



LENDING CLUB CASE STUDY

Group Assignment

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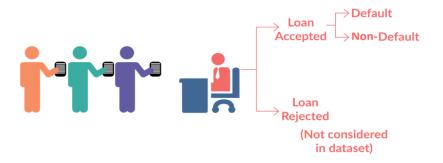
PROBLEM STATEMENT



A consumer finance company which specialises in lending various types of loans to urban customers. When the company receives a loan application, the company has to make a decision for loan approval based on the applicant's profile. Two types of risks are associated with the bank's decision:

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

LOAN DATASET





PROCESS FLOW OF THE ANALYSIS



Data Understanding

Data Cleaning Univariate Analysis

Segmented
Univariate Analysis

Bivariate Analysis/ Multivariate Analysis

Recommendations

Studying the provided Data Dictionary to gain knowledge over the given columns and their importance in the domain

Cleaning the data to remove any unnecessary rows/columns. Treating the null values by either dropping or imputing them with appropriate values.

Exploring each variable in the dataset individually and looking at their range, central tendency of the values

Univariant
analysis on various
segments of
variables to
determine the
default cases,
grouping
segments for
easier analysis.

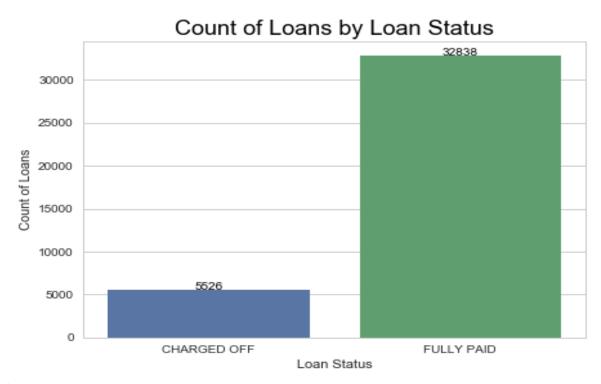
Two or more variables are Considering in the default rates & correlation between variables if any exist.

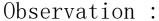
Analysing all plots, graphs and insights from each analysis to lay down important recommendations for reducing the loss of business by detecting important columns which contribute to loan defaulters.



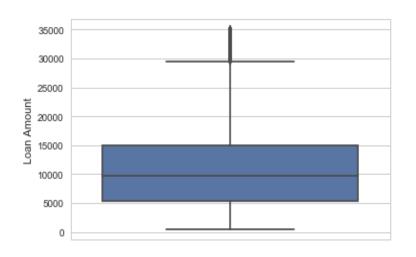
LOAN STATUS ANALYSIS

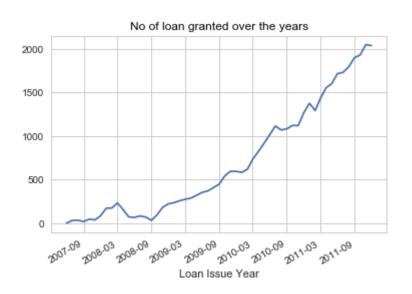






- Most of the loans are fully paid
- 5626 loans comes under defaulter
- Most of the loan amount is between 5000 to 15000
- Loan Applicants have been increasing exponentially from year 2007 to 2011

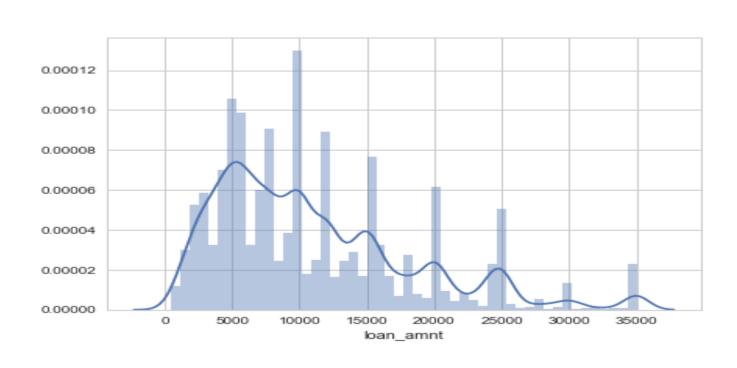


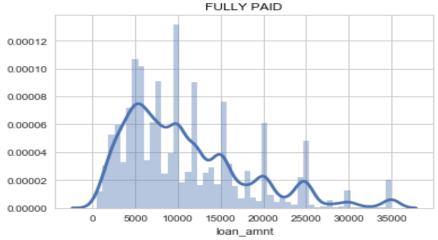




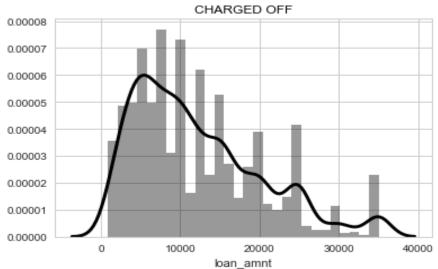
LOAN AMOUNT ANALYSIS







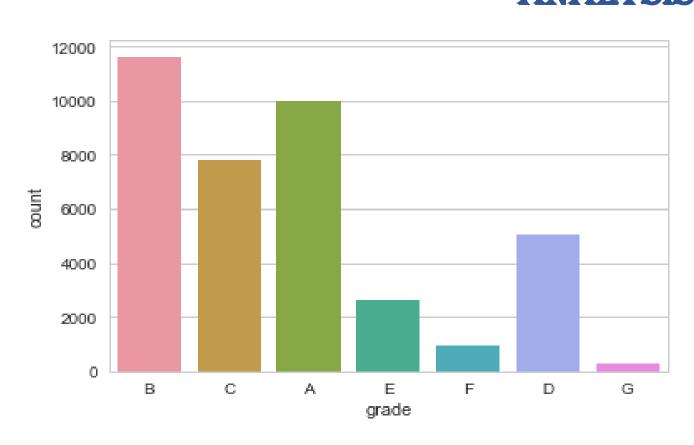
- Most of the loan amount lies within 10000so we can see data skewed.
- We can see Data default also more with the loan amount < 10000

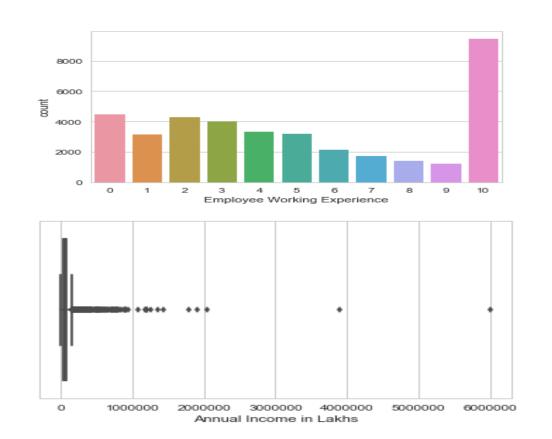




LOAN GRADE AND EMPLOYMENT EXPERIENCE ANALYSIS





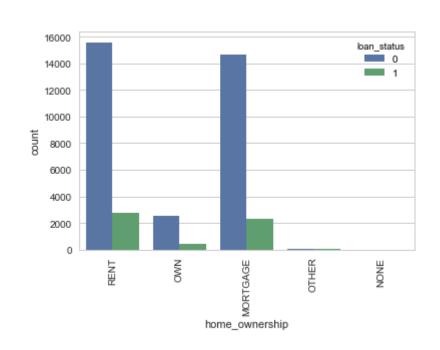


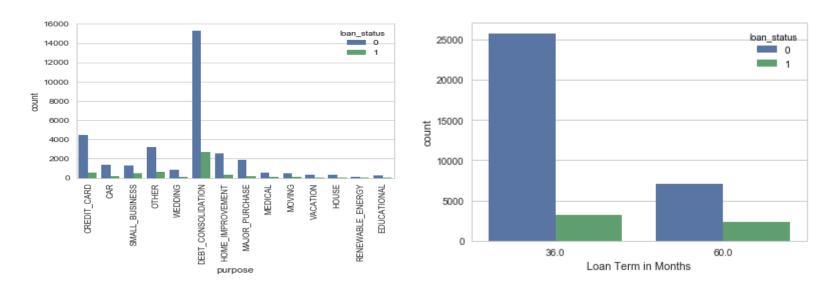
- Most of the loans have grade of A and B. Therefore stating most of the loans are high graded loans
- Majority of employees applying for the loan have more than 10 years of experience.
- Most of the customer salary is within 100000.
- There are only two customer with high income.



ANALYSIS OF CUSTOMER PROFILE ON LOAN STATUS





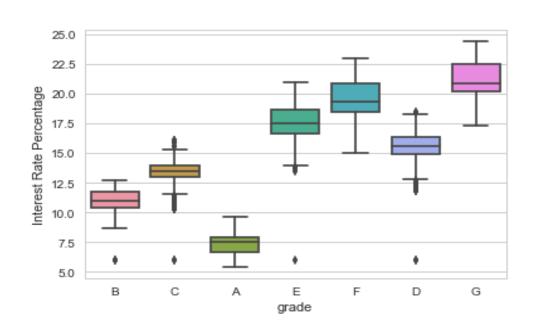


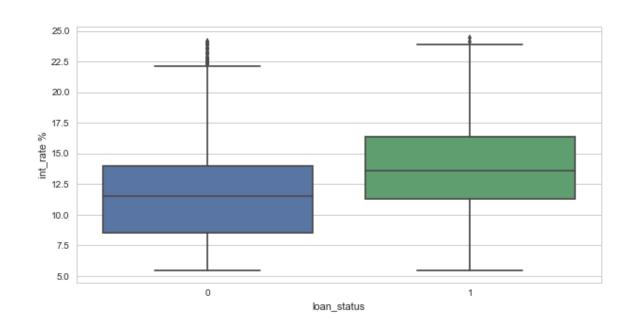
- Most of the Customer have rented or mortgage homeownership. Defaulters are less with the customer have own house.
- Majority of loan has been given for the debt consolidation purpose.
- Most of the loans were giving with term 36.
- Customer having term 36 has high chance of defaulting



ANALYSIS OF INTEREST RATE IMPACT ON LOAN STATUS





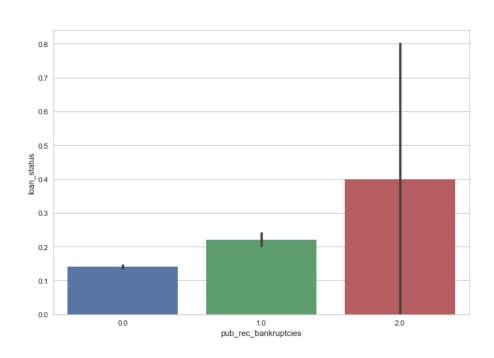


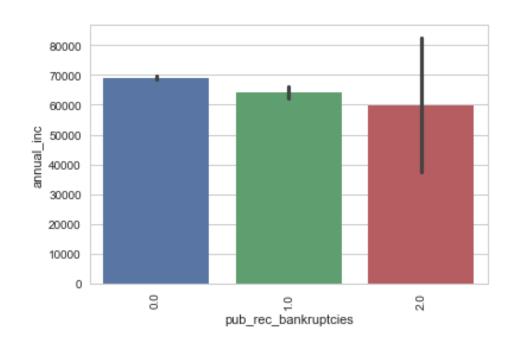
- Customers assigned to Grades G & F has highest Interest rates.
- High rate of interest has more Charged Off loans.











Observation:

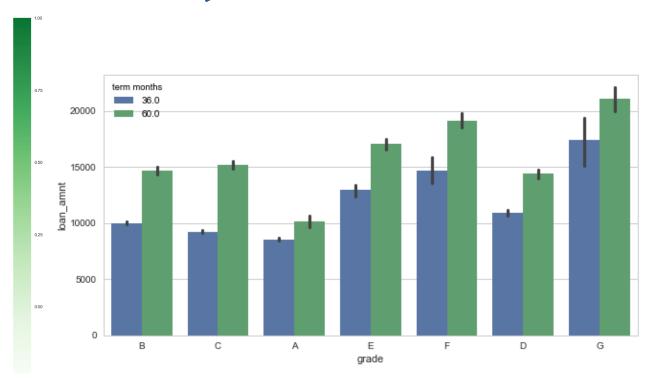
- Customers with bankruptcies equal 1 or greater than 1 have high chances of default rates



ANALYSIS OF BANKRUPT CUSTOMER AND ITS CHARGED OFF BEHAVIOR.







Observation:

- Higher the loan amount, longer the loan term and lower the grade.





CONCLUSION

- Higher the rate of interest more the chance of defaulting.
- Customer staying in rented or mortgage house have high tendency to default.
- Customer with more bankrupt history have high tendency to default.
- When the purpose is debt consolidation check applicant thoroughly as it has high tendency to default.
- Higher interest rate loan has more defaulter. Always need to check the background of applicant thoroughly whenever interest rate is high.