LENDING CLUB CASE STUDY ASSIGNMENT

SUBMISSION

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Abstract

Consumer Finance Company, specializes in lending various types of loans to urban customers. The company receives loan applications and decides for loan approval based on the applicant's profile. There are Two types of risks associated with the bank's decision

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

2. 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

The aim is to identify patterns which indicate if a person is likely to default, which may be used for taking actions such as denying the loan, reducing the amount of loan, lending (to risky applicants) at a higher interest rate, etc

Problem solving methodology
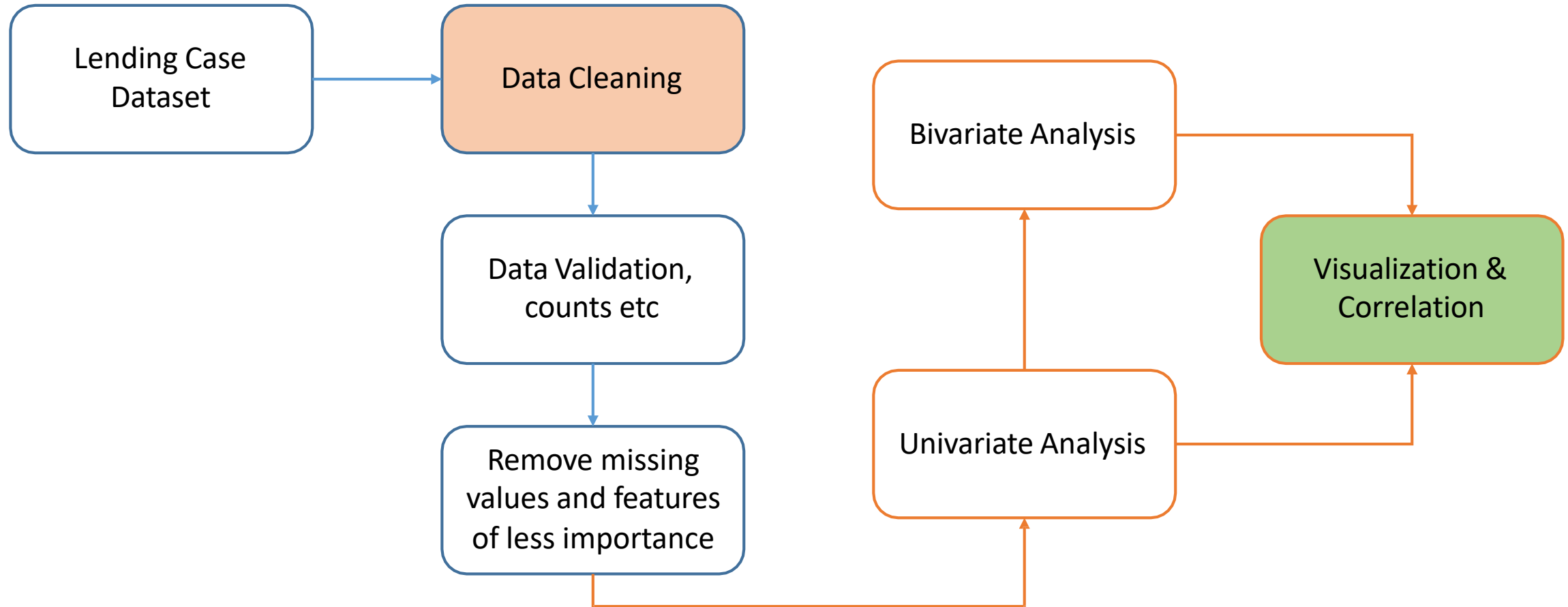
Analysis

Consumer Finance Company were interested in providing loans for persons repay on time without any defaults. Univariate and Bivariate analysis and correlation between features were made and the following inferences were obtained

1. **Univariate Analysis:**

   Outliers in loan were above 30k and there were no variation or distribution change in the loan amount and the funded values, but there were slight changes in the funded investments. Also the interest rate were mostly between 5 to 9 and 11 to 16 percentages respectively
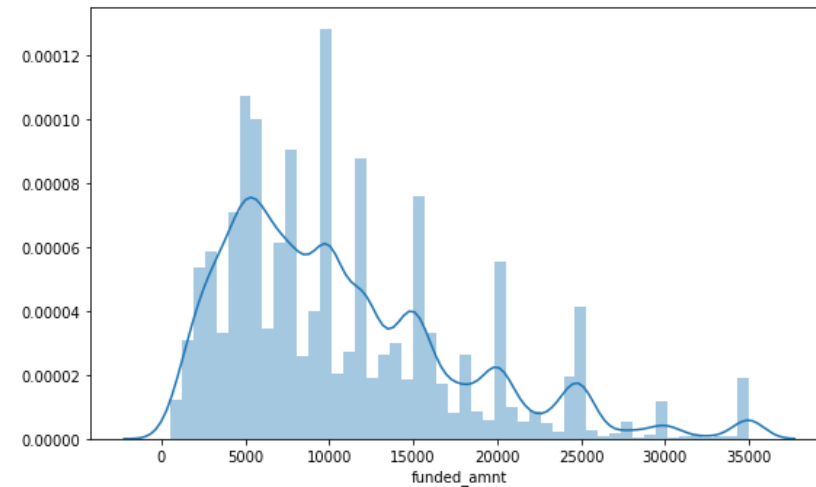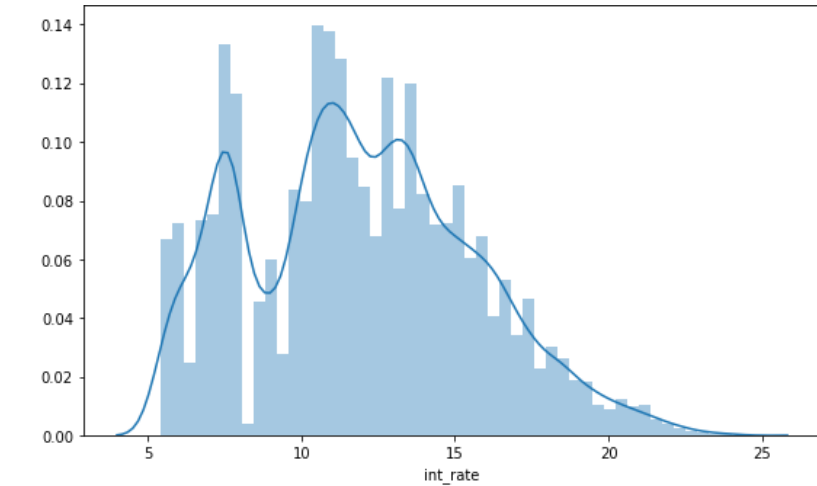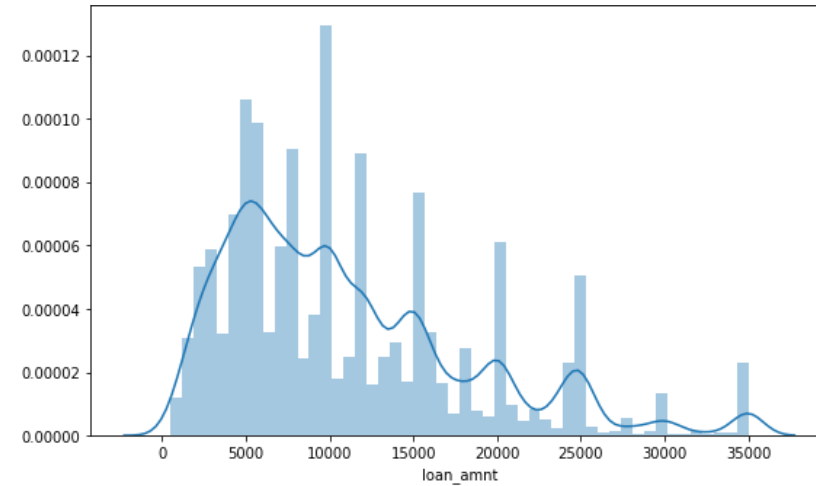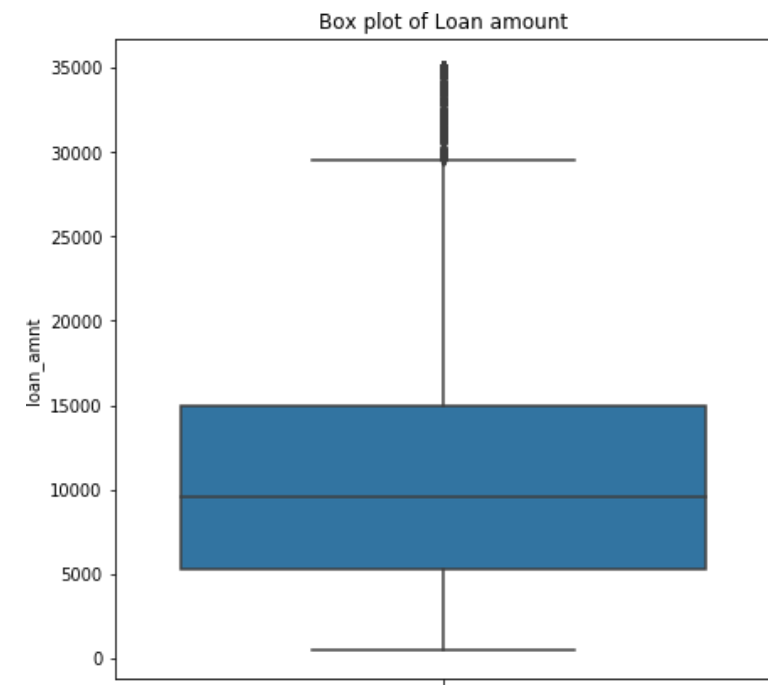
2. **Bivariate Analysis:**

   Various comparisons and observations were made between the home owners, purpose, employee length, term of investments, pub_rec_bankruptcies were obtained between the Loan amount and payment. Inferences are mentioned at the conclusion section
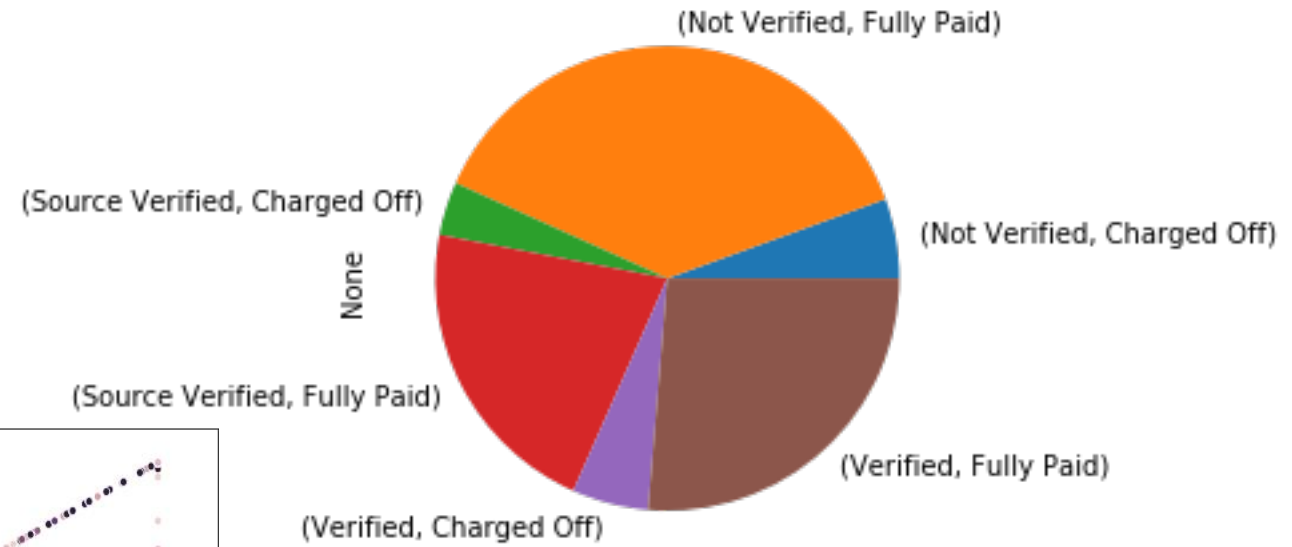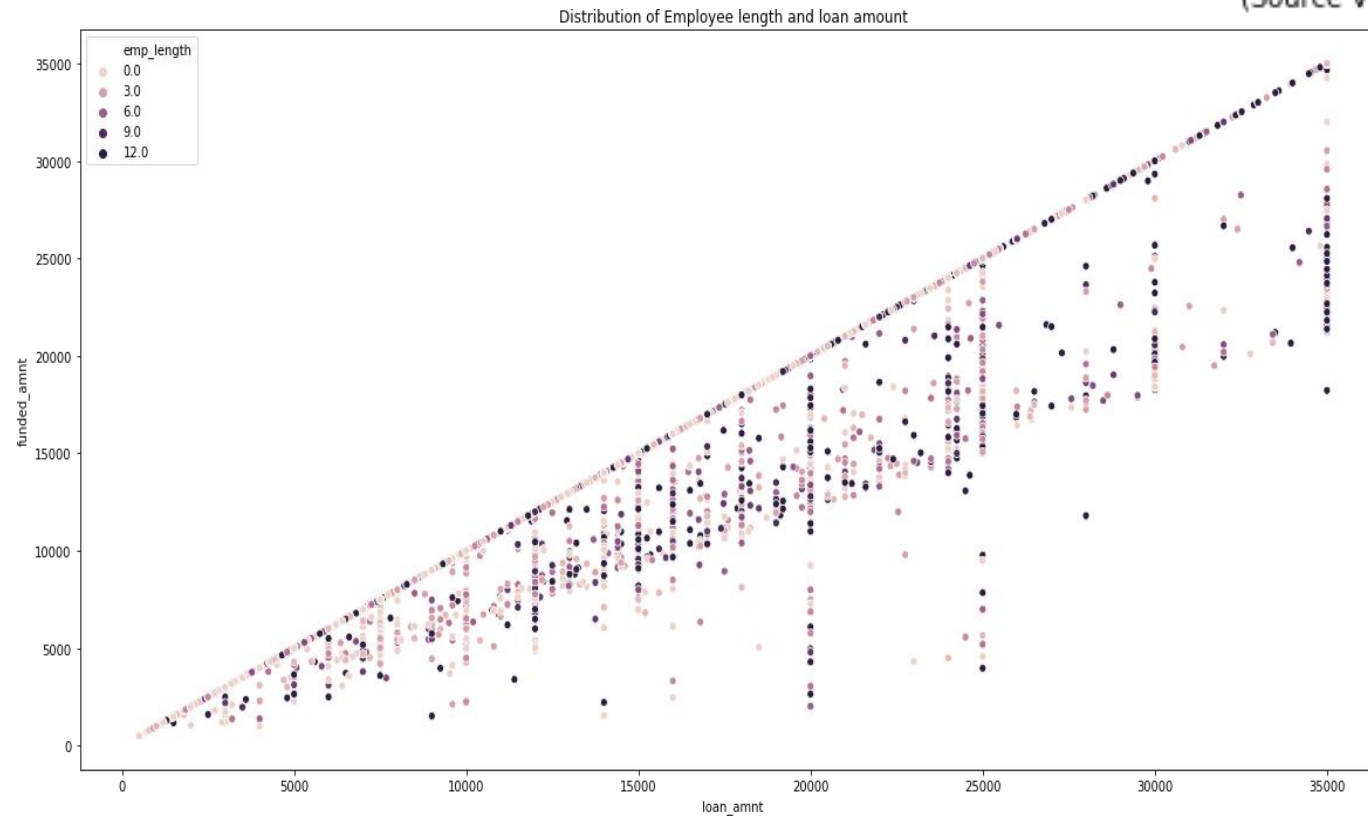
3. **Correlation:**

   The Correlation between various features were obtained
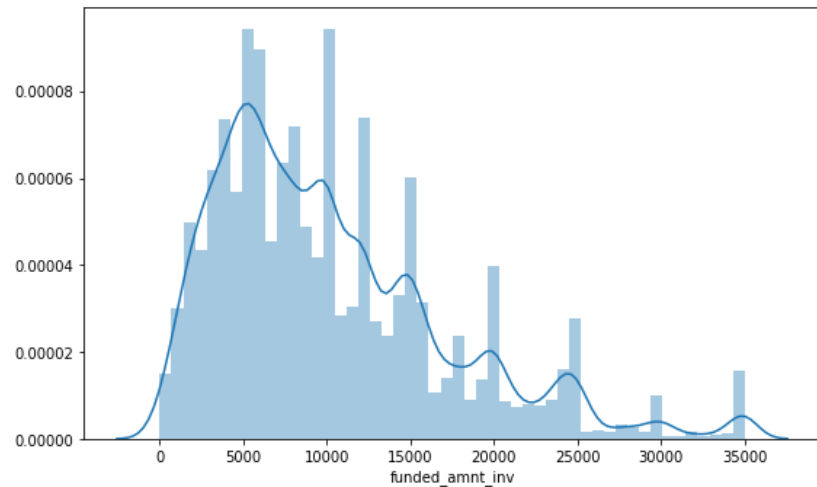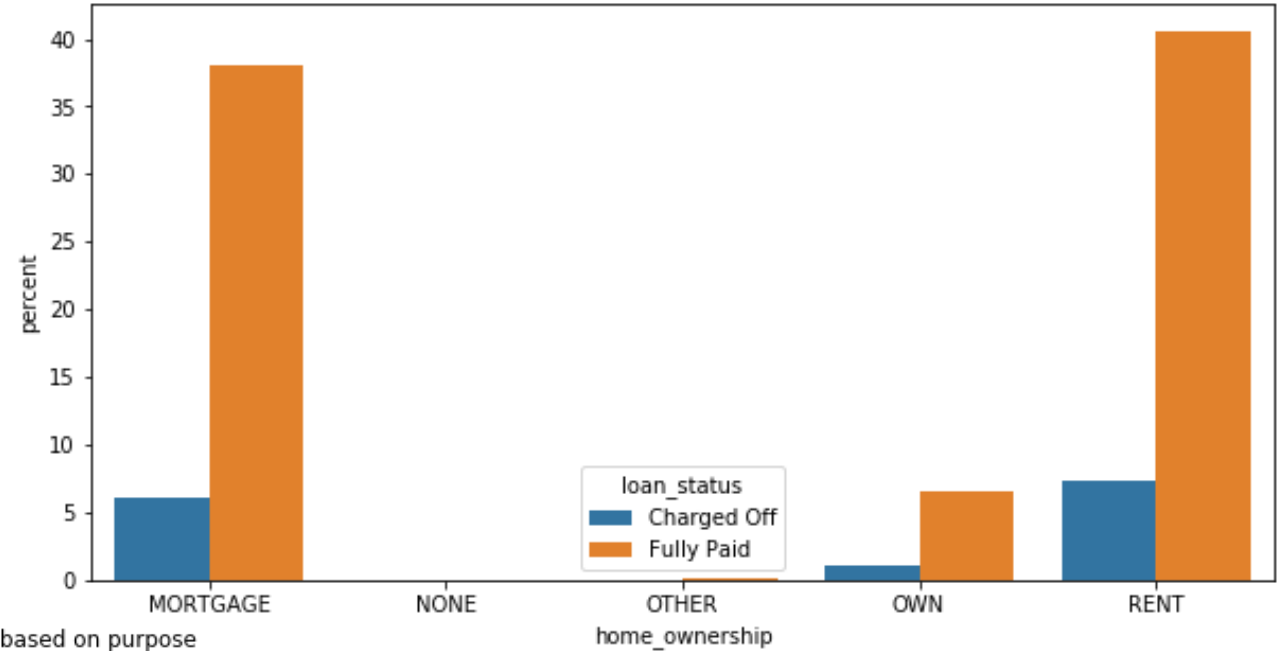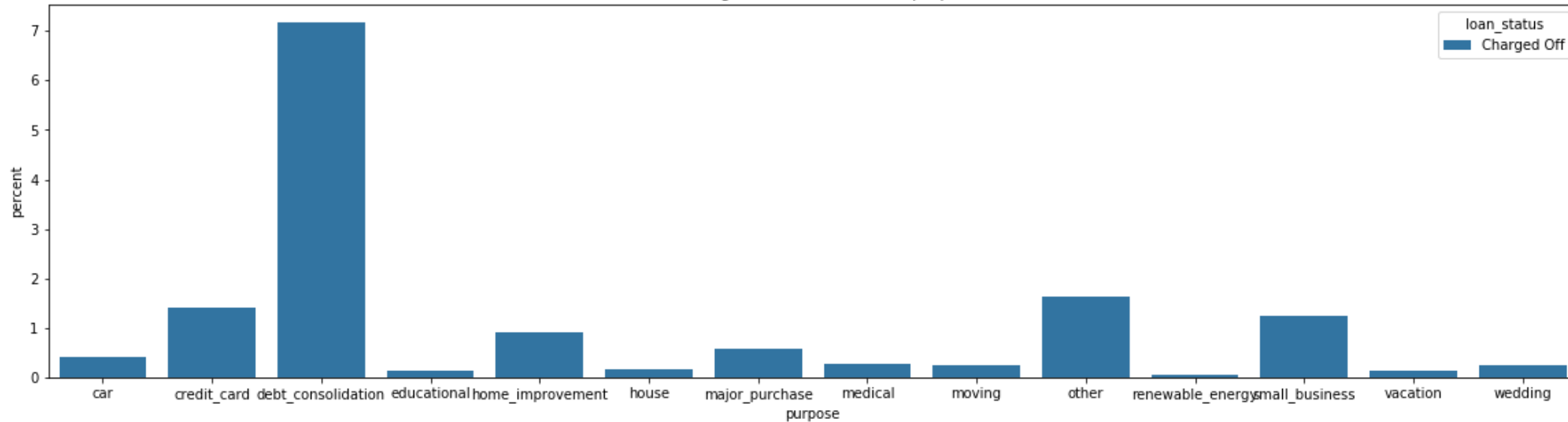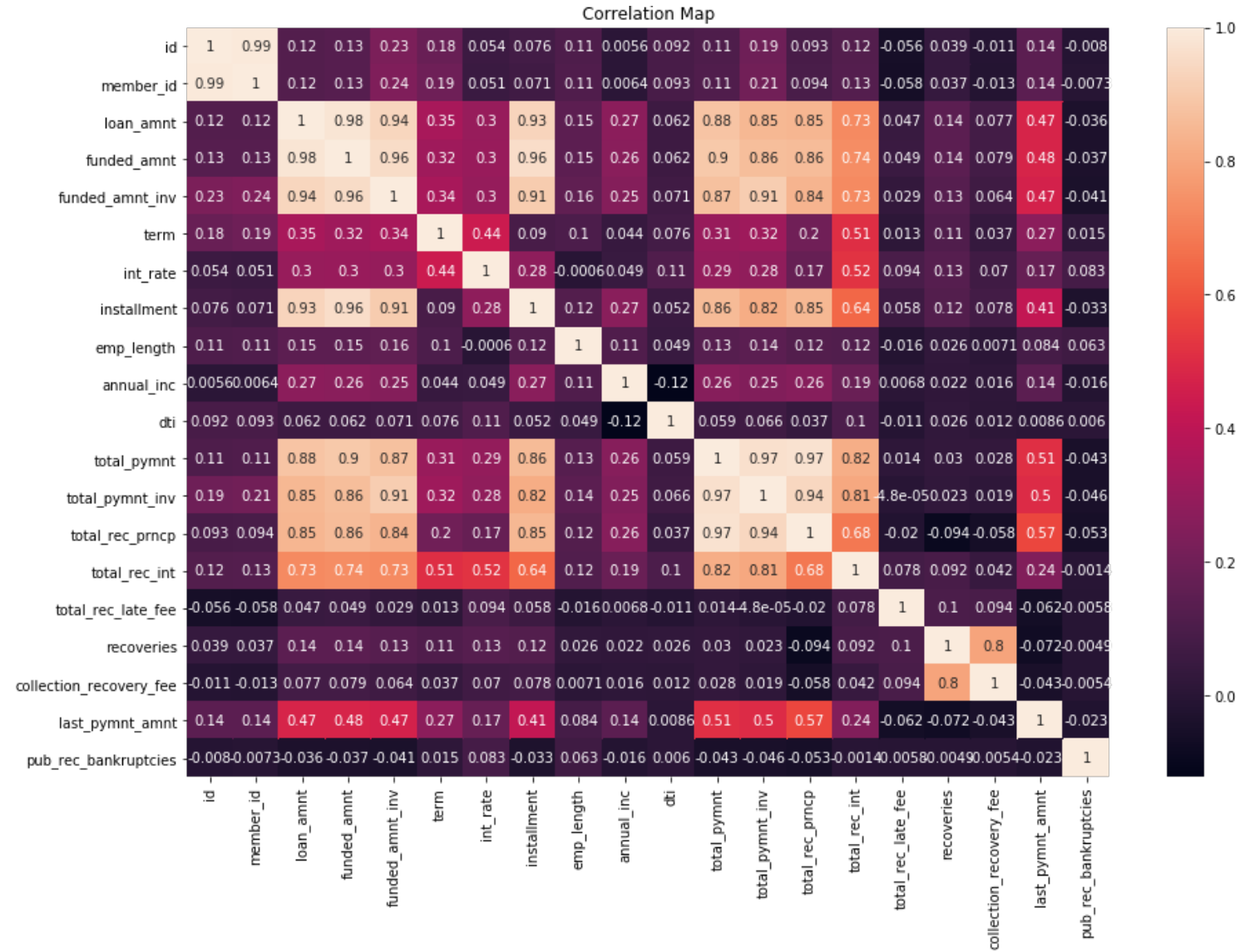
Univariate Analysis

Bivariate Analysis

Distribution of Employee length and loan amount

Bivariate Analysis

Correlation

Correlation Map

Conclusions

From the analysis done on the historical lending data it was found that for **Consumer Finance Company** it is recommended to do higher validations for the purposes like debt_consolidation, credit card and others. Also people staying in a rented or mortage home are more likely default. Employee with higher term prefer opting more loan amount. There is a higher correlation between the loan amount and funded amount.