Lending Club Case Study

SUBMISSION

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Risk Assessment To Help Building Strong Portfolio

The largest online loan marketplace, Lending Club, facilitates various types of loans. It is necessary to identify the risky loan applicants and reduce thus loans to minimize credit loss. The analysis aims to understand the driving factors behind the loan default and helps to build better portfolio and risk management.

The risk assessment helps the Club to avoid below types of risks while taking decision:

- If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company.
- If the applicant is not likely to repay the loan, i.e. he/she is likely to default, then approving the loan may lead to a financial loss for the Club.

Problem solving strategy

There are four major steps that are needed to be followed to understand the risk, the chances of moderate to higher returns, and probable chances of avoiding default prone loans.

- 1. Understanding the demographics of the loan applicants and growth of the Lending Club's investor's return on investment history
- 2. Prepare the historical data for analysis
- 3. Analyze loan history of the loan applicants
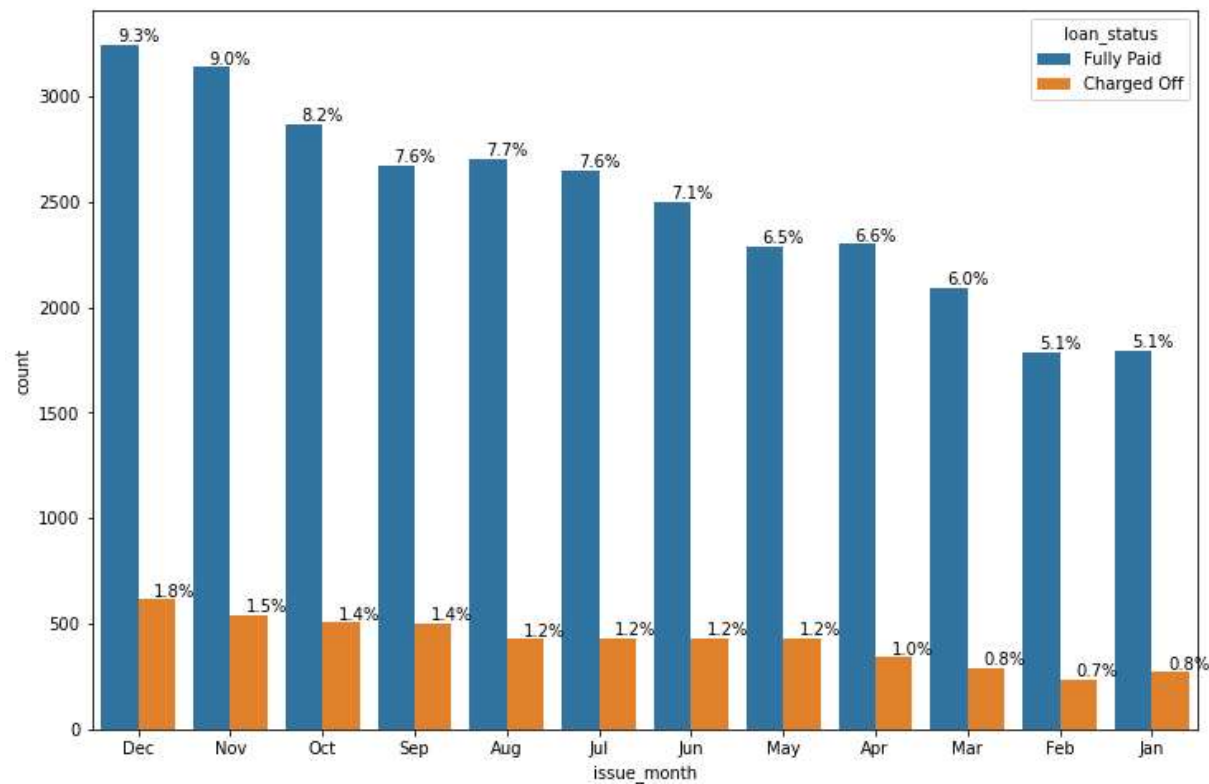- 4. Recommendations

Investor's success (YoY) and Loan Charged Off ratio

Year over Year the borrower and investors flow has been improved, which plays a significant role in the success of the Lending Club business.
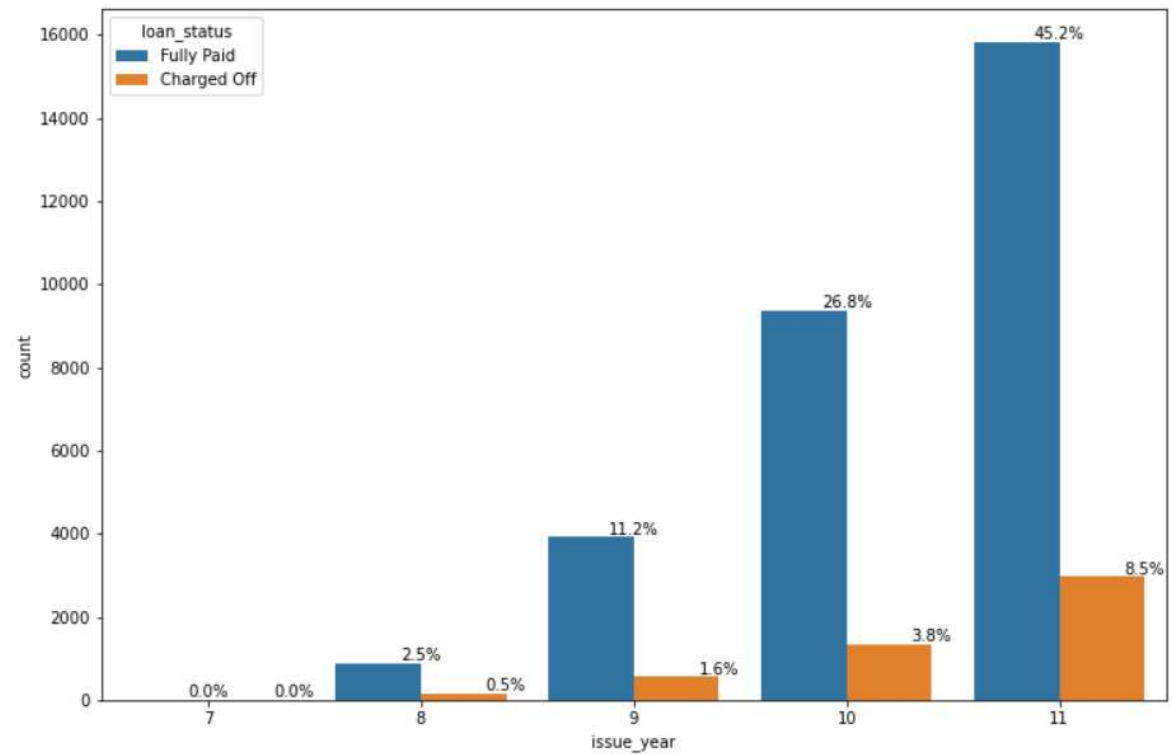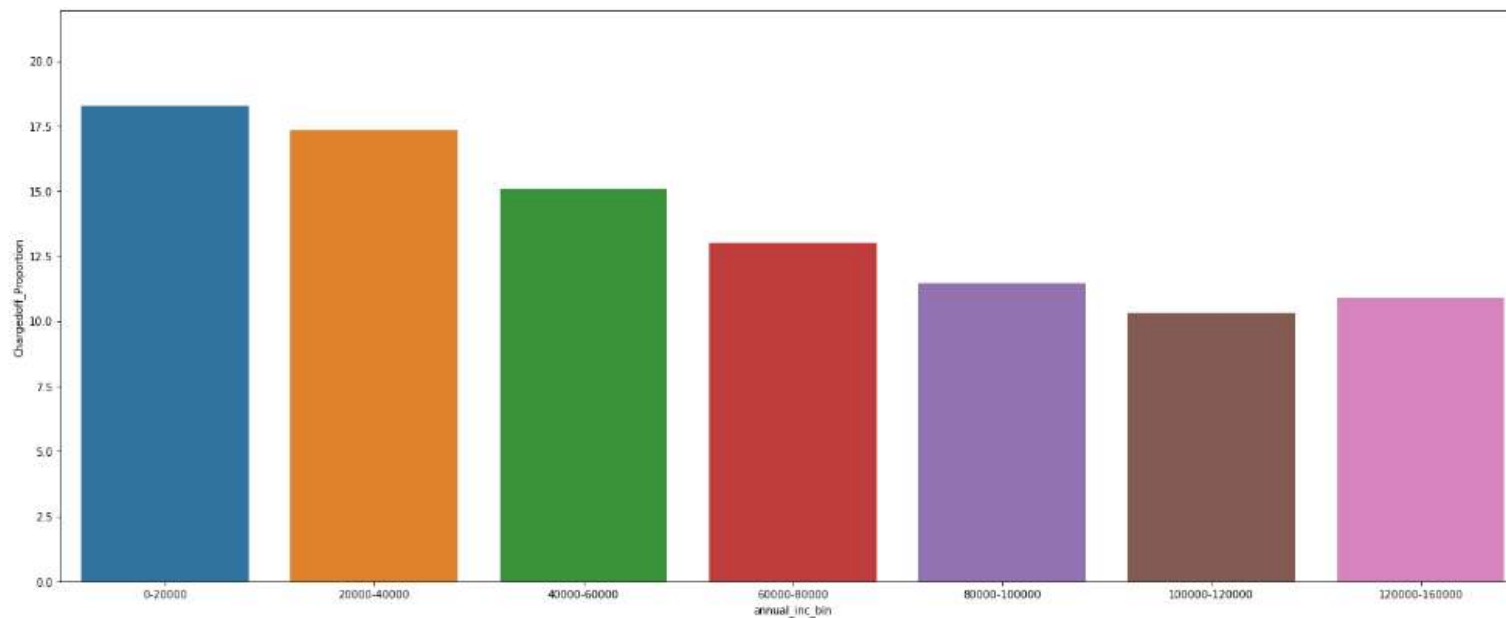
The number loan requests and return on investment is been improved month over month from Jan to Dec.
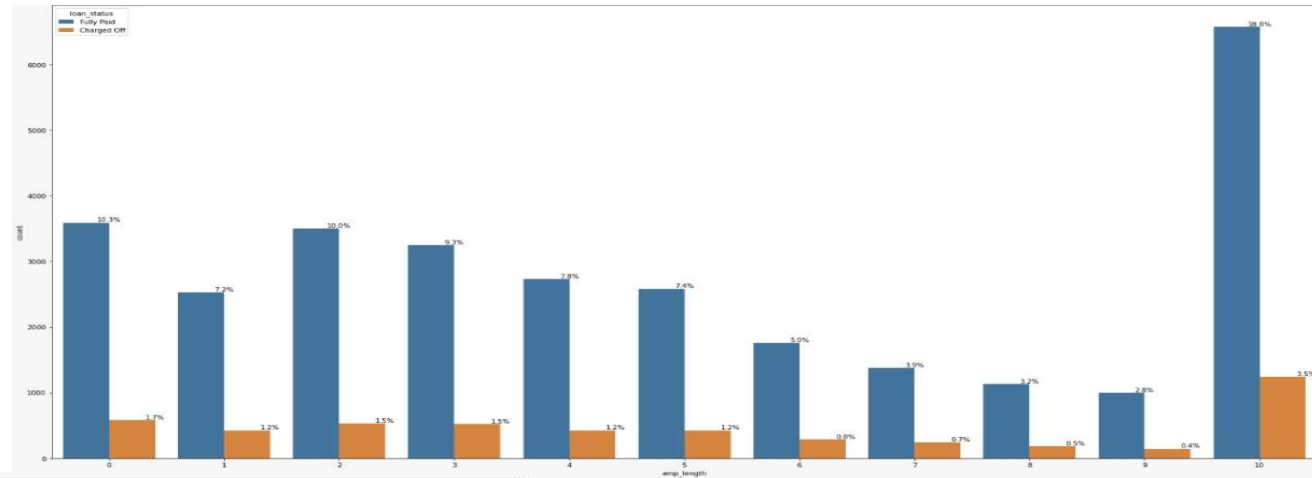
The income category between 0-20000 loans are getting into Charged-off situation.

The employment length is playing crucial role in for the new loan applications

The applicants with higher experience are witnessing profitable repayment though the charged-off percentage is moderately higher than other lower experience borrowers.
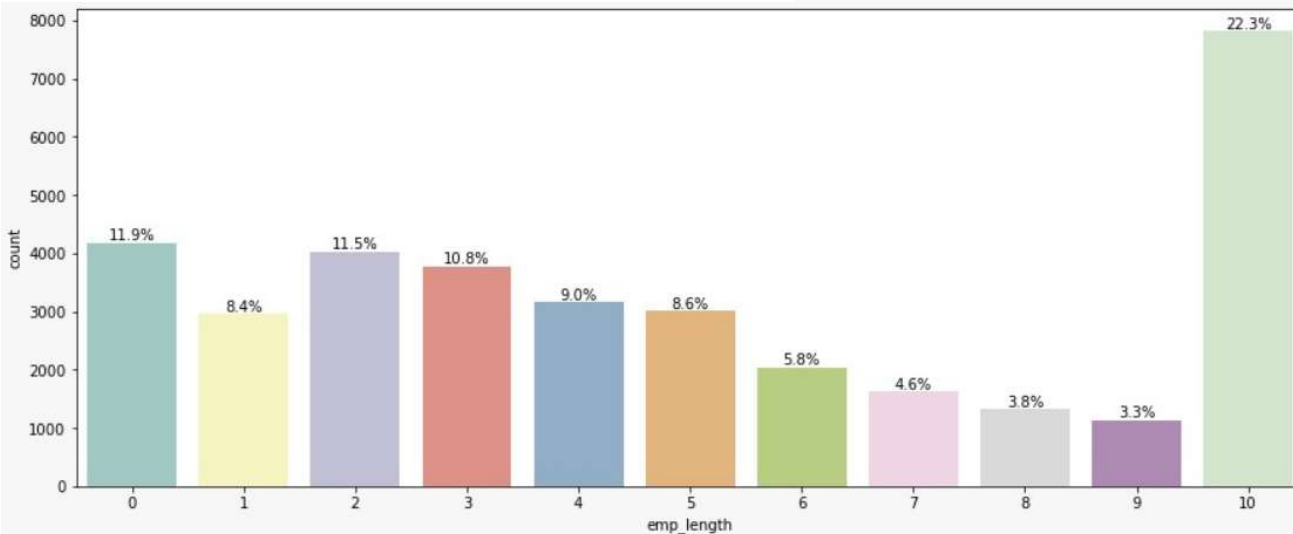
The applicants who are having higher experience are applying for which is leading the borrowing proportion.
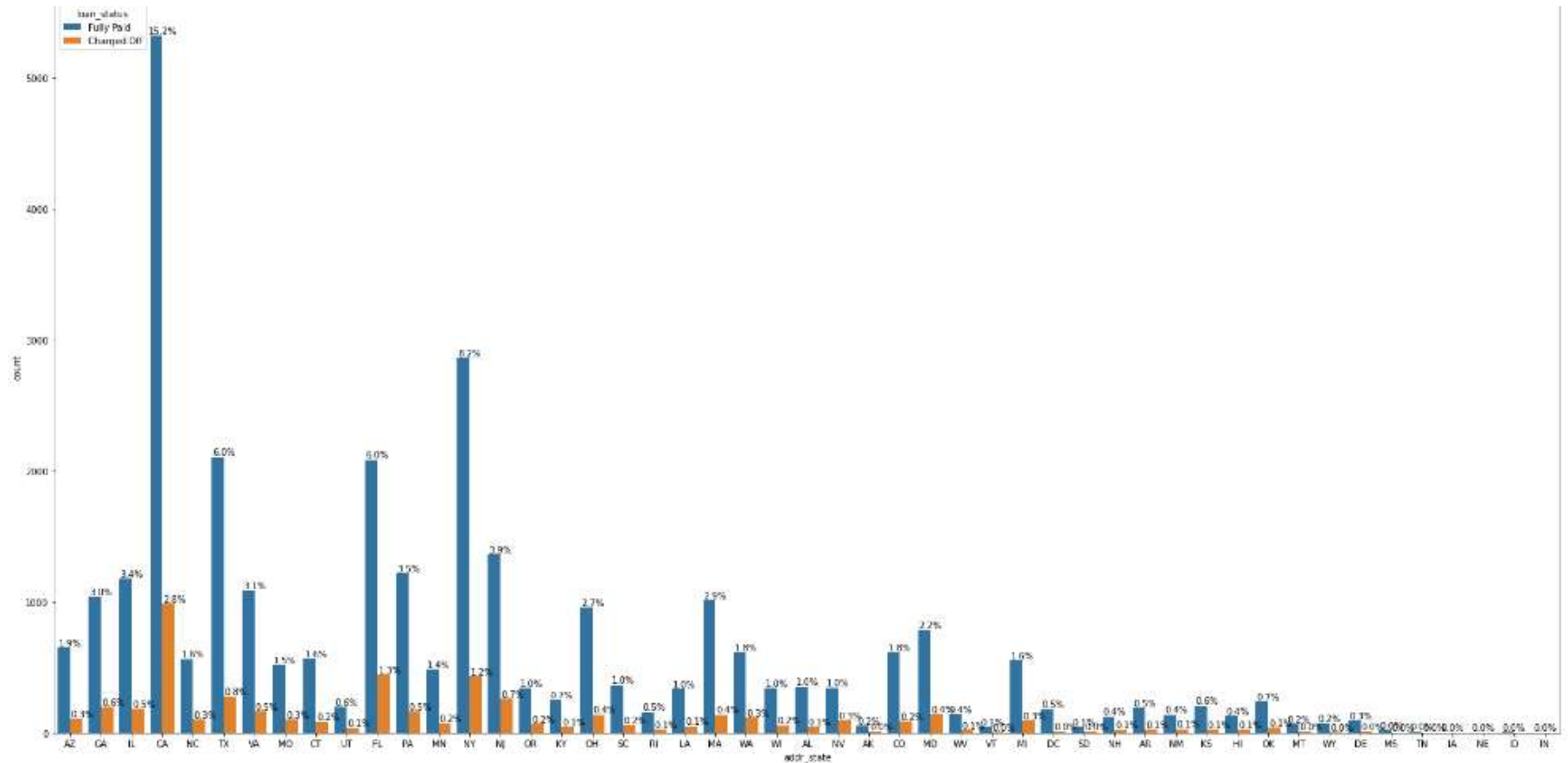
Borrower's purpose of loan vs loan status shows that more applications are for the debt consolidation purpose.
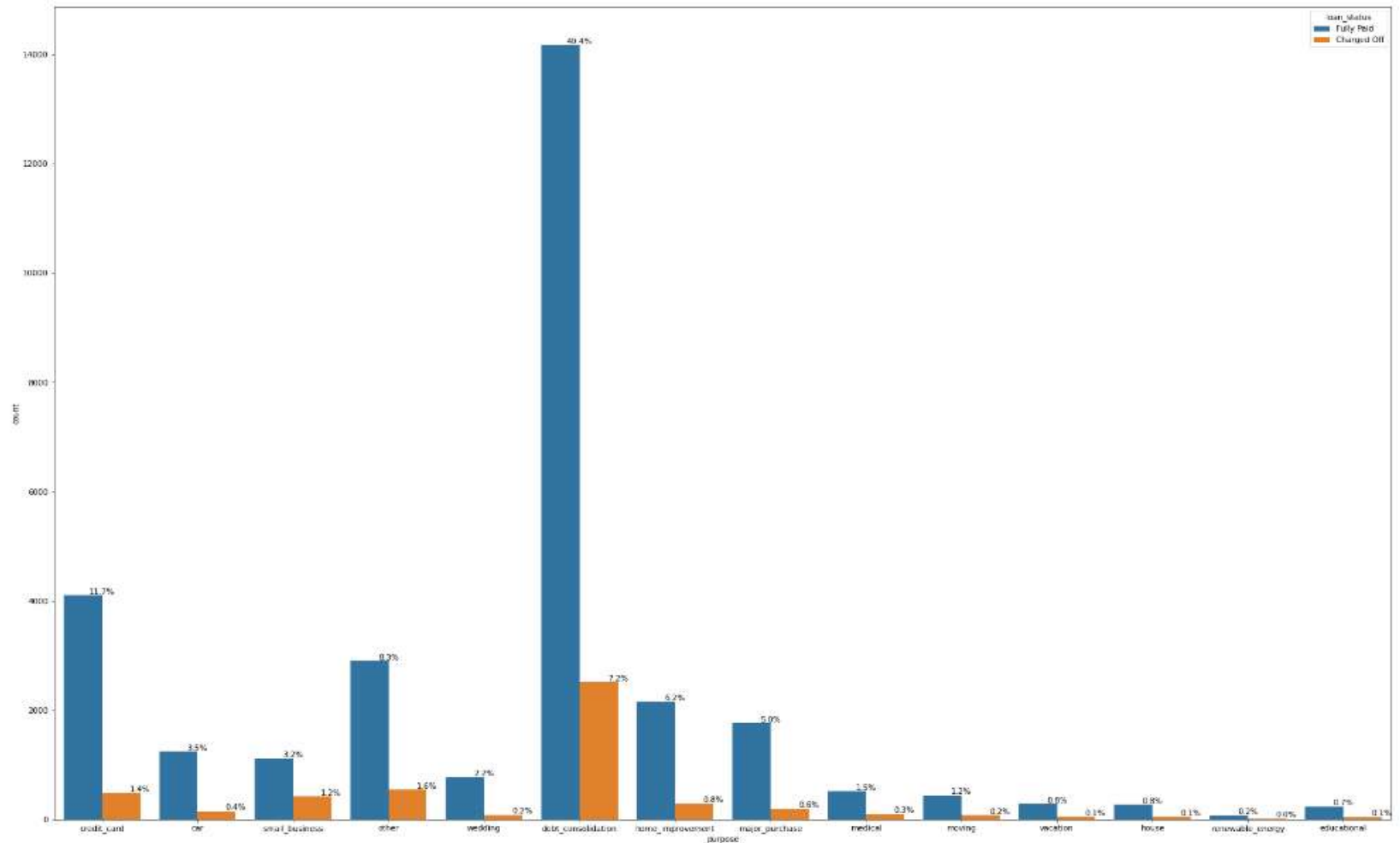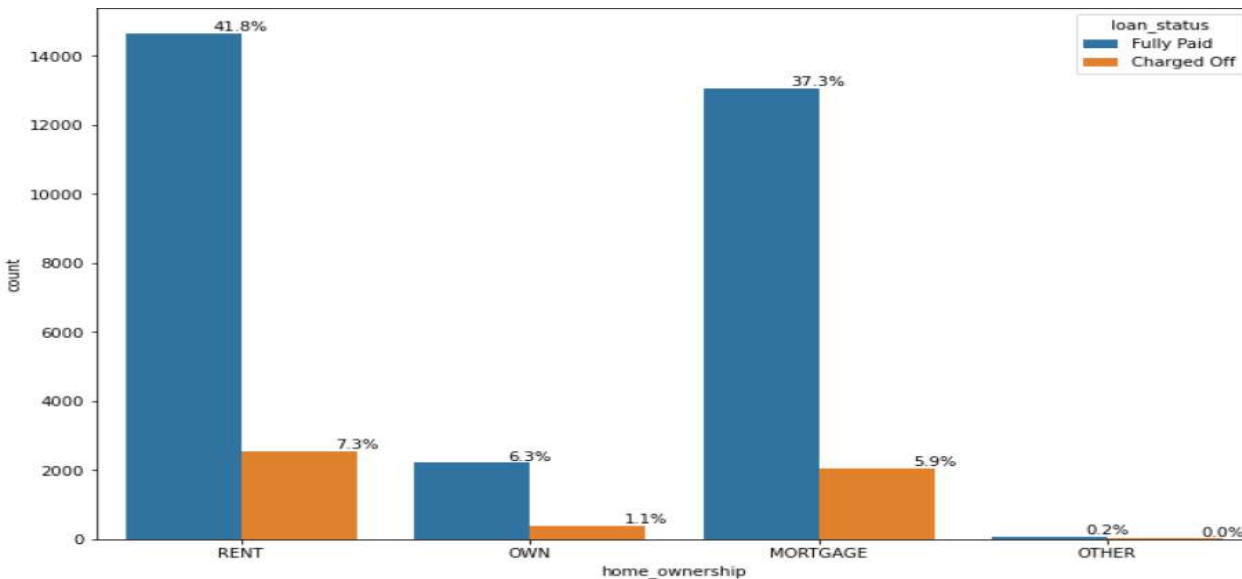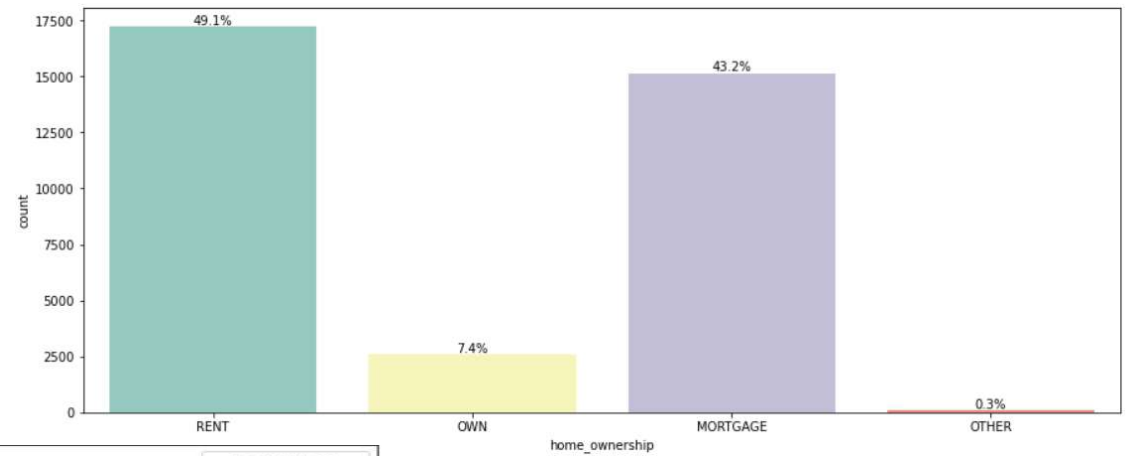
Borrower's state wide information vs loan status, which is showing that the proportion of loan requests from CA is significant along with the higher rate of fully paid off.

Home Ownership details:

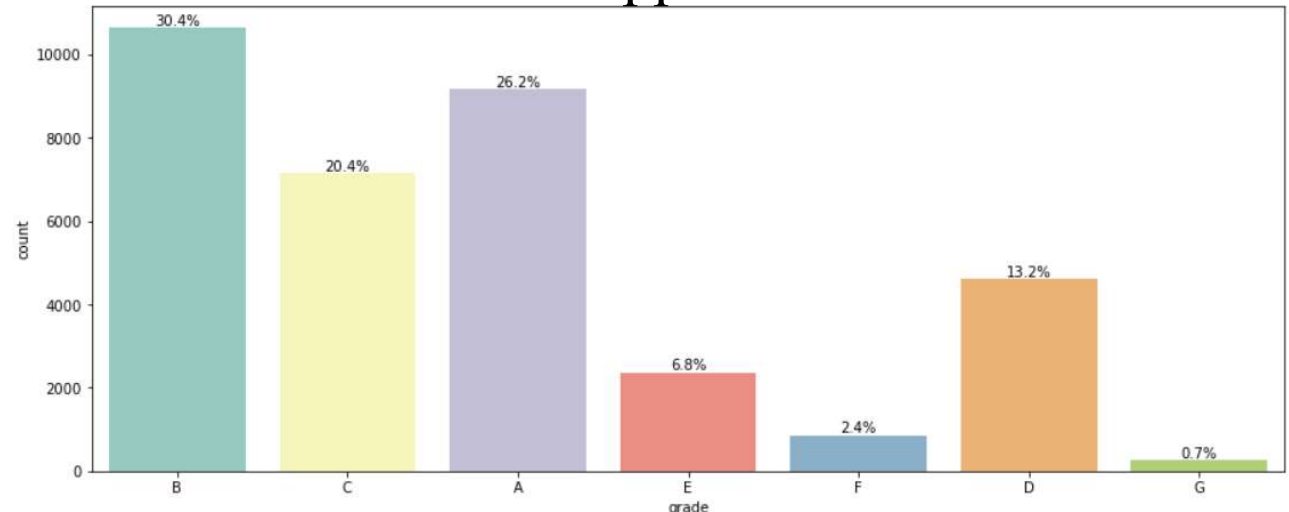More applicants are staying in a Rented house or Mortgaged.

The loan status based on the home ownership status can be observed.

Understanding the Historical data of the loan applicants

Observing Grade wise loan approvals:

The loan applicants holding Grade A, B, and C relatively have received a large proportion of approvals on the loans respectively.
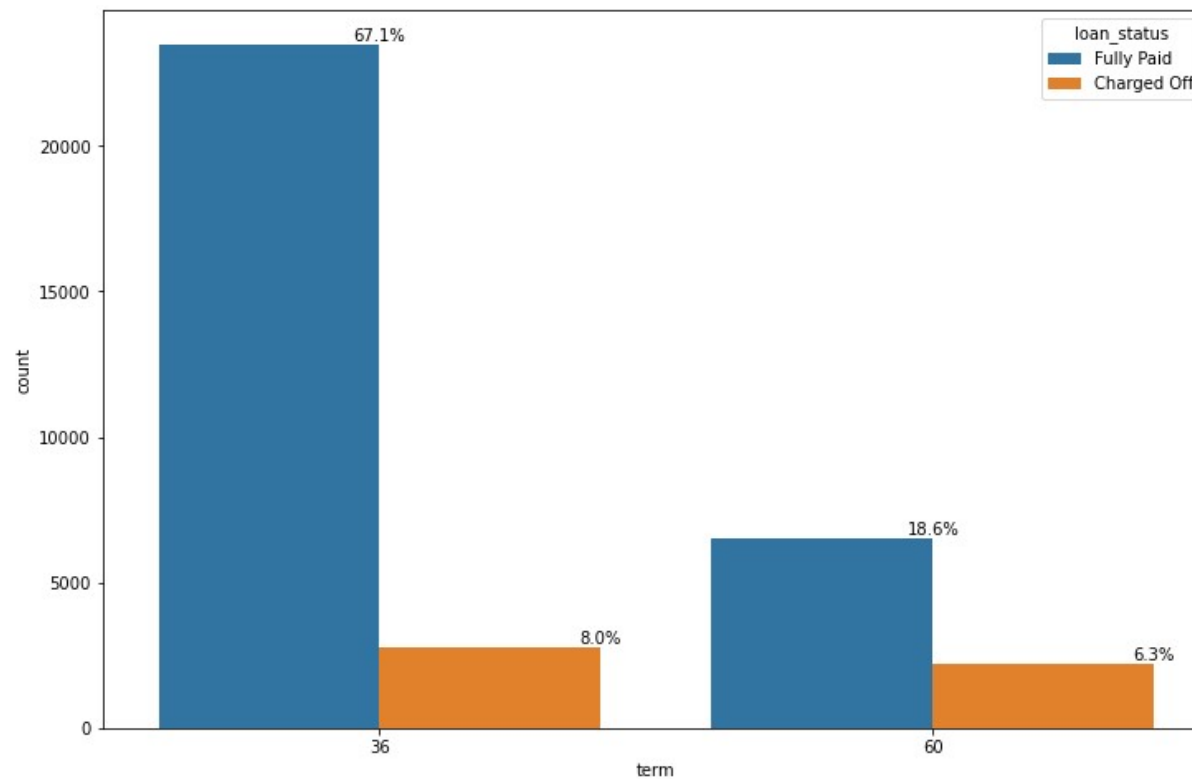
Based on the historical sub grade information, the grades A4, B5, B3, and A5 have received significant number of loans.
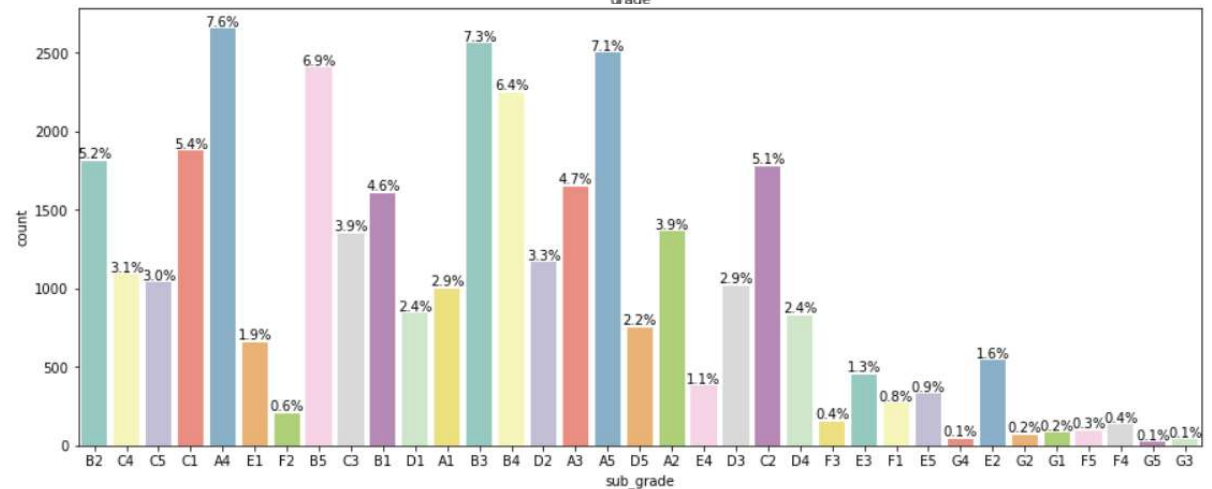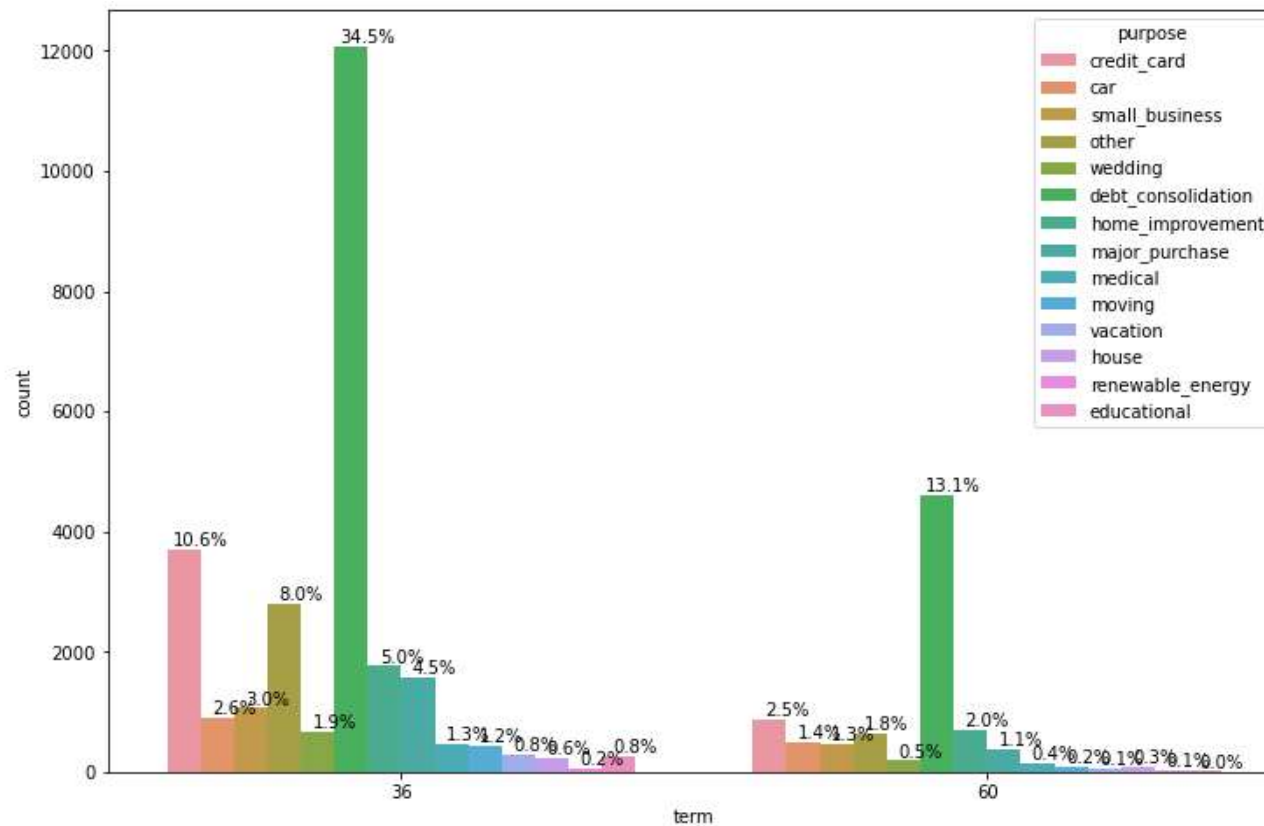
The proportion of the loan status when compared to tenure of the loan, more number of repayment can be observed with 36 months term and more defaulters can be observed with 60 months.
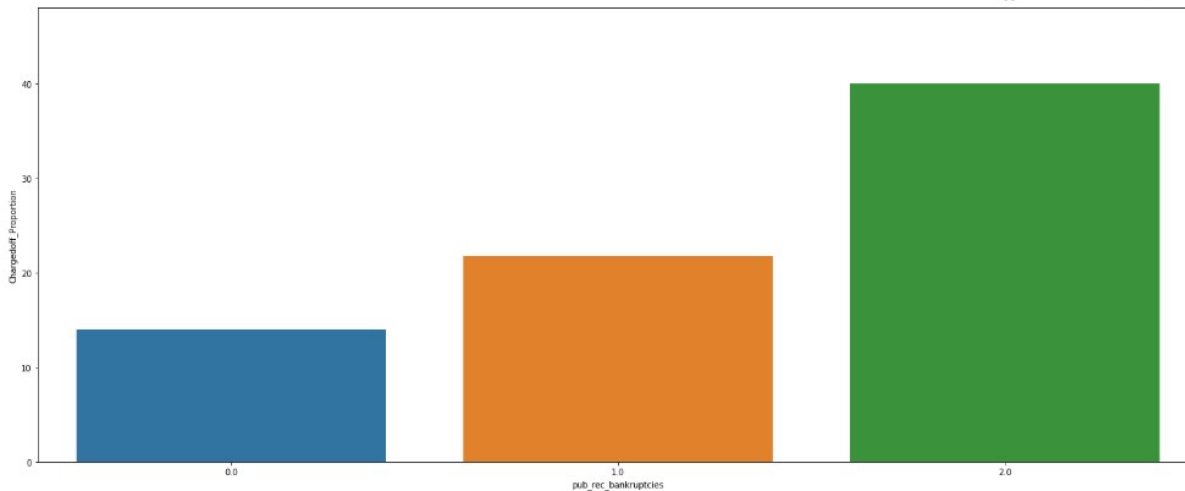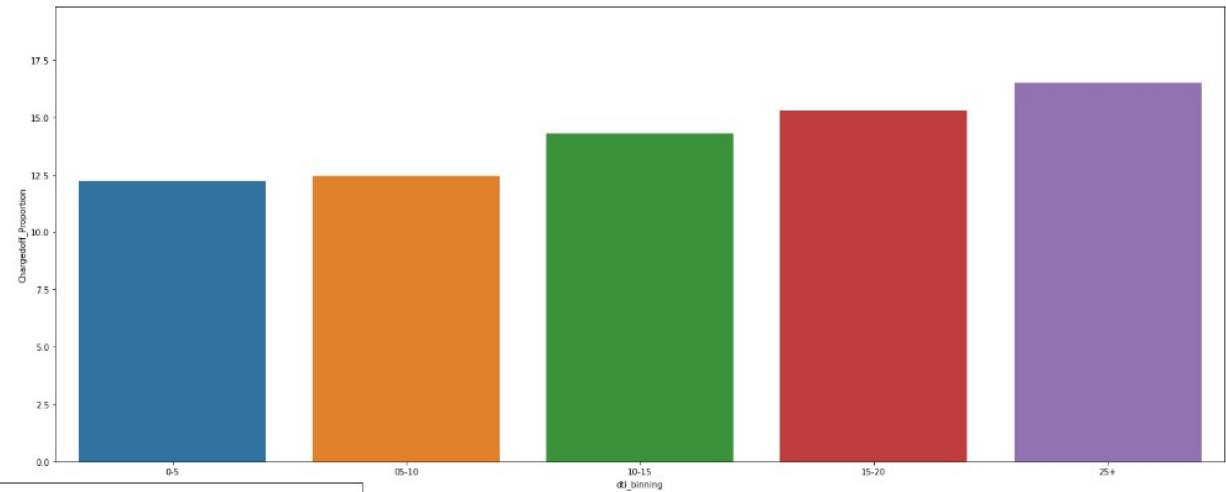
The debt consolidation purpose of loan is playing more significant role.

The more the DTI% is the more defaulting chances of a loan

Borrowers having more DTI % are prone to defaulted.

The more number of public bankruptcy is a risk for investment which may turn the loan to default.

It is observed that, the higher the interest rate, the higher the chance of loans are getting to Charged-off.
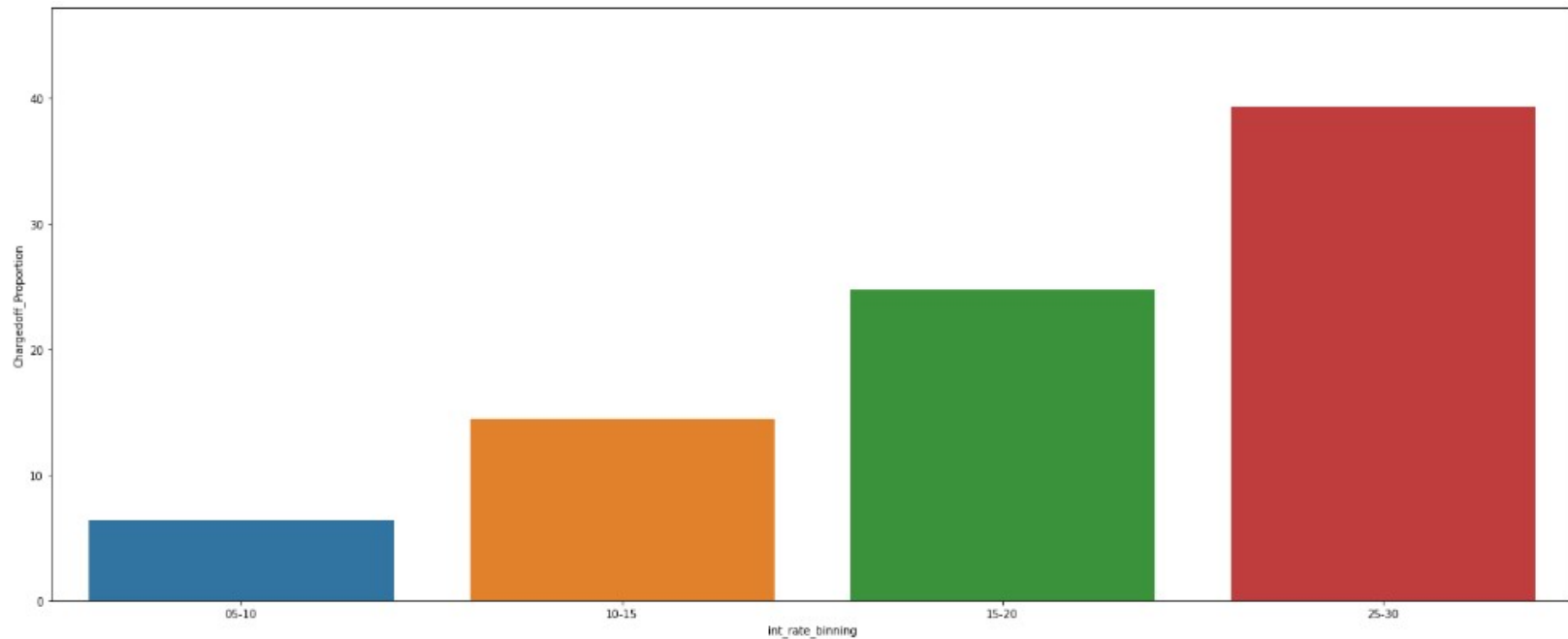
It is observed that, the higher the loan amount and the higher interest rates, along with longer term are getting to Charged-off, which is falling under grade G.
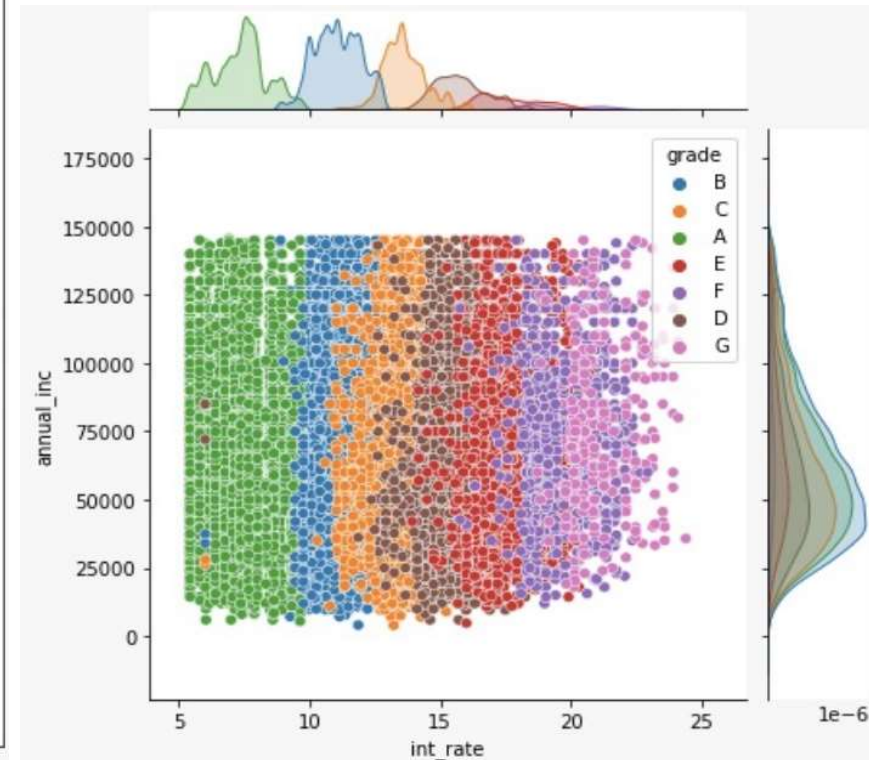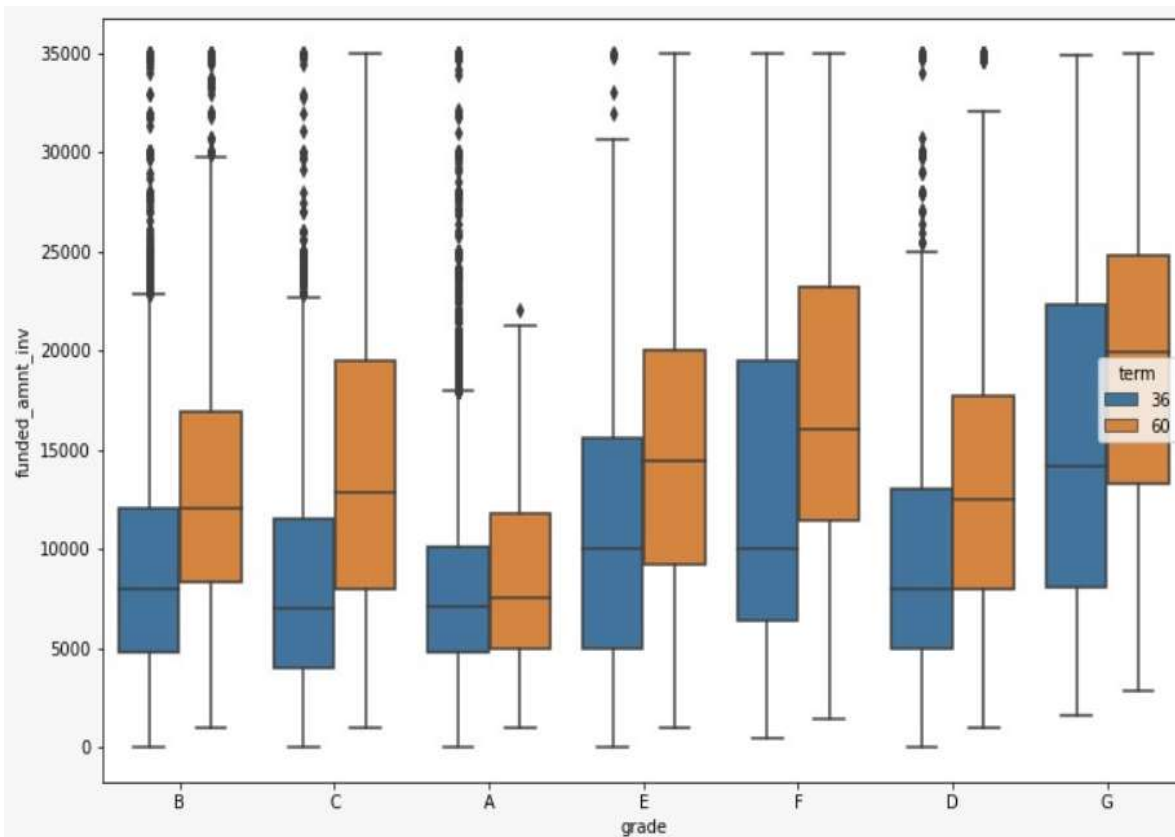
Recommendations

- Increase in annual income eventually is leading to higher loan requests

- Increase in loan amount increases interest rate

- Higher loan amount with longer term are getting more charged-off

- Higher interest rates are also leading to higher charge-off

- Higher Loan amount with higher interest rates along with 60 months term are getting into charged off and are eventually classified as G Grade

- The safest best would be with the 36 months term with lower interest rates for the debt consolidation category which has minimal risk of charged-off