Lending Club Case Study Submission

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Introduction

- 'Lending Club' is a marketplace for various types of loans that matches borrowers who are seeking a loan with investors looking to lend money and make a return.

- When the company receives a loan application ;company has to make decision for loan approval based on applicant's profile.

- There are two types of risks are associated with the bank's decision:

- (i) If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company.

- (ii) 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 company

- Based on the dataset supplied company wants to understand the driving factors (or driver variables) behind loan default, i.e., the variables which are strong indicators of default.
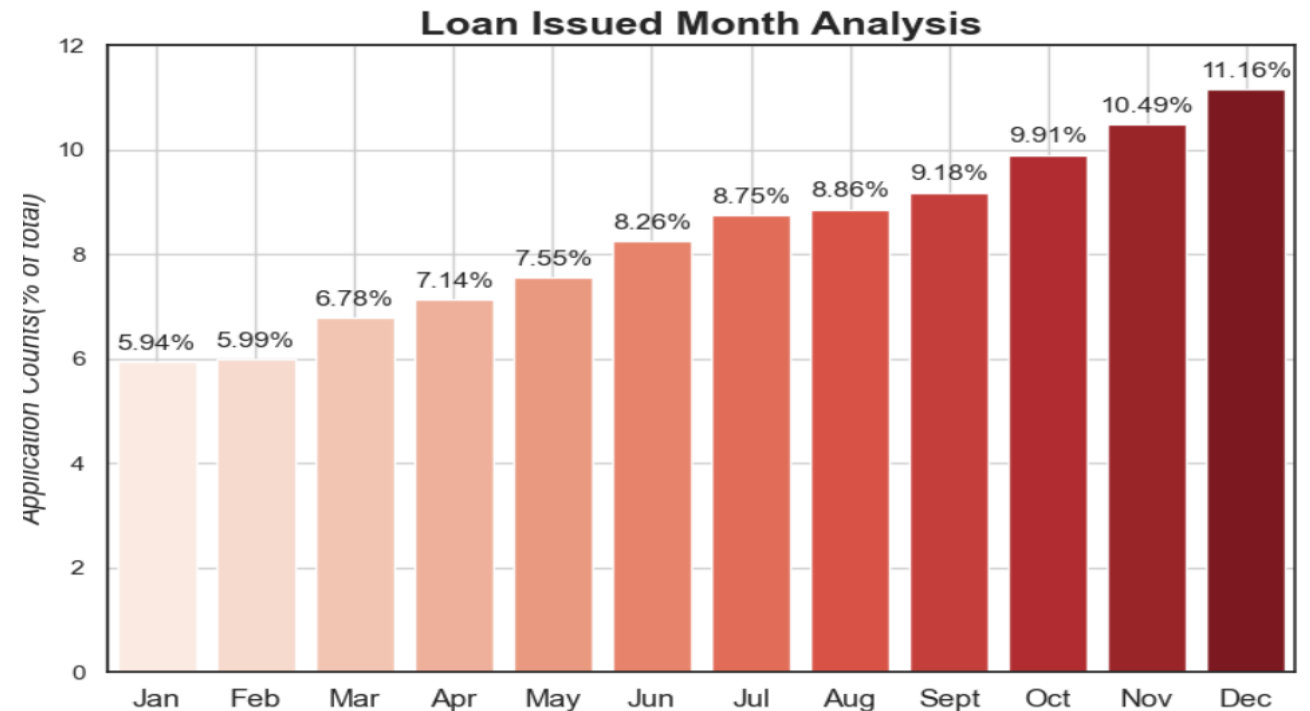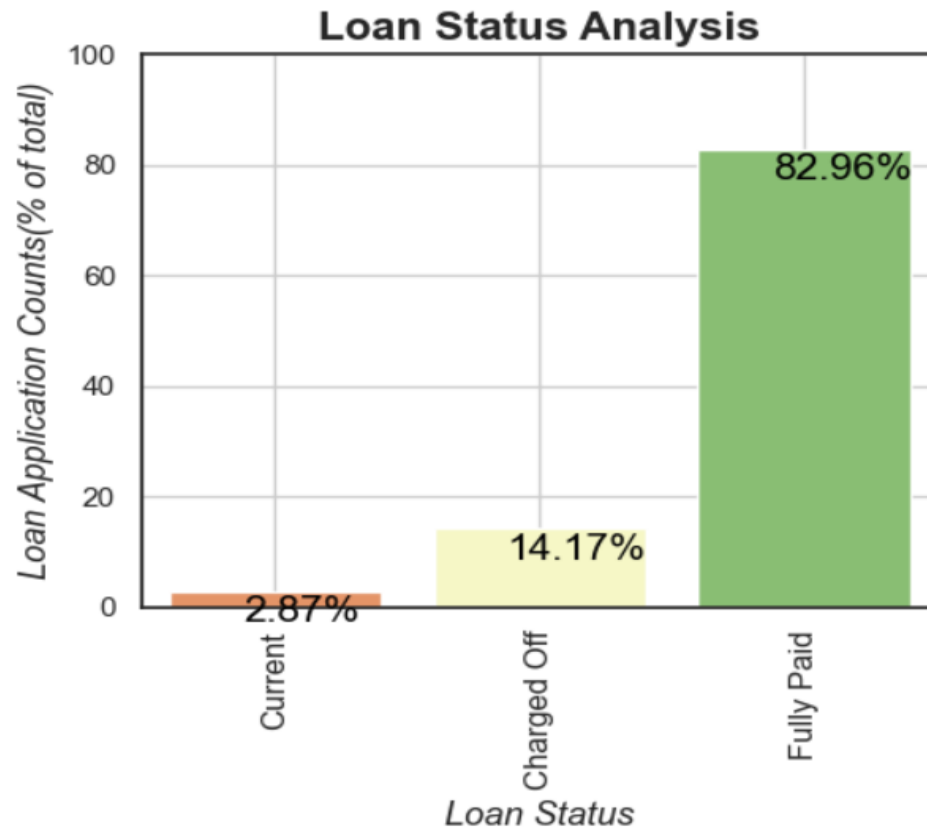
Background

- Lending Club is largest peer-to-peer lending company , headquarter in Saint-Francois California.

- It was the first peer-to-peer lender to register its offerings as securities with the Securities and Exchange Commission (SEC), and to offer loan trading on a secondary market.

Objective

- Identify Variable that provide strong indicators of potential loan default thus helping Lending club to decide approval/rejection of loan.
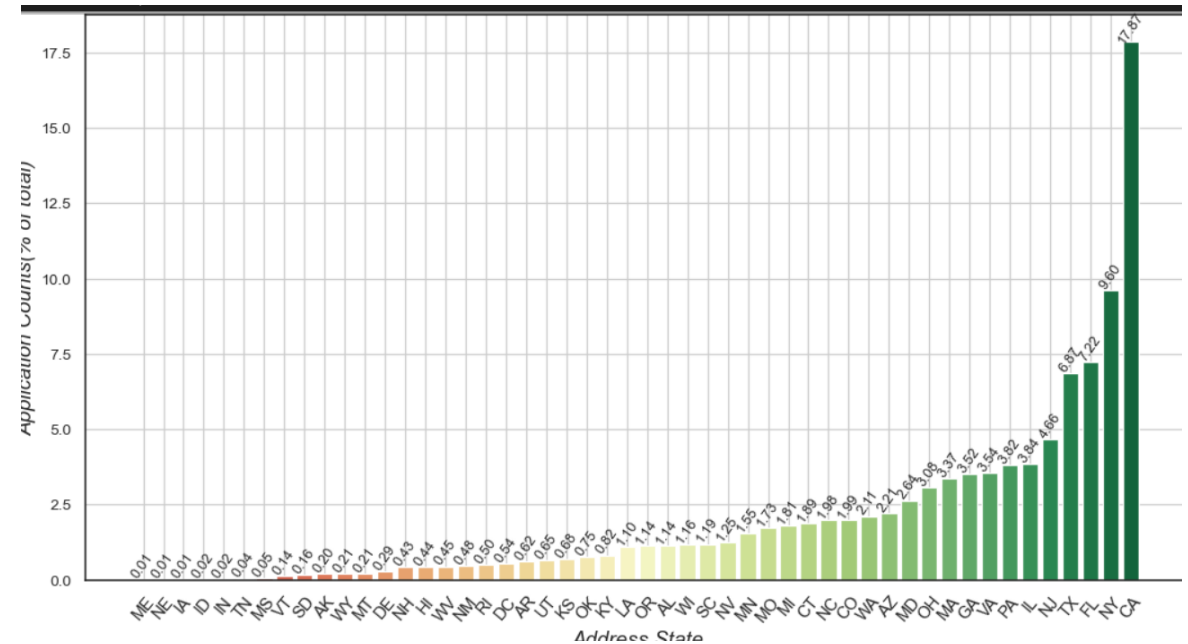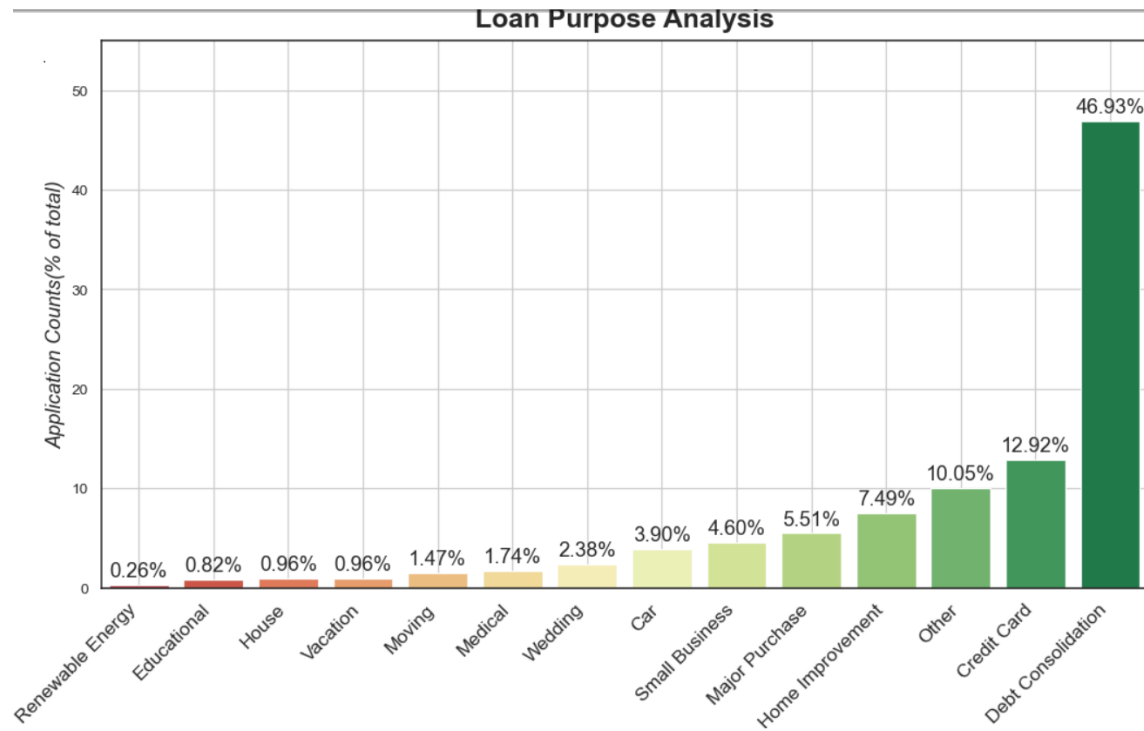
Univariate Analysis :Insights

- Overall default rate stands at 14.59%

- Approval rate of loan is higher during holiday season (November & December).

- Approved Loan amount almost doubled between

Loan Status Analysis

- Current: 2.87%
- Charged Off: 14.17%
- Fully Paid: 82.96%

Loan Issued Month Analysis

- Jan: 5.94%
- Feb: 5.99%
- Mar: 6.78%
- Apr: 7.14%
- May: 7.55%
- Jun: 8.26%
- Jul: 8.75%
- Aug: 8.86%
- Sept: 9.18%
- Oct: 9.91%
- Nov: 10.49%
- Dec: 11.16%

Univariate Analysis

- Debt consolidation followed by credit are the top reasons for loan applications among all approved loans.

- CA has most approved application among all.


Loan Purpose Analysis

Univariate Analysis

- Pearson correlation plot between continuous variables retained.

- Numbers are indicative of the strength of correlation between variables

Correlation Matrix
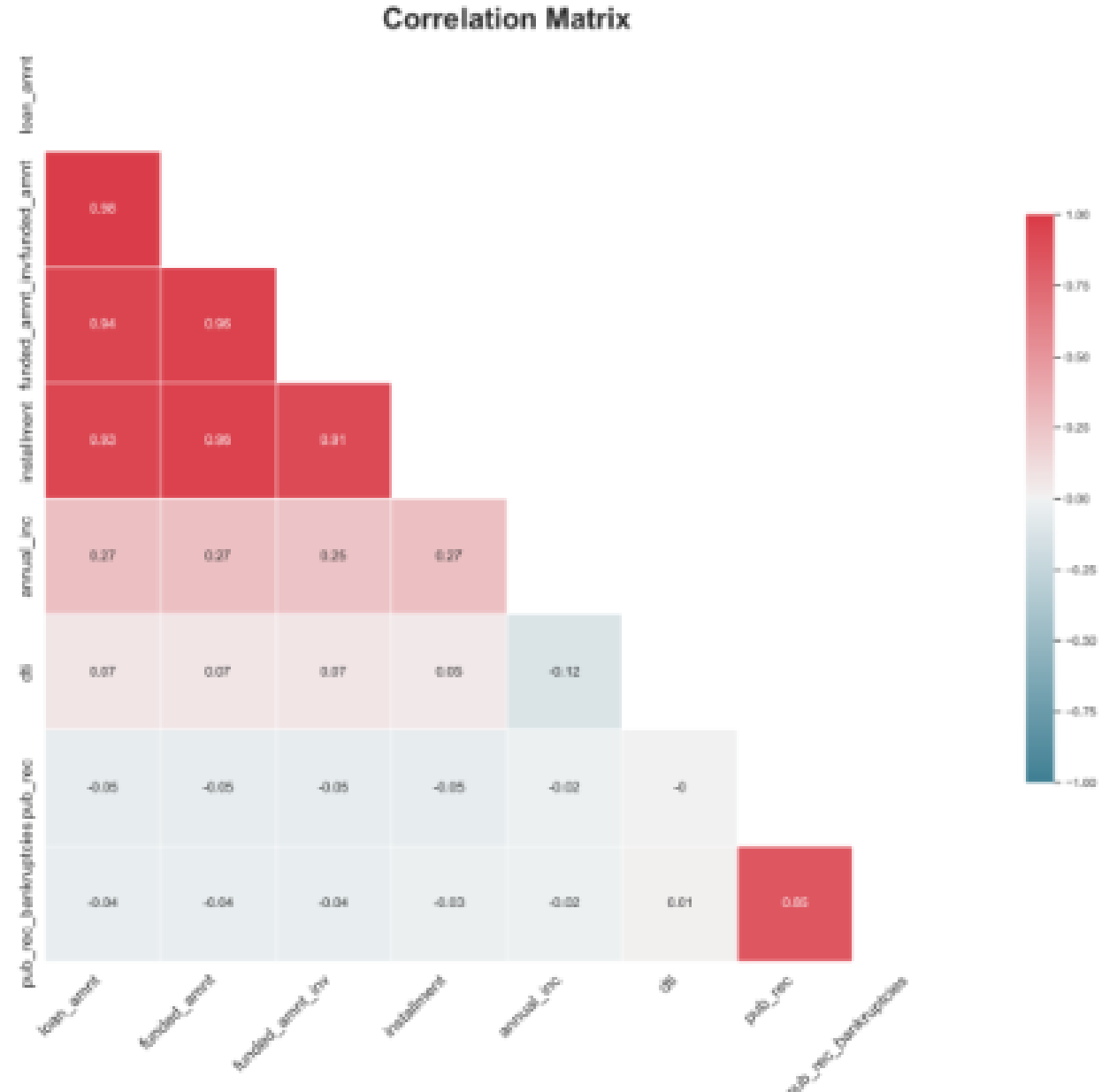
Bivariate Analysis

- Percentage of defaulter is significantly high within the grade categories 'F' and 'G'. LC should be more vigilant while approving loa applicants for high risk applicants.

  - Largest proportion of approved loan defaulters belong to grade 'B'(3.6%) and 'C'(3.4%) category.
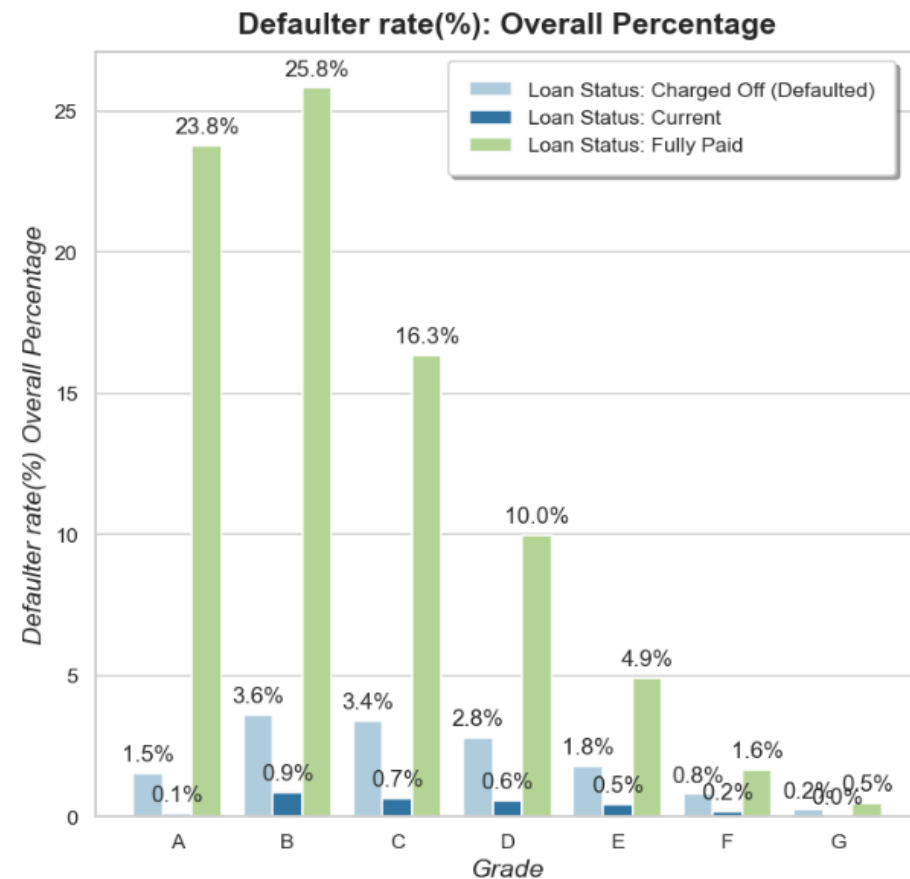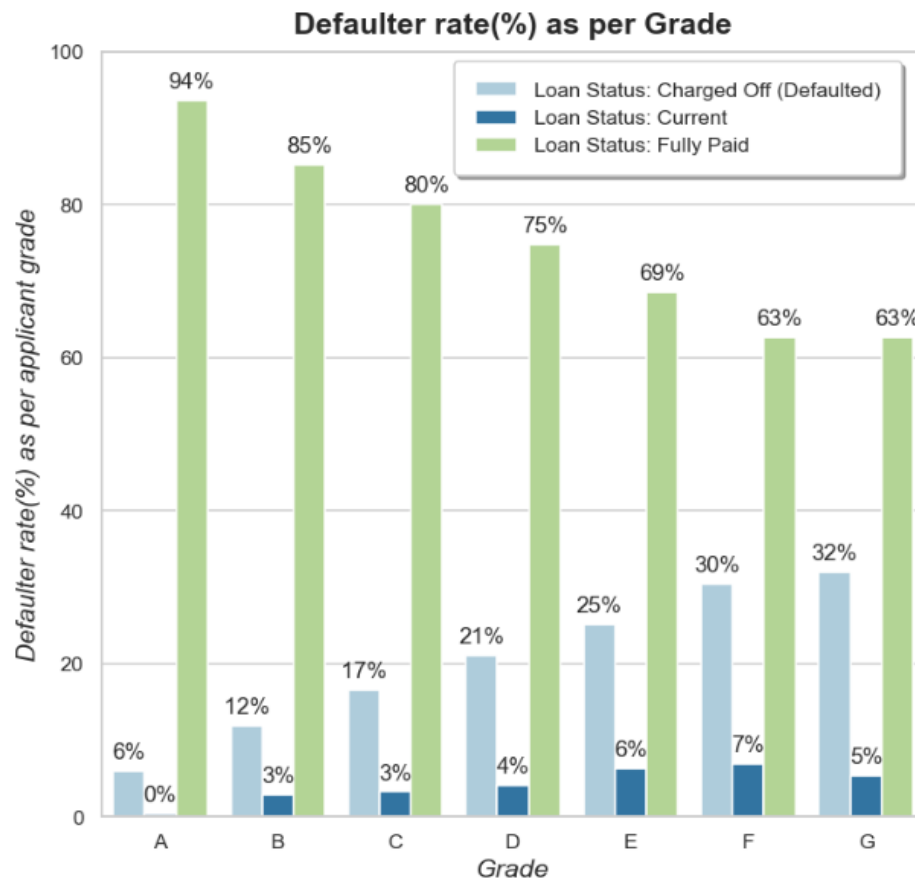
Conclusion

- **Loan Term:** Average Interest rate for defaulted applications is very high with 12.38 % for 36 months and 15.75 % for 60 months term.

- **Grade:** Default Rate is high in high risk loan applicants. It would be important for LC to thoroughly vet high risk loan applications.

- **Loan Purpose:** The top two reasons for loans are debt consolidation and credit card. Such applications should be carefully assessed.

- **Loan Issue Month:** The most common month the loan is issued is December.