



Lending Club Case Study

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Abstract

- Lending club is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures.
- Borrowers can easily access lower interest rate loans through a fast online interface.
- The objective of analysis is to use the information about past loan applicants and find whether they 'defaulted' or not.





Problem solving methodology

Data Data Analysis Analysis Analysis

Data Cleaning

Removing the null valued columns, unnecessary variables and checking the null value percentage and removing the respective rows.

Data Understanding

Working with the Data Dictionary and getting knowledge of all the columns and their domain specific uses

Univariate Analysis

Analysing each column, plotting the distributions of each column.

Segmented Univariate Analysis

Analysing the continuous data columns with respect to the categorical column

Bivariate Analysis

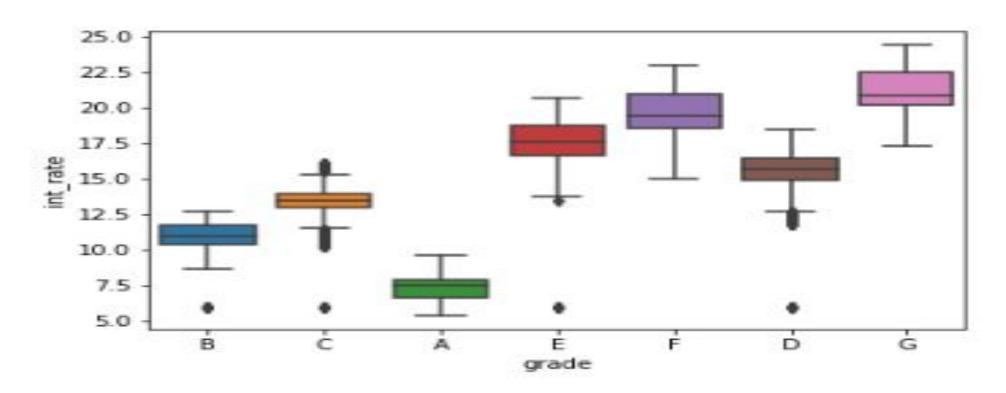
Analysing the two variable behaviour like term and loan status with respect to loan amount.

Recommendations

Analysing all plots and recommendations for reducing the loss of business by detecting columns best which contribute to loan defaulters.



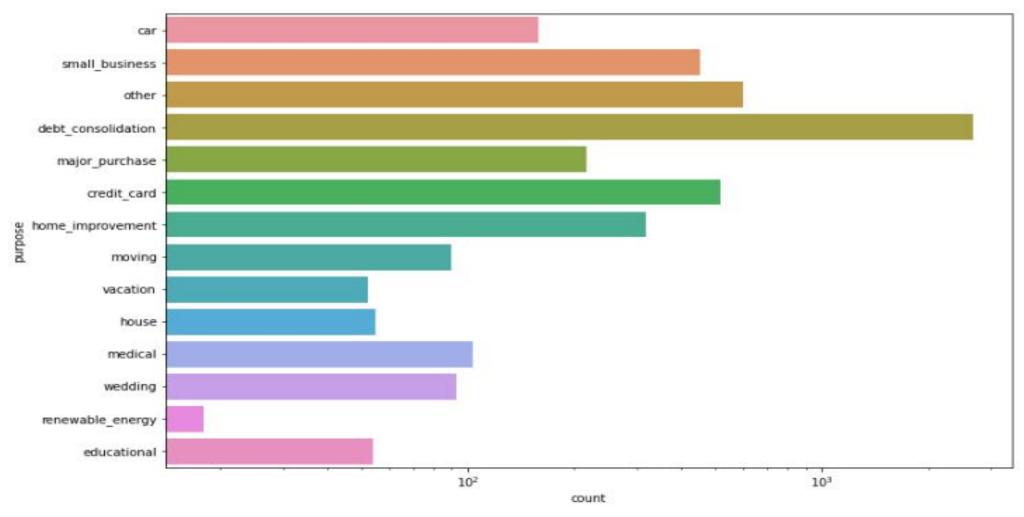




• Lending club int_rate increases with the Grade ascending order A, B, C, D, E, F, G



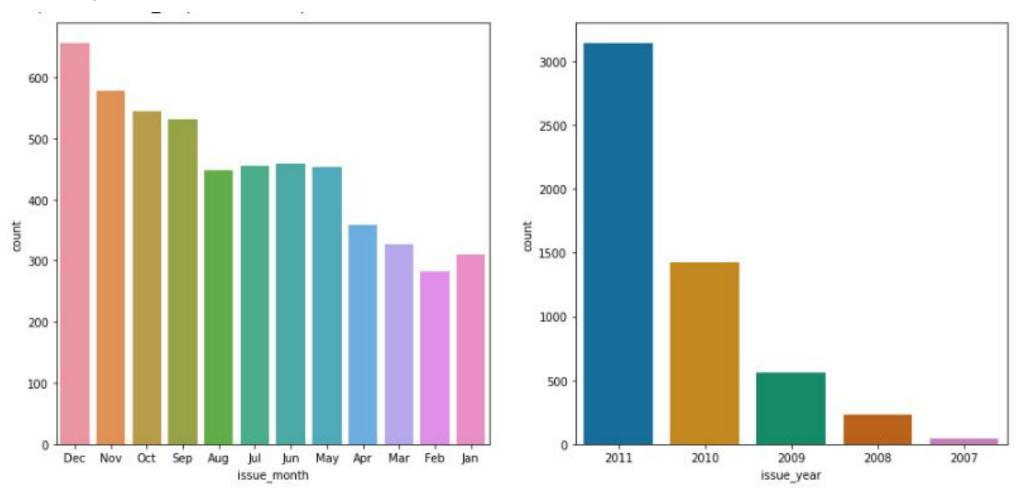




 Analysing the Loan Purpose - debt_consolidation, other, credit card, small business are the leading purposes



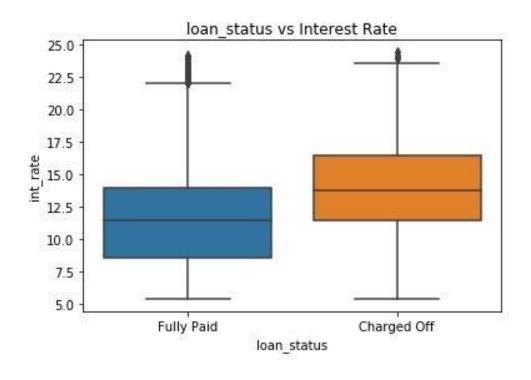




- Loan distribution over years and across month over the years is seen as above
- Loan distribution increases with the months of the year, so in December we can see larger distribution



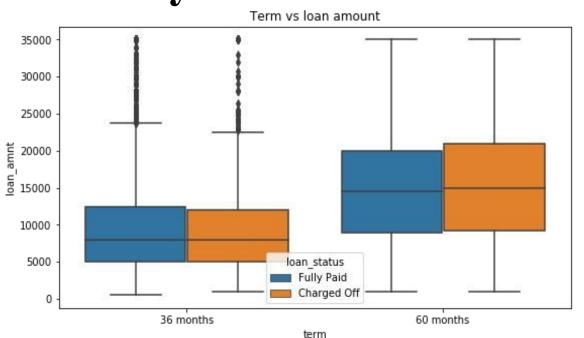


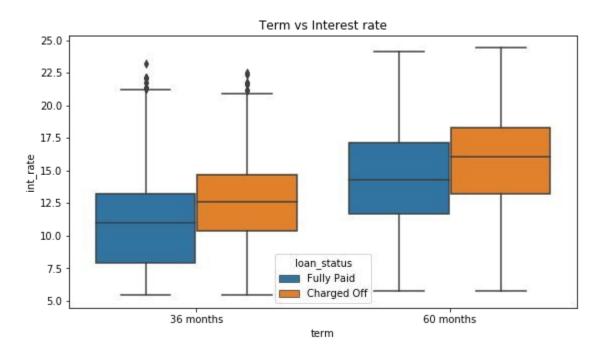


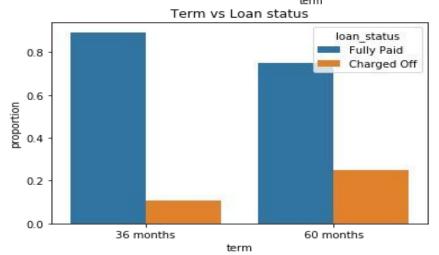
When the loan interest rate is high there is high chance of loan getting defaulted.







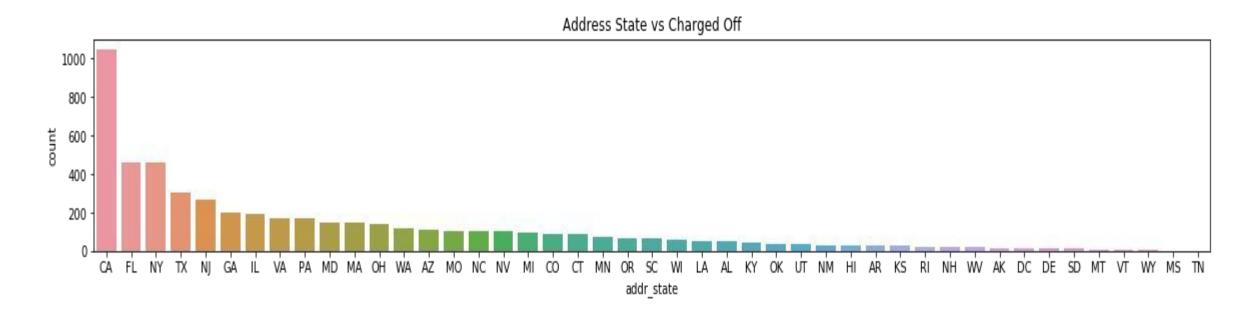




The default rate is high in 60 months tenure because most people took high loan amount with high interest rate in it and they faced difficulties in returning the sum to bank.







The loans which are given for CA, FL and TX state borrower's are defaulted more than other states.





Conclusions

- Grades are good metric for detecting defaulters. Lending club should examine more information from borrowers before issuing loans to Low grade (G to A).
- Lending club should reduce the high interest loans for 60 months tenure, they are prone to loan default.
- Small business loans are defaulted more. Lending club should stop/reduce issuing the loans to them.
- Lending Club should control their number of loan issues to borrowers who are from CA, FL and NY to make profits.
- People with more number of public derogatory records are having more chance of filing a bankruptcy. Lending club should make sure there are no public derogatory records for borrower.
- Borrowers with mortgage home ownership are taking higher loans and defaulting the approved loans. Lending club should stop giving loans to this category when loan amount requested is more than 12000.