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International Institute of Information Technology Bangalore

Lending Club Case Study:

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Batch: C37

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Agenda

- Business Requirement
- Knowing our customers
- Derived Insights
- Recommendations

BUSINESS REQUIREMENT

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A **consumer finance** company which specializes in lending various types of loans to urban customers. When the company receives a loan application, the company must decide 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

When a person applies for a loan, there are two types of decisions that could be taken by the company:

OBJECTIVE

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The company wants to understand the driving factors (or driver variables) behind loan default, i.e., the variables which are strong indicators of default.

The major objective of EDA is to analyze the data and identify the useful patterns. This will provide the insights which will help the Company to minimize the risk of losing money while lending to customers.

The information derived from these insights will ensure that any customers that are capable of repaying loan are not rejected and the customers which have history of not repaying loans on time or are defaulters can be suitably dealt with.

The company can utilize this knowledge for its portfolio and risk assessment.

DATA UNDERSTANDING

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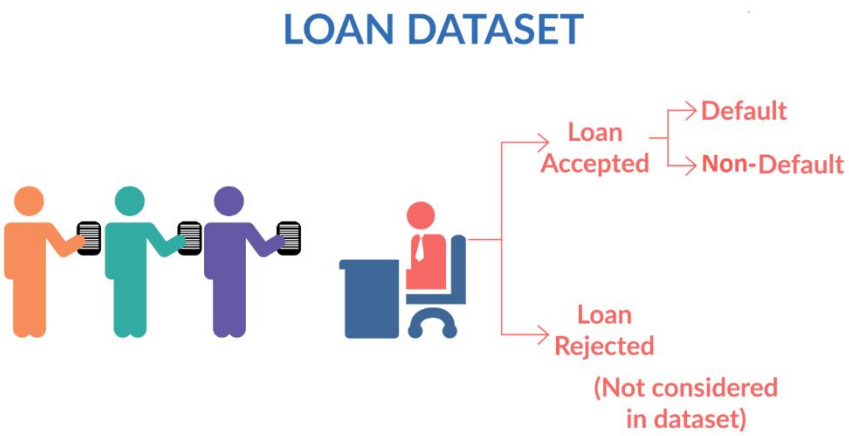

Fully paid: Applicant has fully paid the loan (the principal and the interest rate)

Current: Applicant is in the process of paying the instalments, i.e., the tenure of the loan is not yet completed. These candidates are not labelled as 'defaulted'.

Charged-off: Applicant has not paid the instalments in due time for a long period of time, i.e., he/she has defaulted on the loan

Fundamental steps of EDA process

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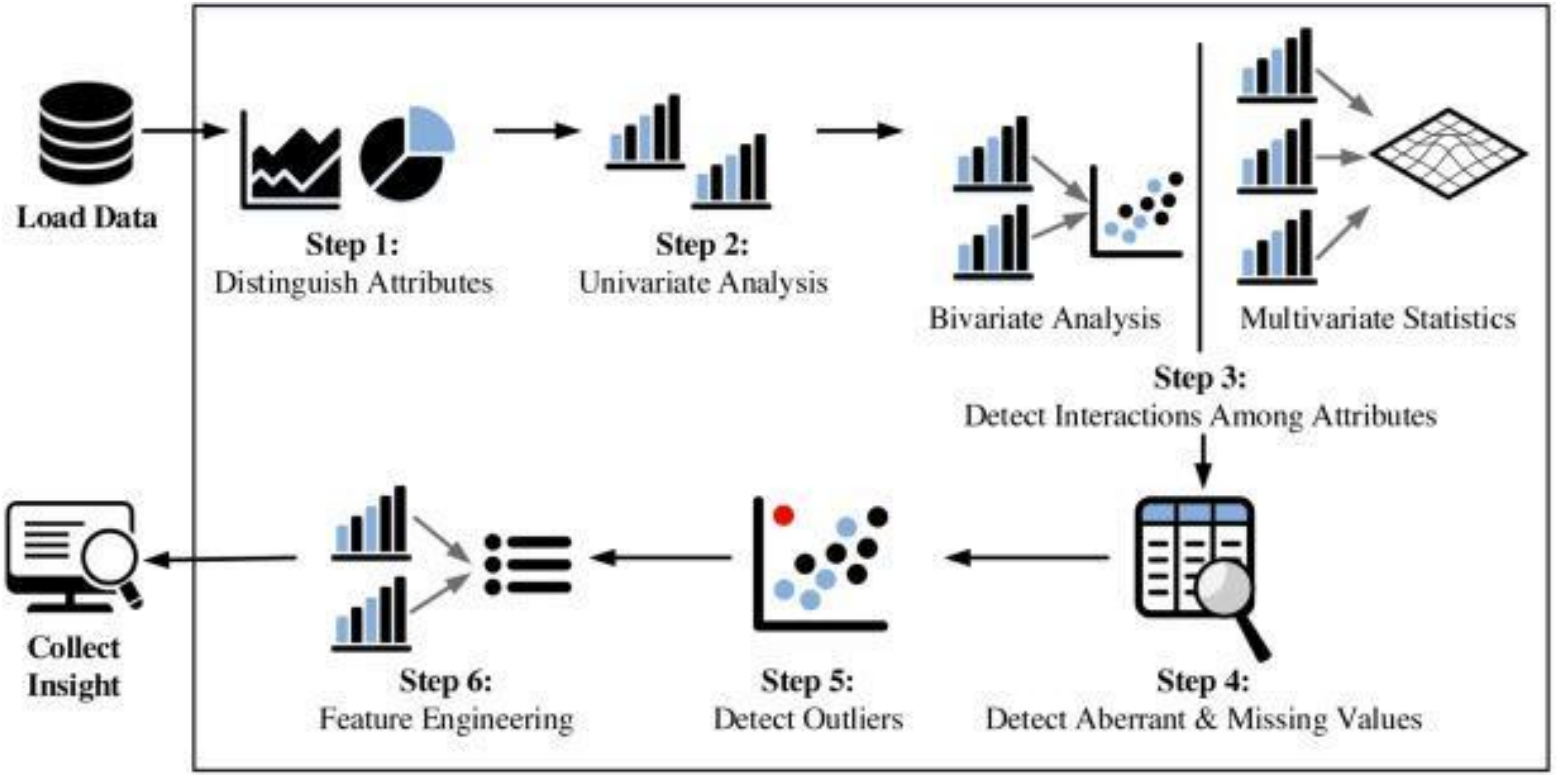

Knowing Our Customers

Knowing Our Customers

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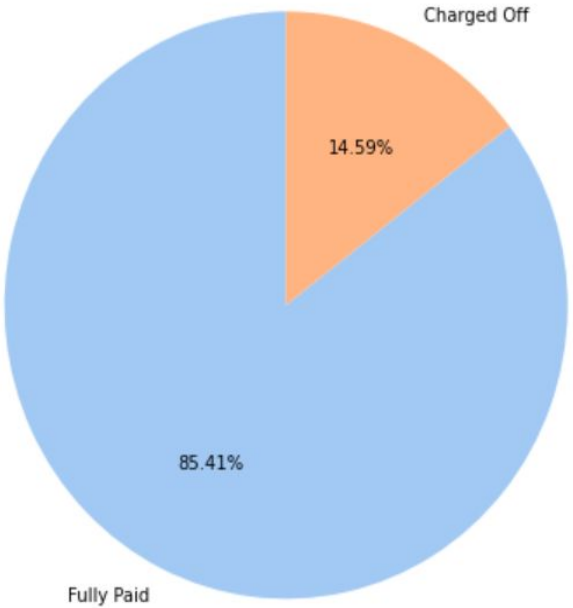
Loan Status

The 85 % Customers pay the loan on time and 15 % are the ones who are default .

Our objective is to minimize the default ones as lending loans to such customers can impact the business/.



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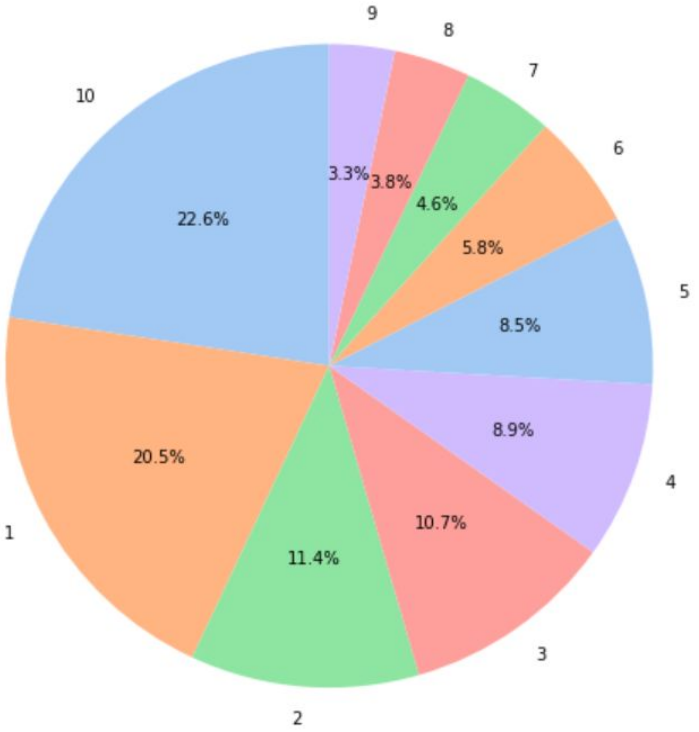
Employment Length

The 22% Customers are the ones with 10 or more years of experience employees.

Whereas 20% are the ones who have just 1 year of experience.



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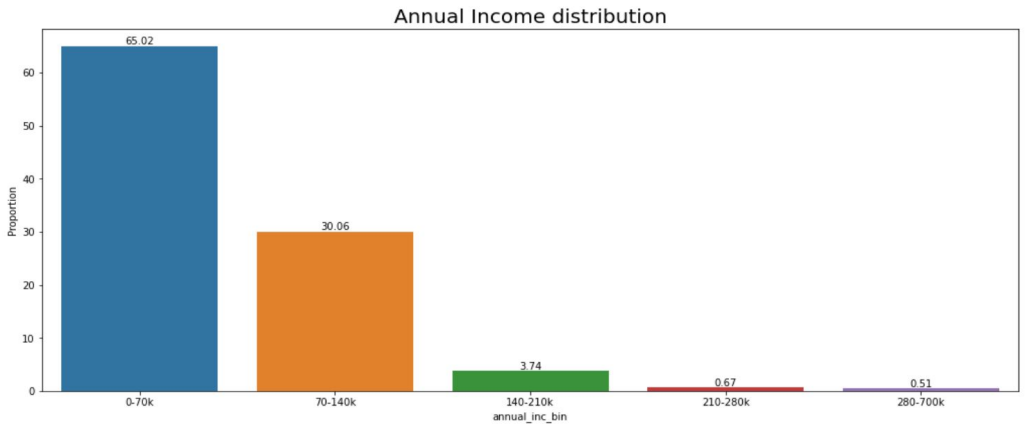
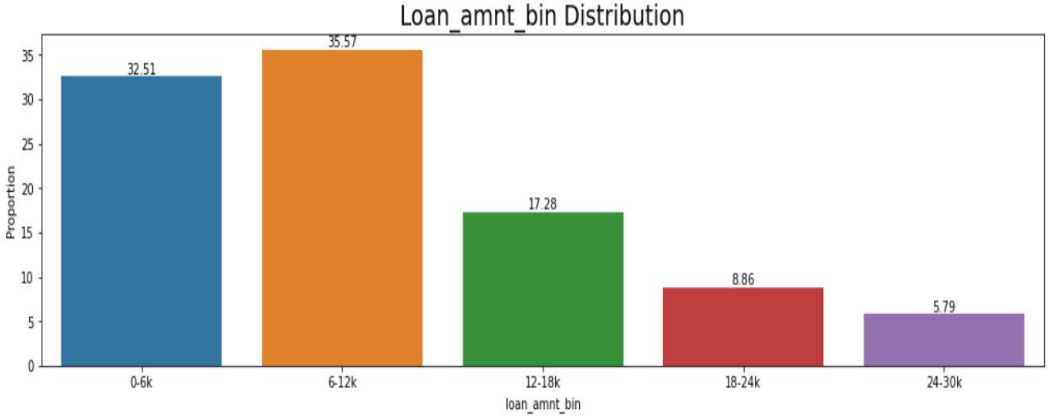
Annual Income

65% of customers belong to lower annual income band which is quite normal.



Loan Amount

Around 68% customers take loans less than 12k.



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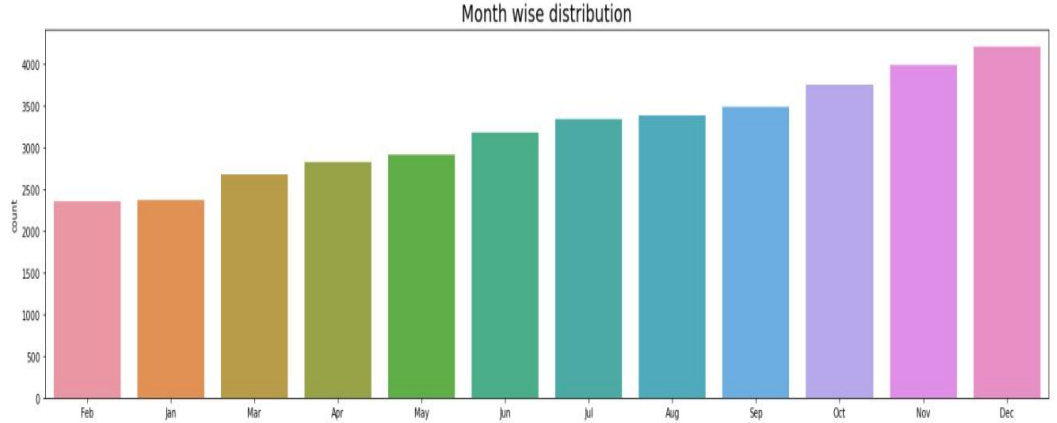
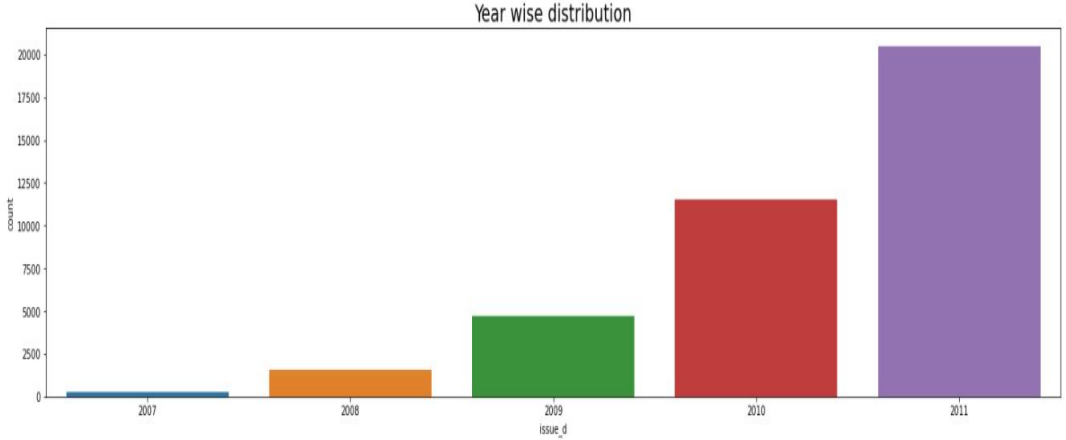
Loan Issue Date

Customers tend to take loan in the last quarter.

Also, The number of loans taken increase year on year.





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Term

Customers tend to take loan in the last quarter.

Also, The number of loans taken increase year on year.

Home ownership

Customers tend to take loan in the last quarter.

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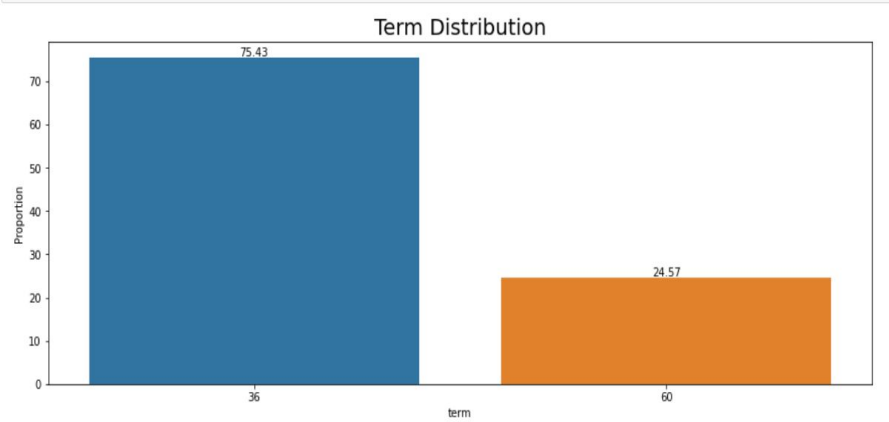

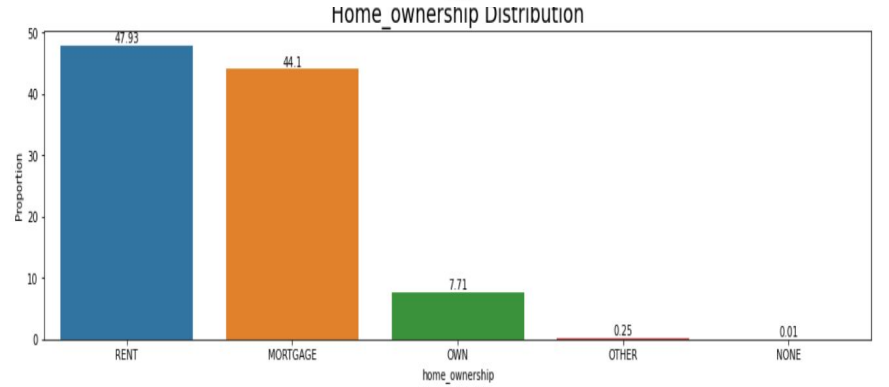

Deriving Factors Lending club can investigate

Factors Lending club can investigate

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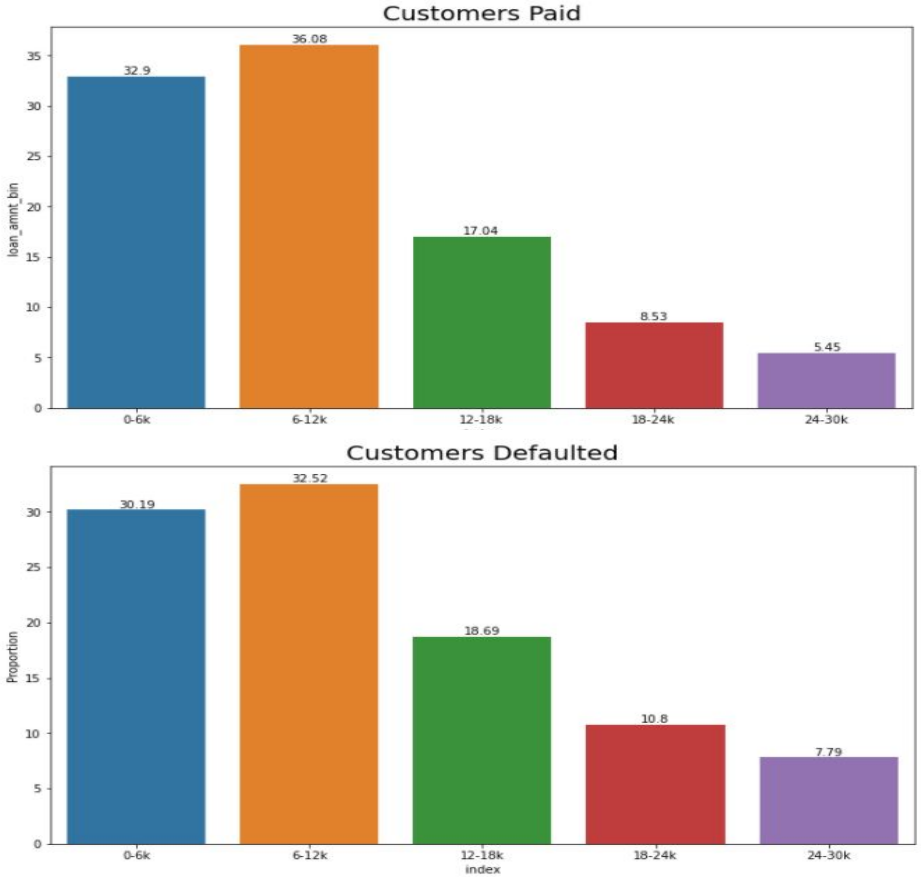
Loan amount

The club can investigate before issuing loan amount more than 12k to reduce the percentage of defaulted customers.



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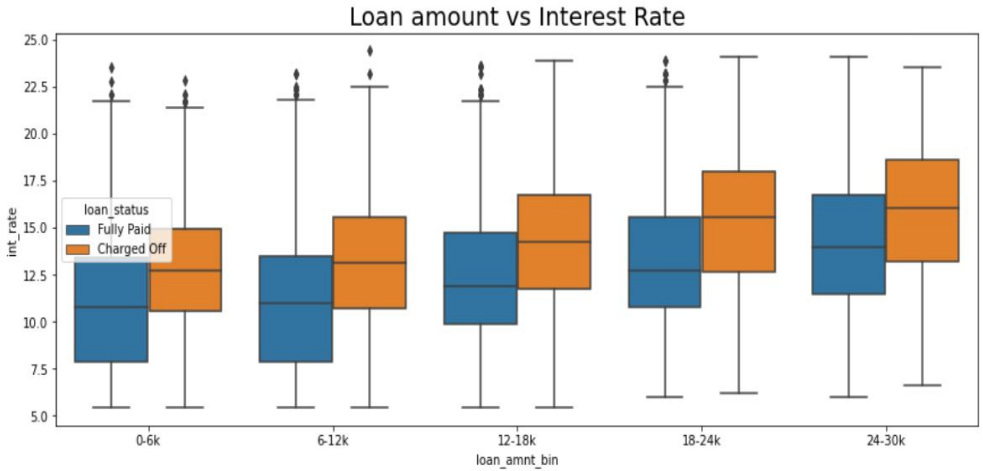
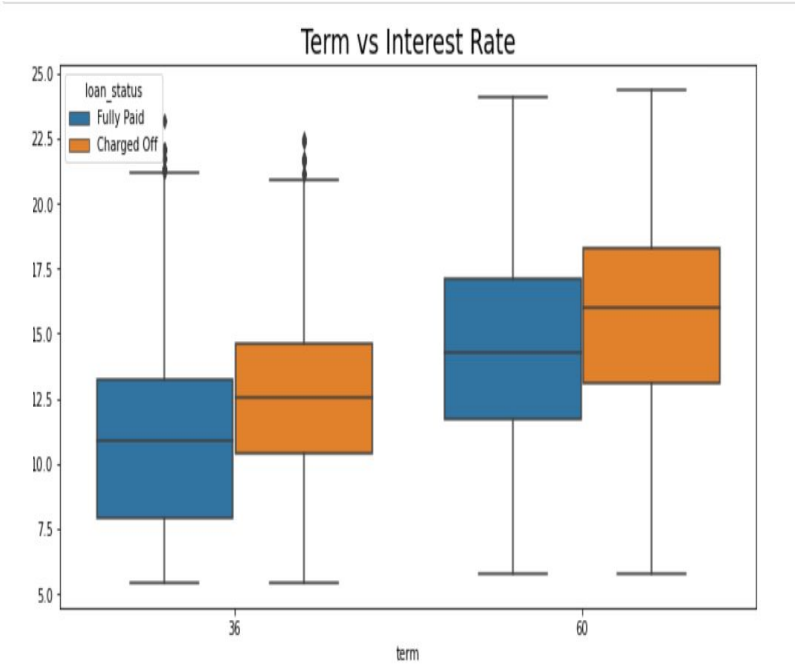
Interest Rate

The club can reduce the high interest loans for 60 months tenure and more loan amounts, they are prone to loan default.





Factors Lending club can investigate

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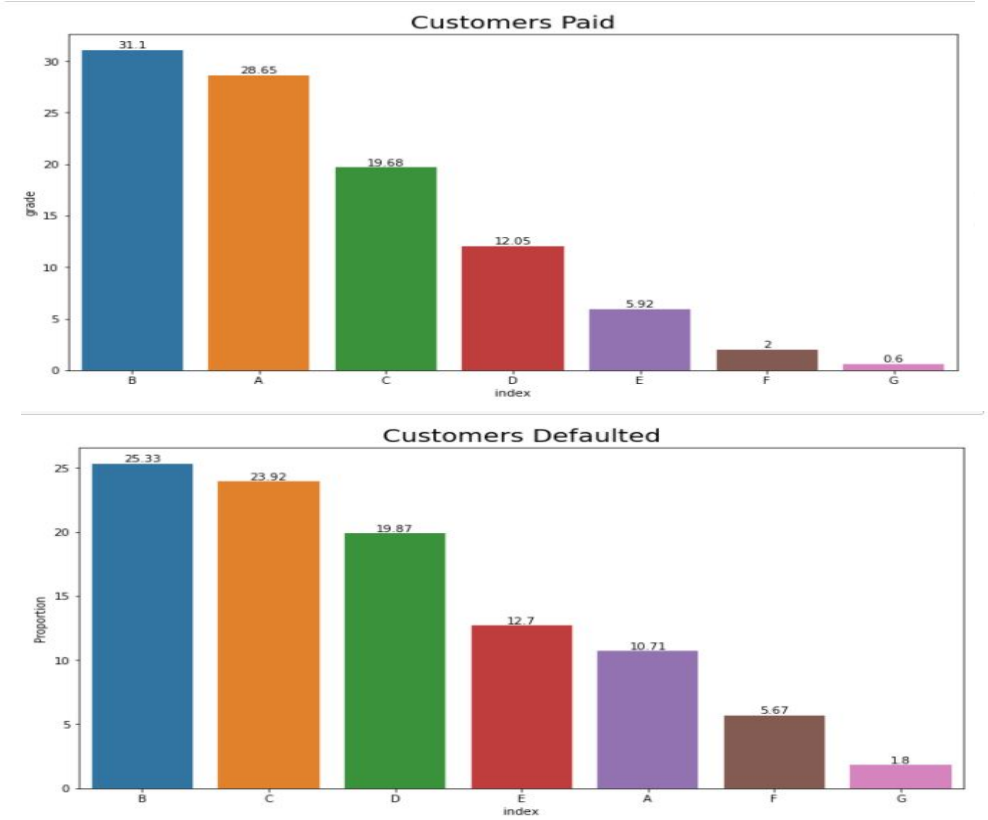
Grade

The customers with lower grades were charged off more as compared the ones with higher grades.



Factors Lending club can investigate

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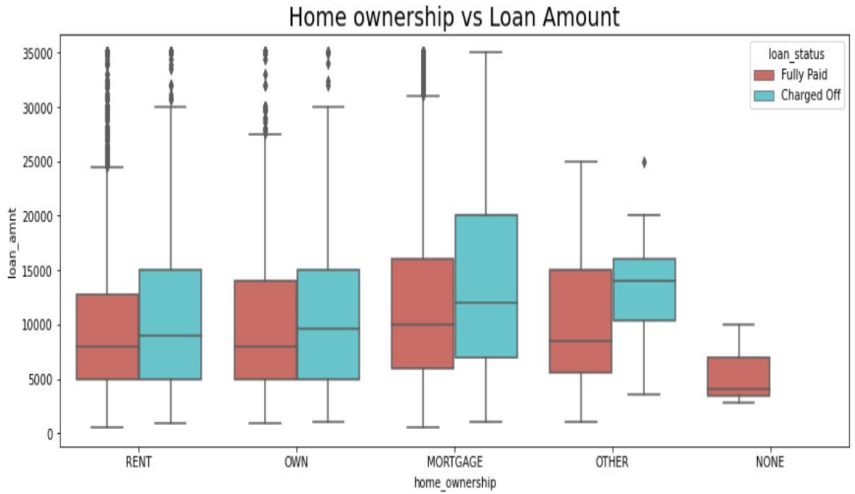

Factors Lending club can investigate

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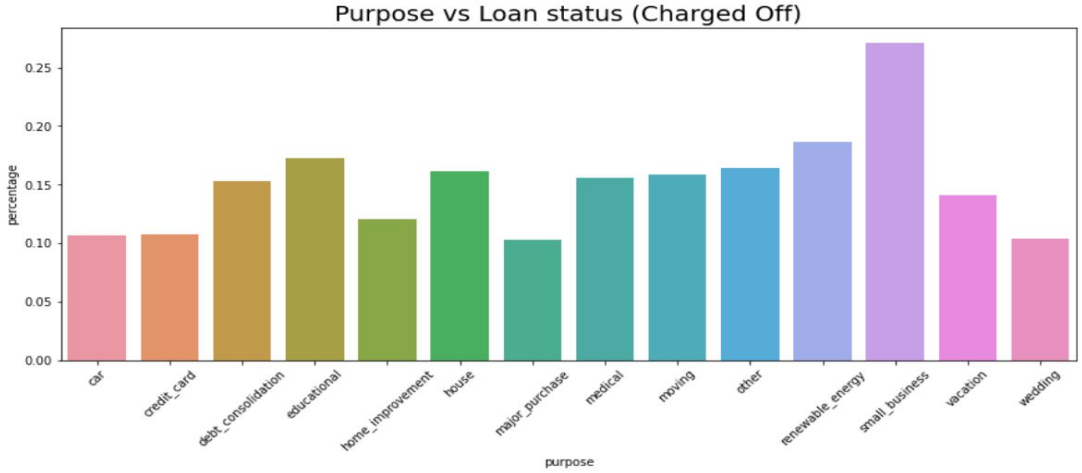
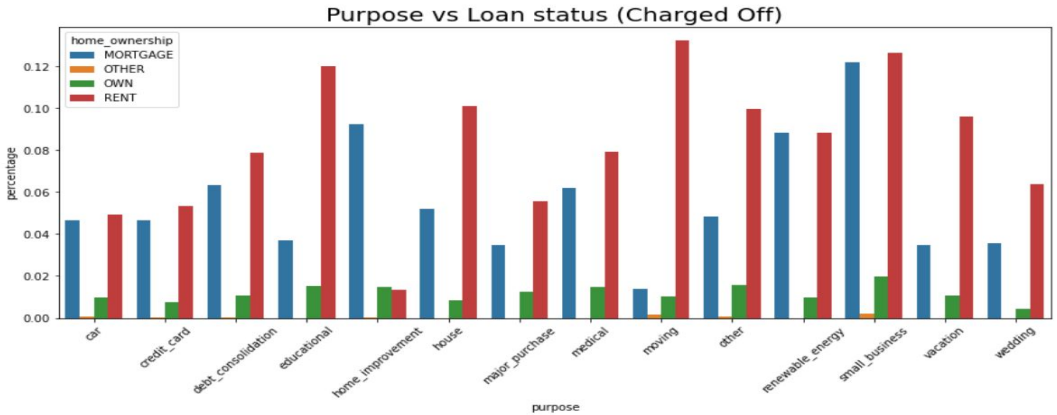
Purpose

Purpose is a strong deriving factor before lending loan.

Customers who took loan for small business who lives on rent and mortgage have a high chance of being charged off.





Factors Lending club can investigate

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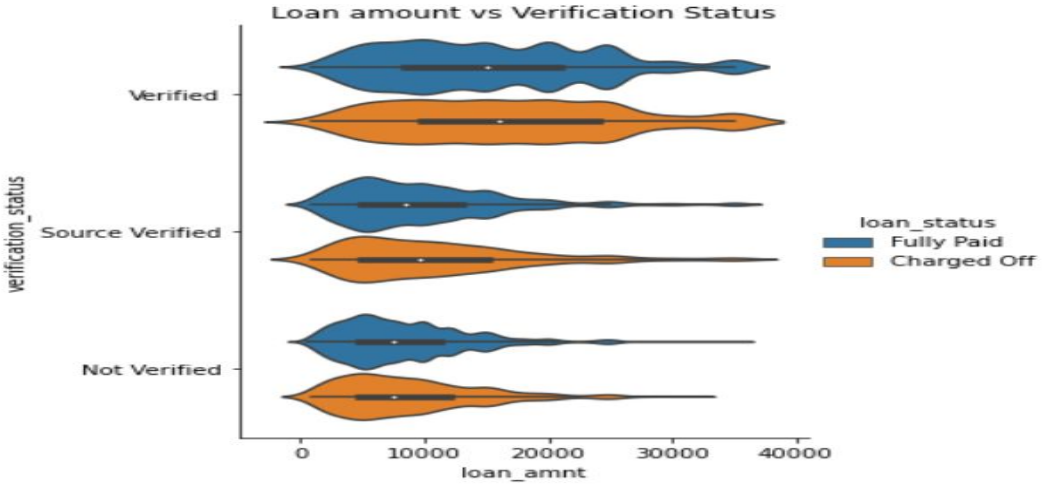
Verification Status

The verified customers are given higher loans but the charge off is also higher for those.

If we dive deep into the data , we can find the home ownership of these customers as well.



Final Recommendations

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Loan Amount
- The club can investigate before issuing loan amount more than 12k to reduce the percentage of defaulted customers.

Interest Rate and **Term**
- The club can reduce the high interest loans for 60 months tenure, they are prone to loan default.

Issue month
- The club can control the number of loans issued in the last quarter of the year as the risk of charge off increases.

Grades
- The company should investigate for customers before issuing loans to Low grade (D,E,F and G).

States
- Lending Club should control their number of loan issues to customers who are from CA, FL and NY to make profits.

Purpose
- Small business loans are Charged Off more followed by Debt consolidation. Lending club should investigate more before issuing the loans to them.

Home Ownership
- Customers 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 12k.

Pub rec
- People with a greater 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 customer.

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Thank You!