

LENDING CLUB CASE STUDY

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PROBLEM STATEMENT

- Able to identify risky loan applicants, then such loans can be reduced thereby cutting down the amount of credit loss. Lending loans to 'risky' applicants is the largest source of financial loss (called credit loss). Credit loss is the amount of money lost by the lender when the borrower refuses to pay or runs away with the money owed. In this Analysis possible driving factors (or driver variables) behind loan default, i.e. the variables which are strong indicators of default.

PROCESS

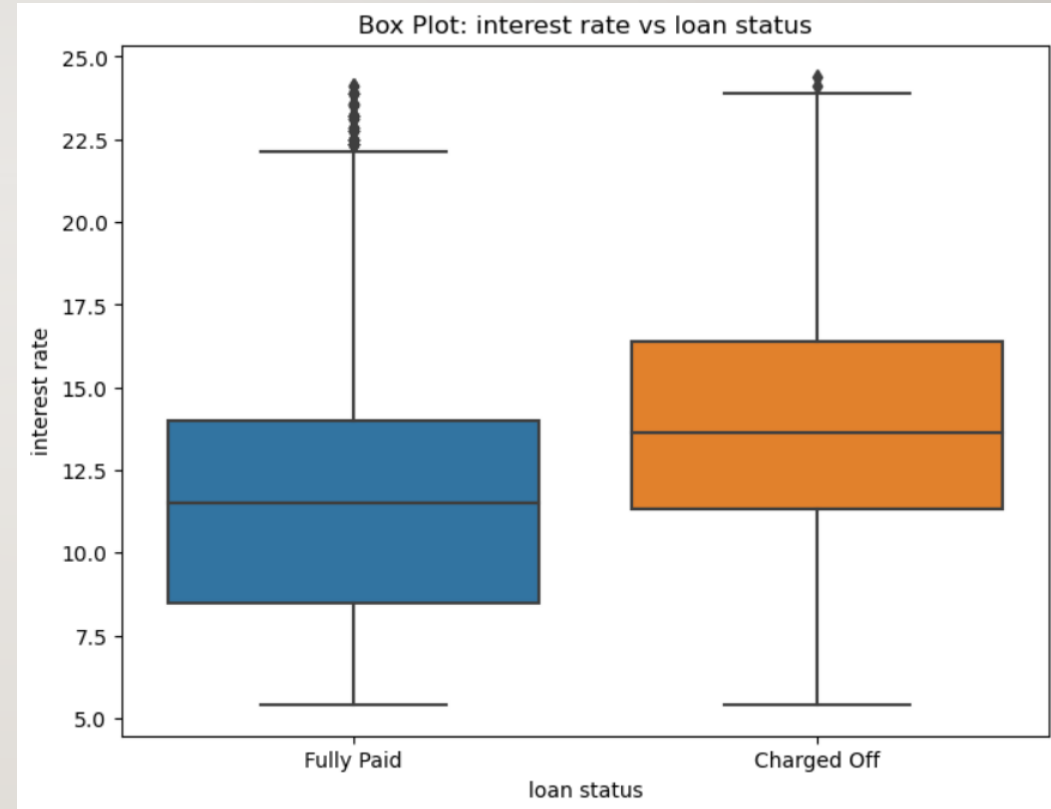
- Data Loading
- Data Cleaning
- Data Analysis

DATA CLEANING

- All the columns having more than 90% of the null values are dropped because the data won't be sufficient for analysis.
- All the columns having only one unique value will be dropped because they will have same values for all the three categories of loan status.
- All the rows having loan status as Current are dropped as we can't make any conclusions on those records.
- Converting numerical types from object to float.

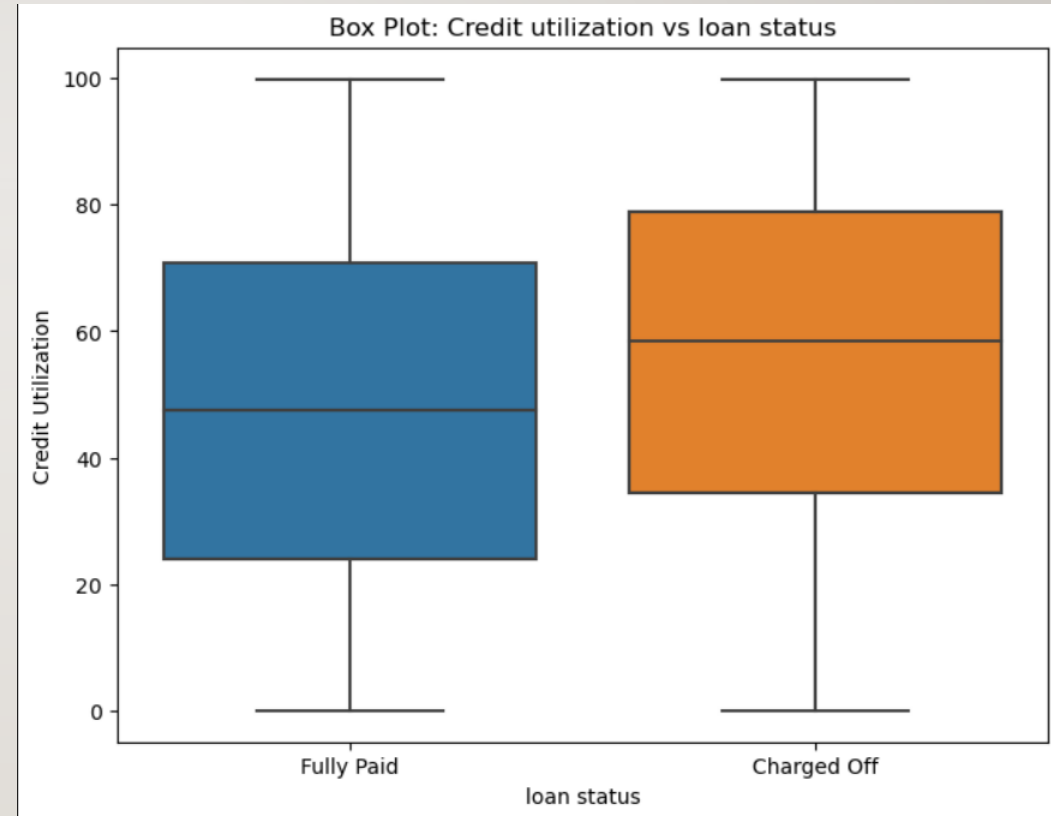
BIVARIATE ANALYSIS (INTEREST RATE)

- The Higher the interest rate, the greater the likelihood that the customer will default
- Box plot showing loans were given at a very high median interest rate to the customers.



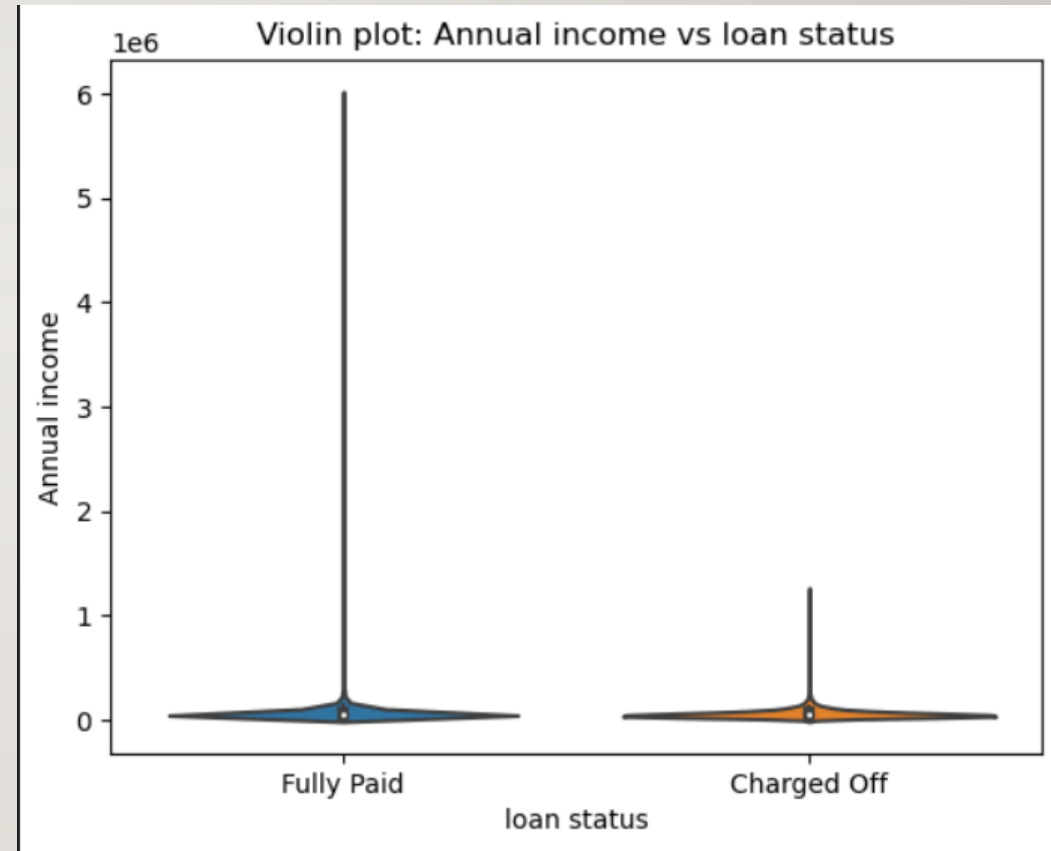
BIVARIATE ANALYSIS (CREDIT UTILIZATION)

- The Higher the Credit Utilization rate(Revolving line utilization rate), the greater the likelihood that the customer will default
- Box plot showing very high credit utilization for the customers who charged off.



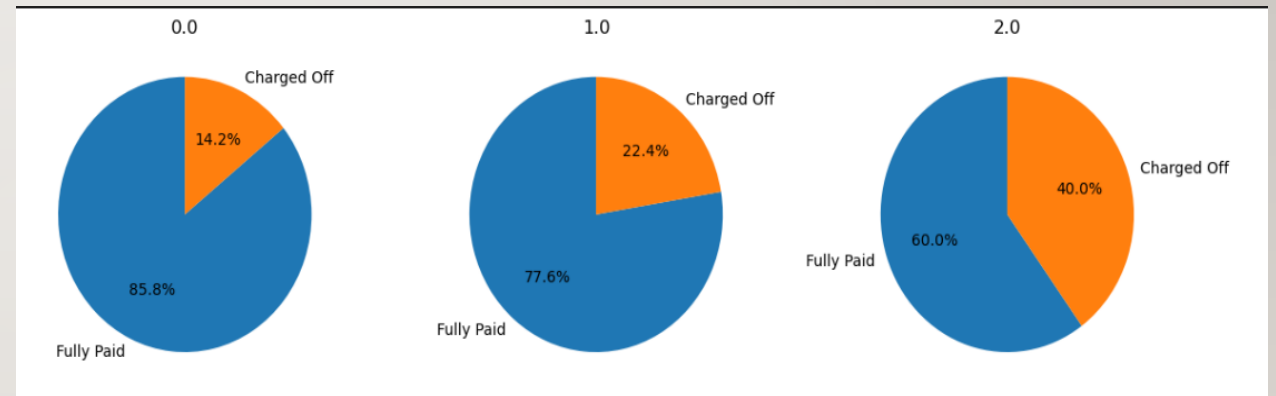
BIVARIATE ANALYSIS (ANNUAL INCOME)

- Customers having lower annual income are more likely to default.
- Violin plot showing lower incomes of the customers who charged off.



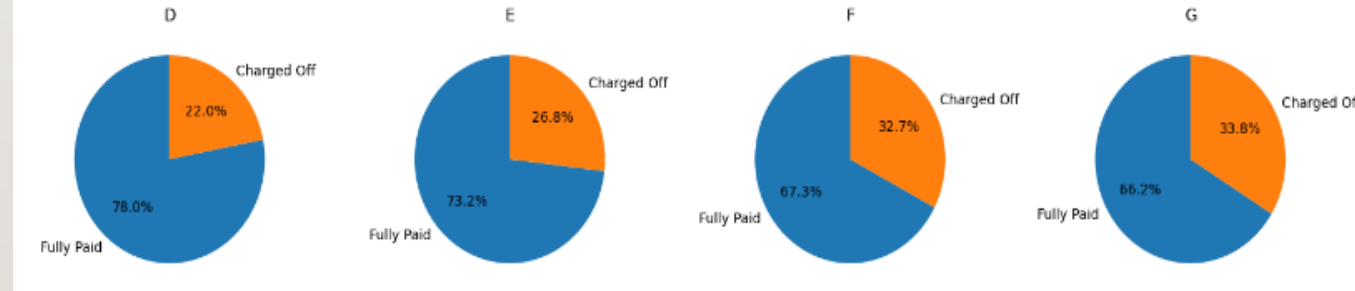
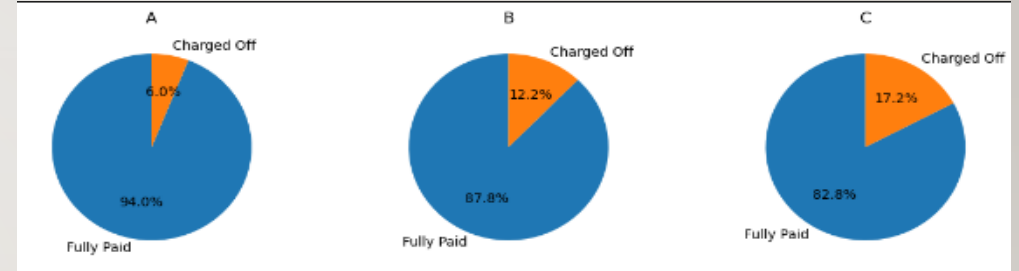
BIVARIATE ANALYSIS (PUBLIC BANKRUPTCIES)

- Clearly for the higher bankruptcies the Charged Off percentage is very higher.
- Approximately 40% of the customers defaulted when loan was given to those who had 2 bankruptcies in record.



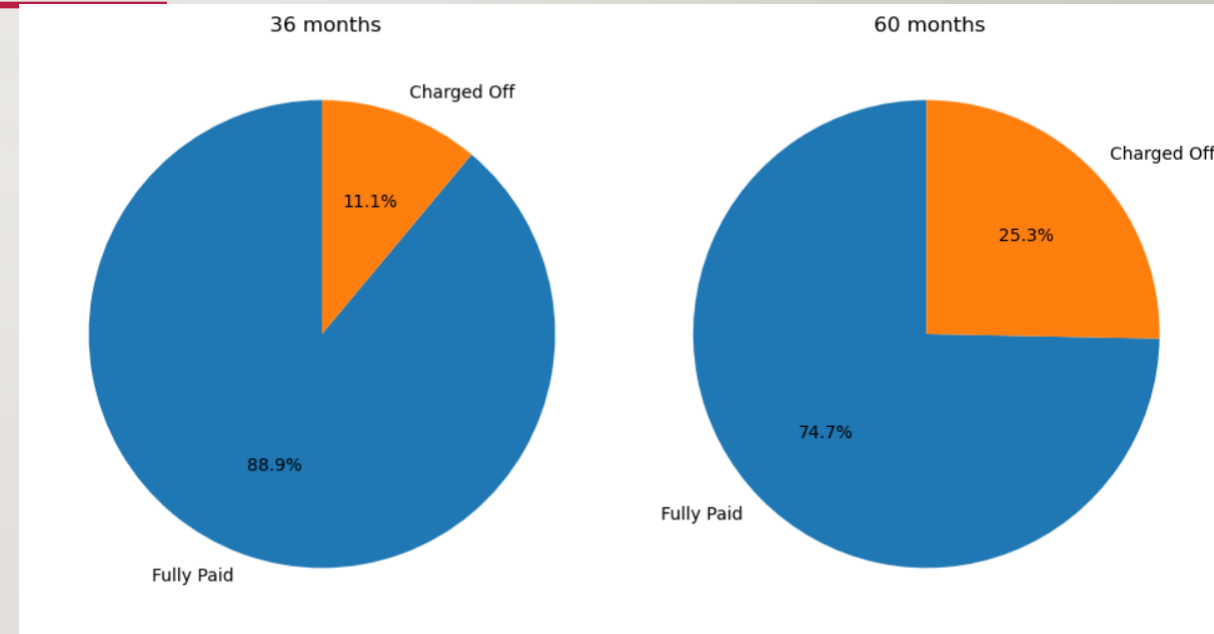
BIVARIATE ANALYSIS (LOAN GRADE)

- Clearly for the lower the Grade of the loan the Charged Off percentage is very higher.
- Approximately 34% of the customers defaulted when loan grade was G



BIVARIATE ANALYSIS (LOAN TERM)

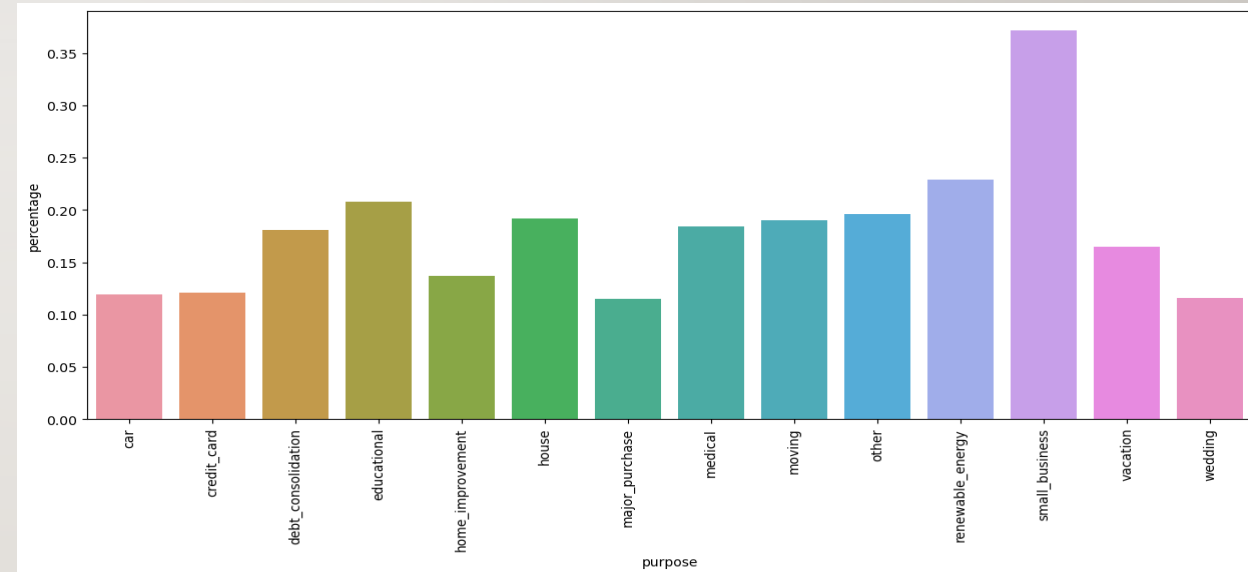
- Clearly for the higher the Term length of the loan the Charged Off percentage is very higher.
- Approximately 25% of the customers defaulted when loan term was 60 months



BIVARIATE ANALYSIS

(PURPOSE OF LOAN)

- Default rate is very high for small businesses.
- Approximately 35% of the customers defaulted when loan was given to small businesses.



CONCLUSION

- The Lending Club should carefully analyze all driving factors mentioned above which can result in financial loss to the business.
- Business should avoid giving loan to the customers whose loan grade is very low or if there are very high bankruptcies recorded.
- Giving loan to small business also has a very high probability for the customer to default.