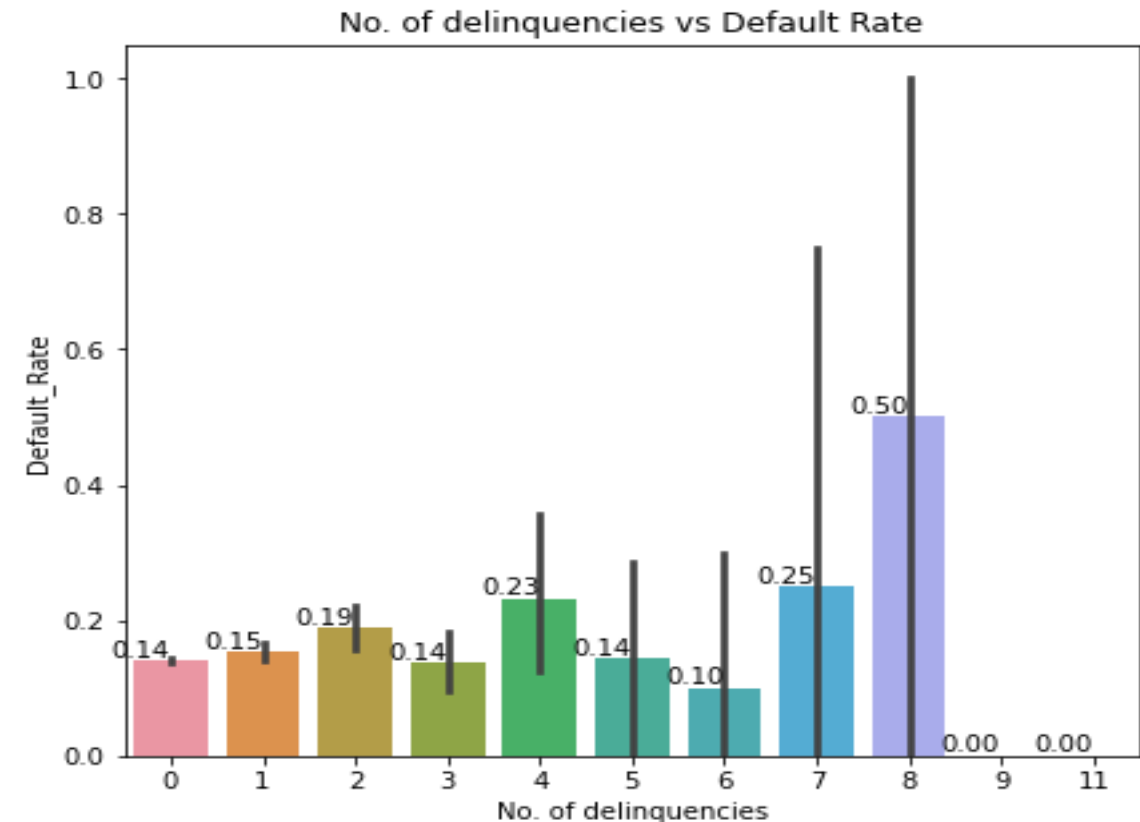
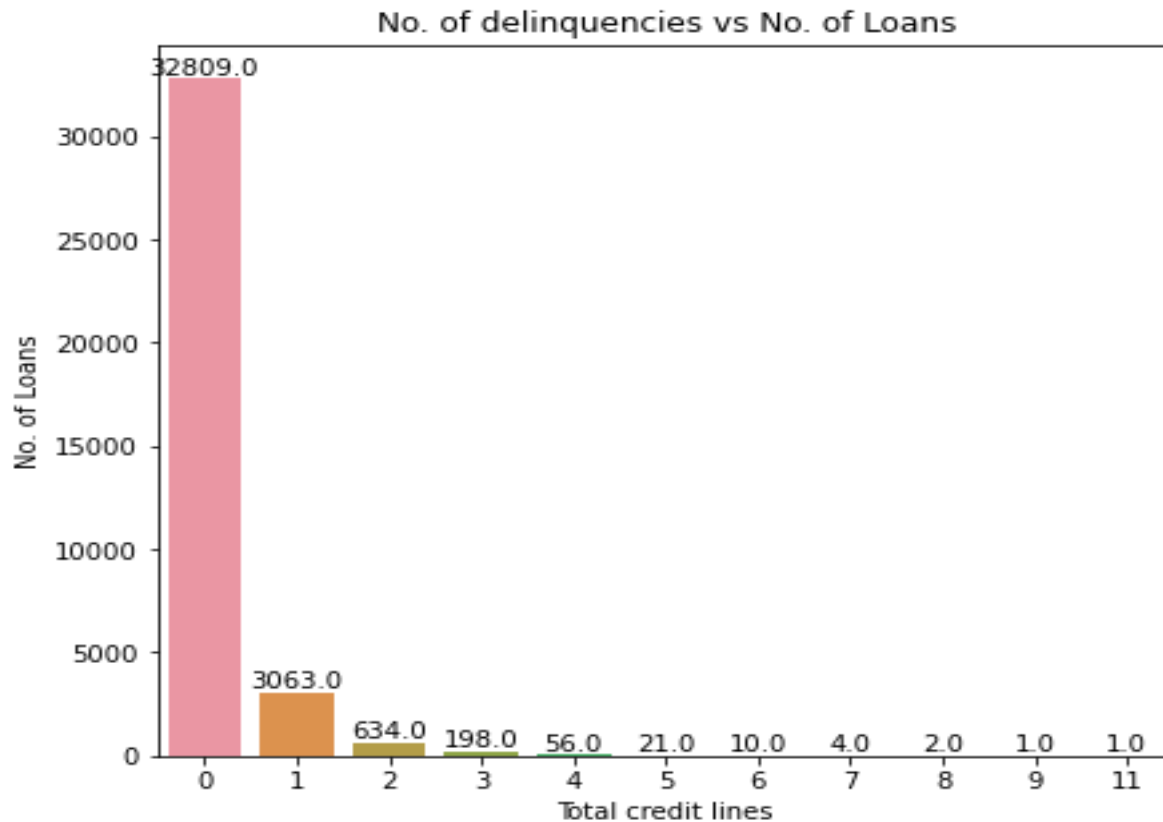
1. Borrowers get loan easily when do not have any bankruptcies filed
2. Borrowers with prior records of bankruptcies tend to default more

Revolving credit line utilization rate analysis



1. Borrowers with more than 50% Revolving credit line utilization rate apply for more loans
2. Default Rate is higher when the Revolving credit line utilization rate is higher than 70%

No. of Delinquencies in past 2 years analysis



1. Borrowers get loan easily when do not have any past record of delinquency
2. Borrowers with records of more no. of delinquencies tend to default more.

Conclusions & Recommendations

- ✓ Loans applied for 60 months term default more often than 30 months.
- ✓ High grade loans don't default much, hence the grading system is robust.
- ✓ Loans applied for small business and renewable energy default more often. Need to take sufficient precaution.
- ✓ Loans applied from few states like NV, AK and TN have high Default Rate. Need to take some actionable steps to avoid such incidents in future.
- ✓ Loans applied for very high amount tend to incur more interest rates and hence higher default rate.
- ✓ Need to scrutinize the process while approving loans to borrowers with derogatory public records, bankruptcy records, high credit inquiries, records of delinquencies and high rate of revolving credit line utilisation.