LENDING CLUB ASSIGNMENT SUBMISSION

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Abstract

• Lending club, a consumer finance company what the important aspects and insights behind a customer failing to repay the funded loan by the club. If the club identifies the driver variables behind this, it can avoid losses and thus increase the profit.

• As a Data Analyst working for the Lending club, one needs to analyze the data provided by the club and find the main influential factors which lead to "Charged Off " or "Fully Paid" loans.

Problem Solving Methodology

Data Cleaning	Univariate Analysis	Bivariate Analysis	Results

- Imported the data
- Checking for the null/useless values
- Describing and understanding the data

• Checking the type of variable i.e. Categorical or Numeric.
• Frequency and count plots
• Analyzing the variation of the variable with the result variable.

• Looking for correlations with variables in pair.
• Analyzing joint distributions

• Displaying the analysis in clean, simple and understandable format.
• Derived results from analysis

Investment Analysis

• Overall approach of analysis can be divided into 3 parts –
    1. Analysis of variables related to Applicants .
    2. Analysis of variables related to Loan
    3. Analysis of variables related to Customer behavior
• Based on the analysis of these different variables, we have derived some interesting observations which can lead to increase of profit to Lending club.

Observation

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- Many people opt for loan amount = 10,000
- There are spikes over each 5000 multiple, which concludes people request loans
- rounding off to nearest 5000 multiple.
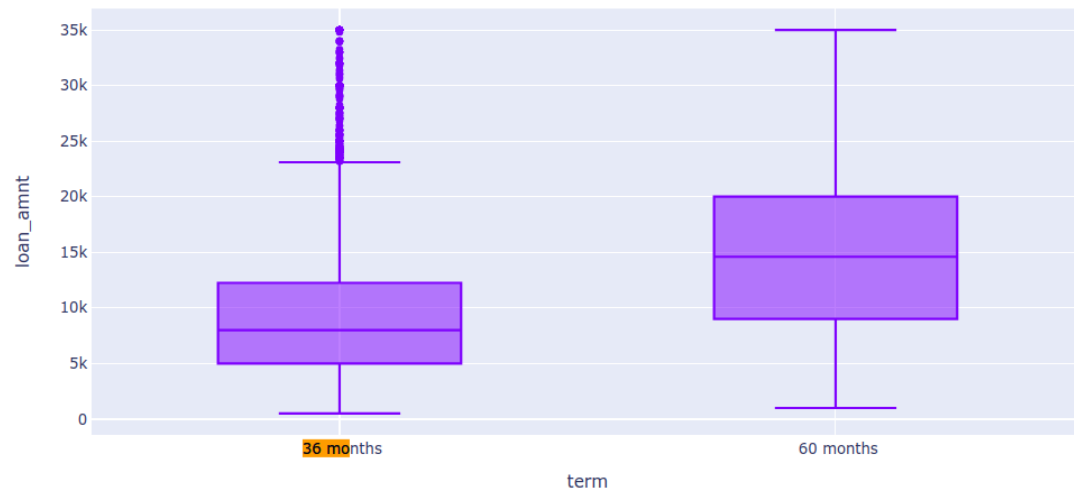

Analysis of Loan amount
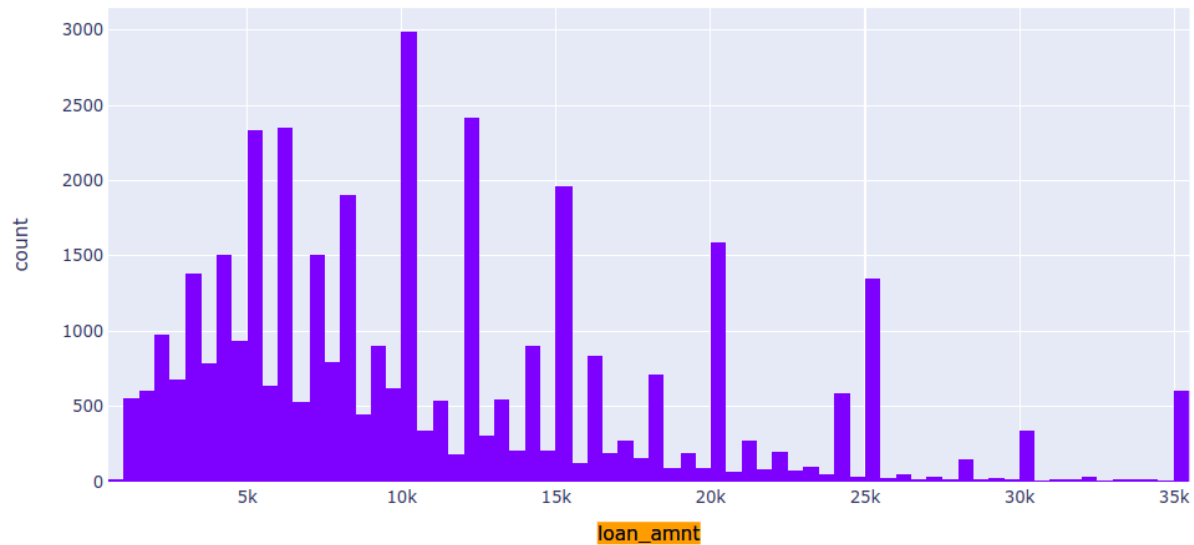
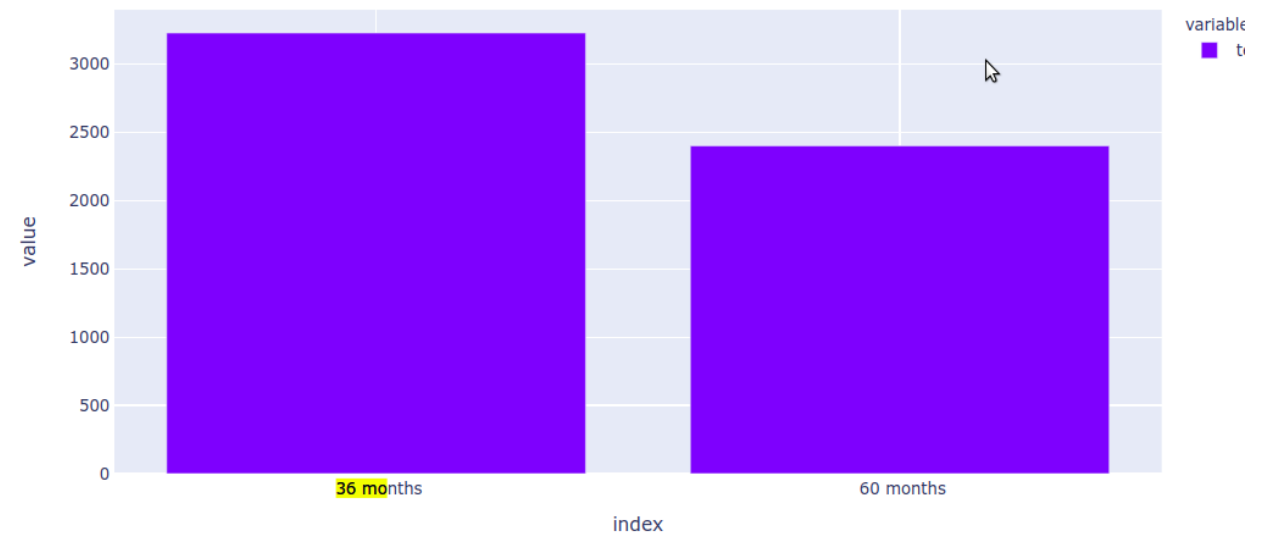Analysis of Loan amount with Status of Loan

- The 36 months term has 57.35% of values which were defaulted.
- There is almost 4% increase in interest rates offered for loans of 60months duration

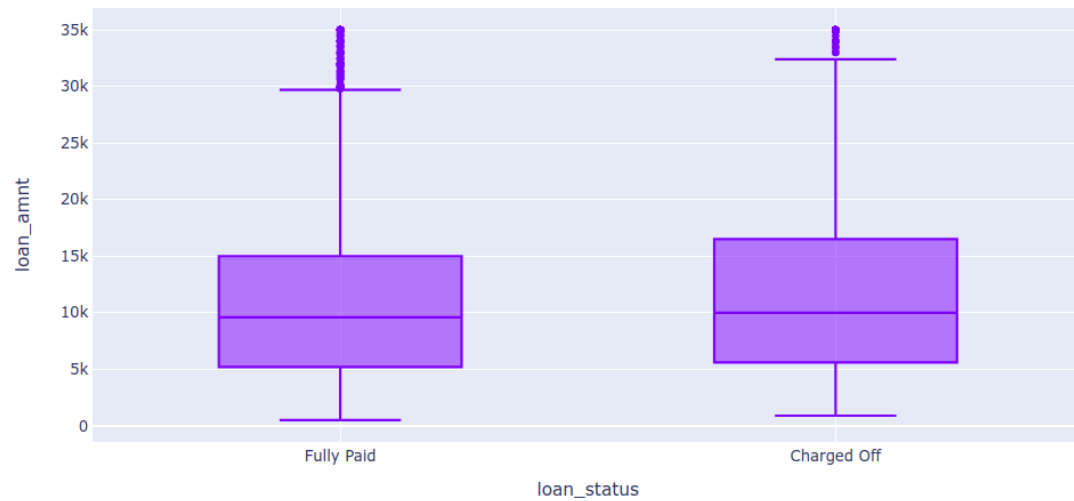
Analysis of Loan amount with Term-wise

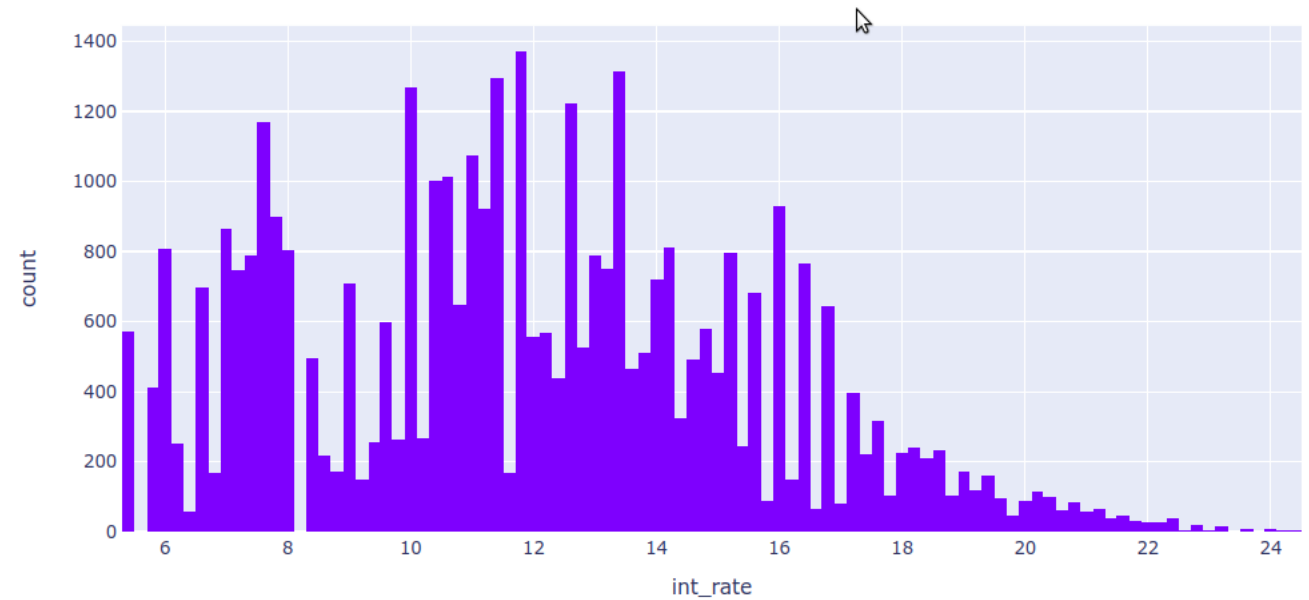Analysis of Term period - Charged Off Applicants

• Average interest rate is 11.9%, and higher interest rates have led to charge offs
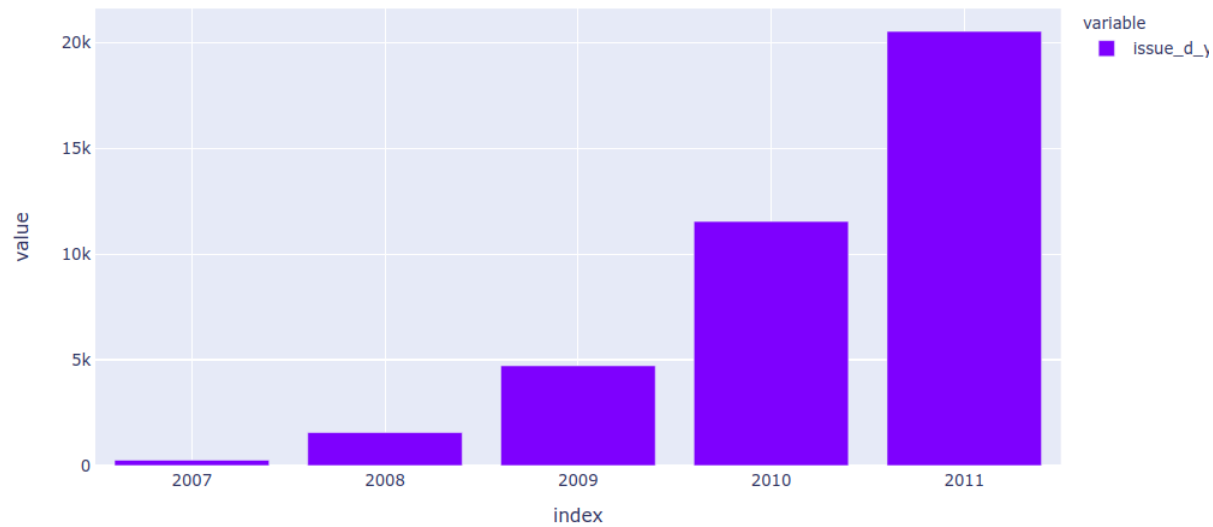
Analysis of Loan amount with Status of Loan
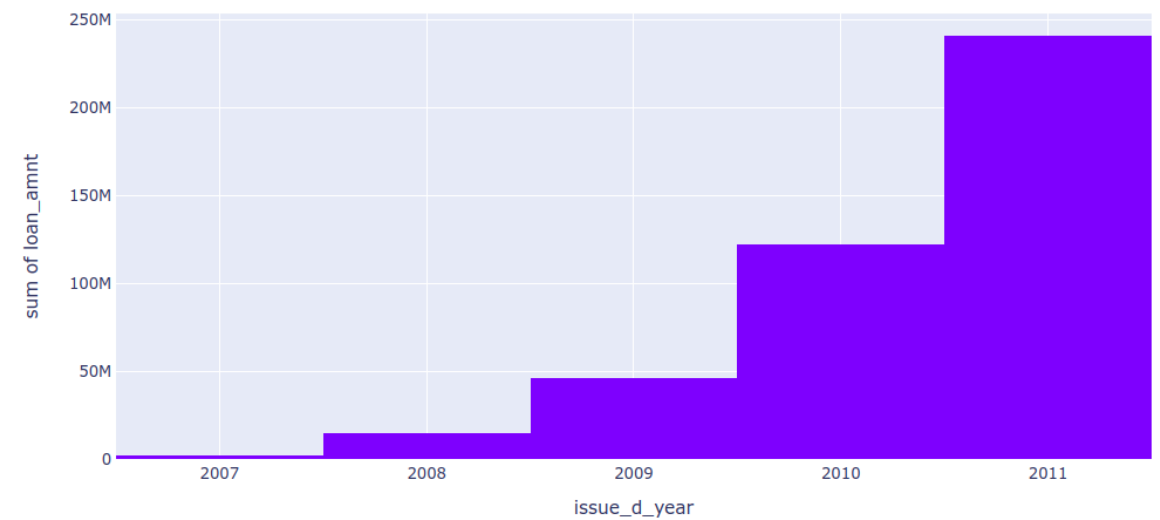

Analysis of Interest rate

- Loans were issued exponentially from 2007 onwards
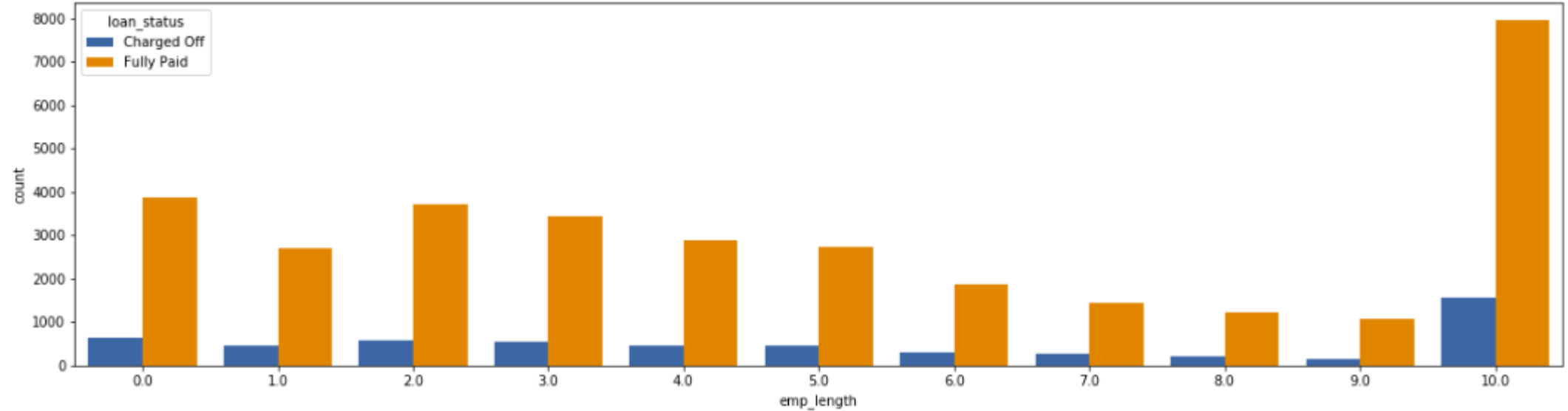- Higher loan amounts were issued as the years progressed from 2007 to 2011

Analysis of Loan amount - Annually

Analysis of Loan amount with Issued year
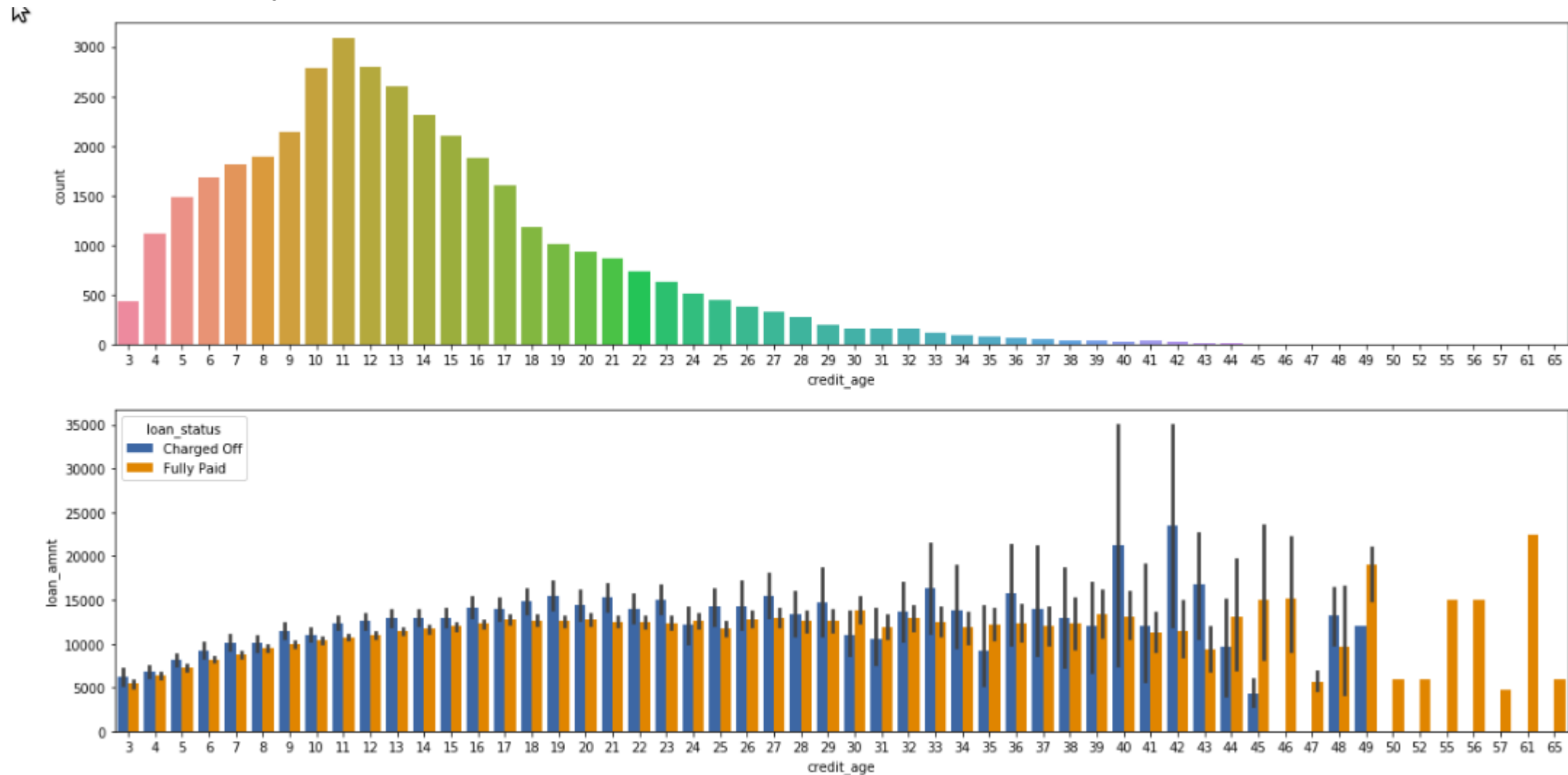
• A considerable count of loans are repaid by the applicants with employment
history of greater than 10 years.

22% of Applicants having 10+ years of experience

• A considerable count of loans are repaid by the applicants with employment

Conclusions/Recommendations

Following are the recommendations we would like to provide to the Lending club according to the insights obtained from analysis.

1. Reduction in number of approval of the loan with purpose as 'small business', 'debt-consolidation' and 'credit card'

2. Stop approving loans with from the state 'NE'.

3. Reduce providing loans of grade/subgrade type F5 & G3 and increment the approval of A & B category loans.

4. Approve the loan applications having employment length greater than 10 years.

5. Inspect the applicants having home ownership as category 'Rented'.

6. Approve the loan applications having credit age above "50 years".

7. The amount of loan is increasing which is a positive thing for the club.

8. Proper and repayable interests should be provided for the tenure of the loan otherwise it may fall in charged off category.

9. Care should be taken to give loans to applicants with lower income.

10. DTI is good indicator of bad loans