Lending Club Case Study

Exploratory Data Analysis

Purpose of the Analysis

Purpose of this analysis is to identify the patterns which suggest a risky applicant who is likely to default a loan based on the parameters present in the data.

This information will be useful for the consumer finance company to take decisions on risky loan applications whether to deny the loan or offer the loan at higher interest rate.

Data Analysis Procedure

Exploratory Data Analysis is used to analyse the data

Steps followed during the analysis

1. Understanding the Data
2. Data Cleaning
3. Univariate Analysis
4. Segmented Univariate Analysis
5. Bivariate Analysis

Data Understanding and Data Cleaning

Data Understanding:

❖ Using the data dictionary, understand the meaning and role of all the columns which are present in the data set.

Data Cleaning:

❖ Removed all the irrelevant rows and columns which might not be much useful for analysis.
❖ Found the missing values and imputed them.
❖ Standardised some columns like interest rate by removing the % symbol and correct the data type.
❖ Identified the outliers in few columns and handled them accordingly.
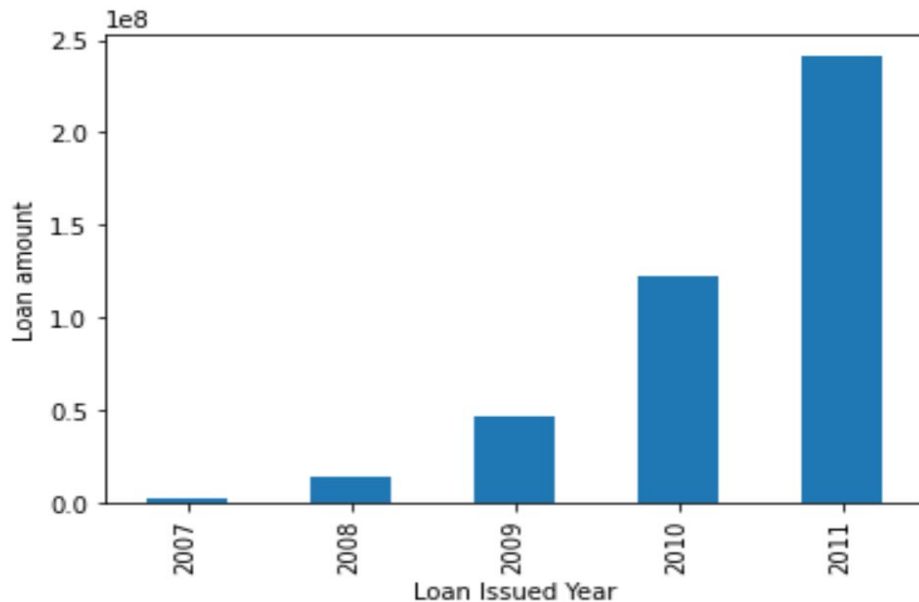
Univariate Analysis
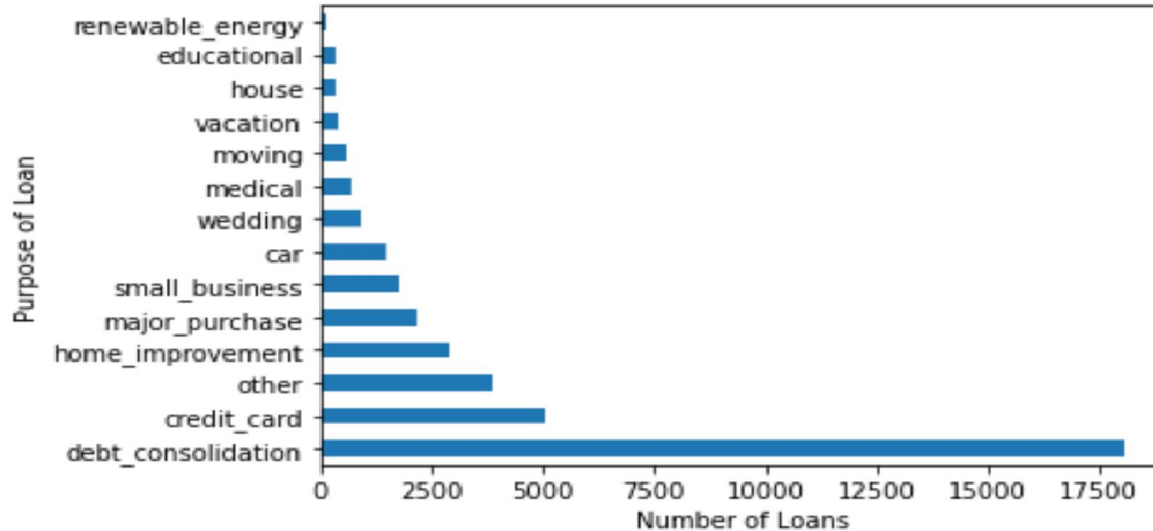
Debt Consolidation is the major purpose of applying for the loans
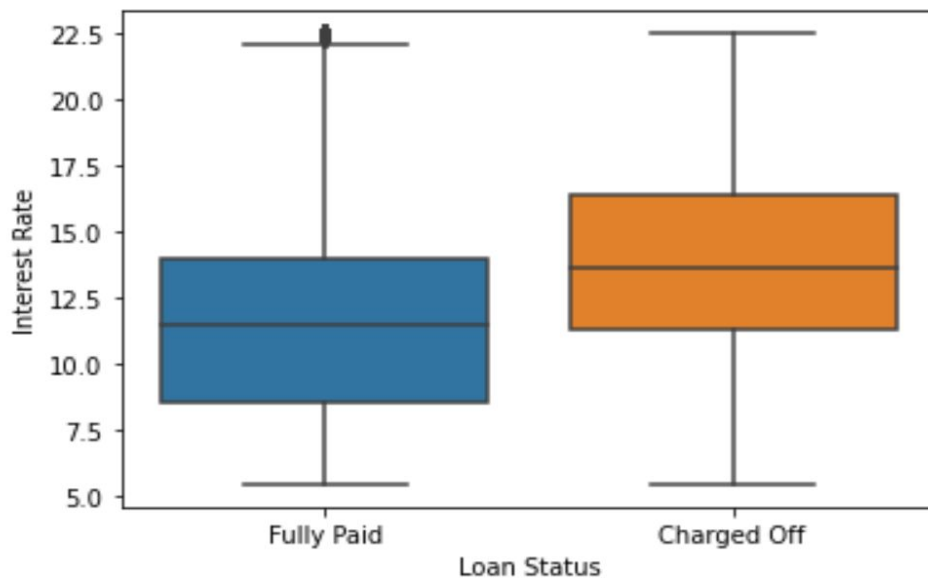
Univariate Analysis Continued...
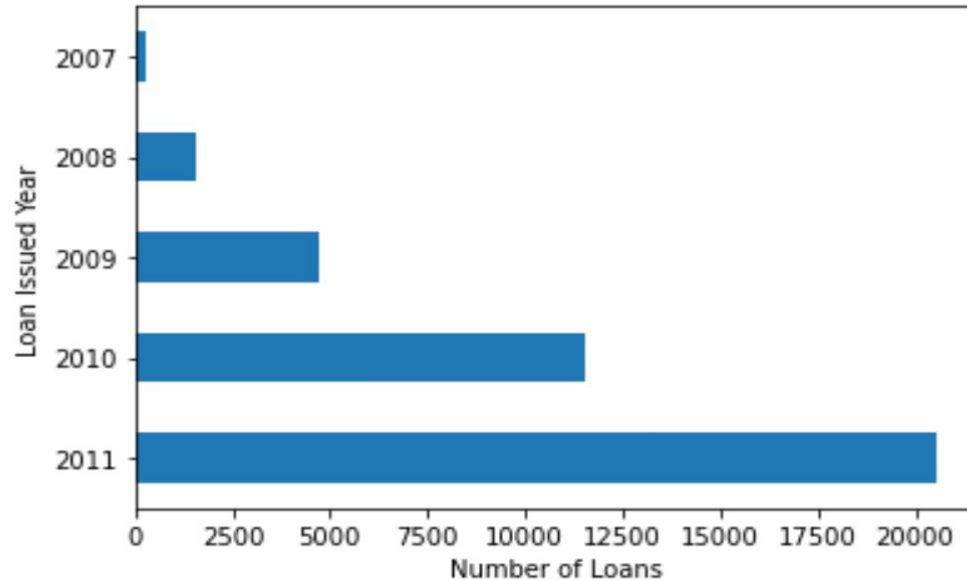
Every year, the number of loans offered to the applicants is more than 2 times of the loans offered in previous year

Segmented Univariate Analysis

Every year, the total amount of loan offered to the applicants is more than 2 times of the loan amount offered in previous year
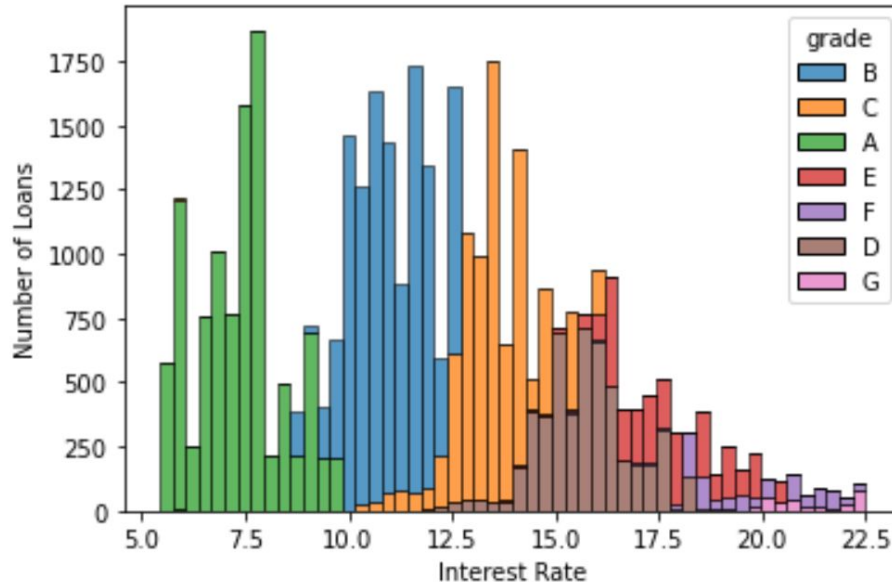
Bivariate Analysis

Loan applicants who were offered loan at higher interest rates are more likely to default the loans
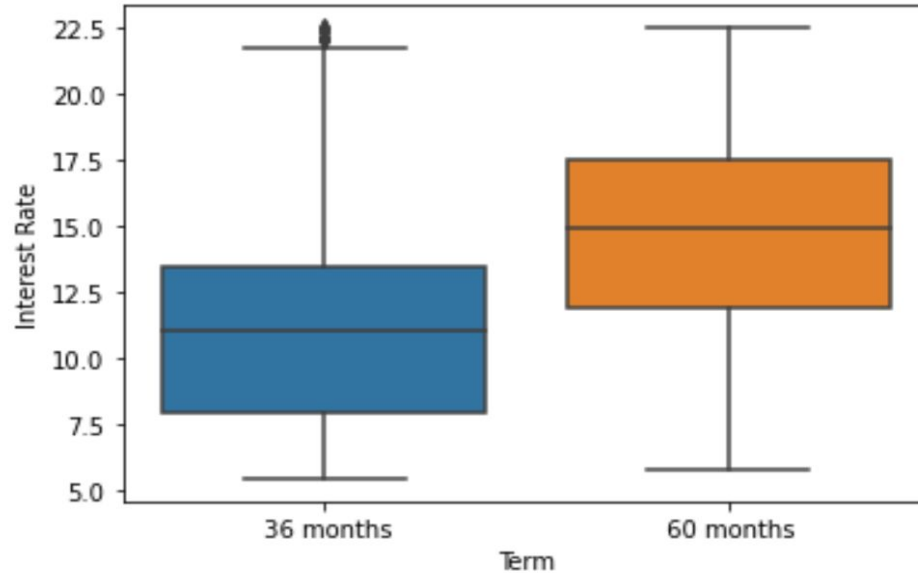
Bivariate Analysis Continued..

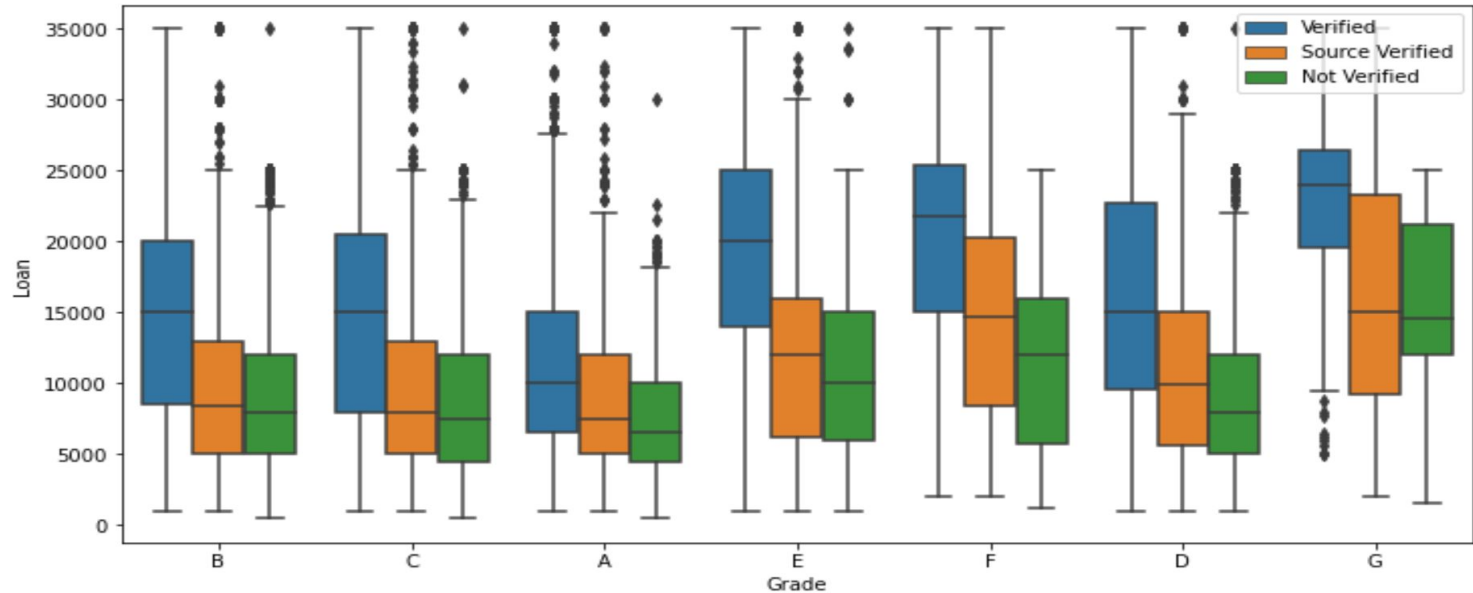Number of loans offered to grade E,F and G are very less and at very high interest rates.

Interest rate gradually increases from Grade A to G with A being the lowest and G being the highest

Bivariate Analysis Continued...

Most of the long term loans are sanctioned at higher interest rates

Bivariate Analysis Continued

When income of loan applicant is not verified, either low amount of loan is sanctioned or more amount is sanctioned at higher interest rates.

Summary of Observations

- Loan with higher interest rate have a higher tendency to default the loans.
- Prominent purpose of the loan is Debt Consolidation.
- Most of the long term loans are sanctioned at a higher interest rate.
- Most of the loans sanctioned for grades E, F and G are at higher interest rates.
- When income source is not verified, company is likely to sanction loans with lower amount or more amount at higher interest rate.
- Data is collected from the years 2007 to 2011.
- Every year, the number of loans and the total amount sanctioned for all the loans together is more than 2 times of its previous year.

THANK YOU