LENDING CASE CLUB STUDY

GROUP MEMBERS:
YASHASVI GOYAL
KHANG

Problem Statement

The Consumer finance company specializing in lending various types of loans to urban customers. The company must make loan approval decisions based on appli cant profiles. This decision involves assessing two types of risks:

1.Risk of Non-Repayment: If an applicant is likely to repay the loan, not approvi ng the loan results in a loss of business.

2.Risk of Default: If an applicant is not likely to repay the loan (likely to default), approving the loan may lead to a financial loss for the company.
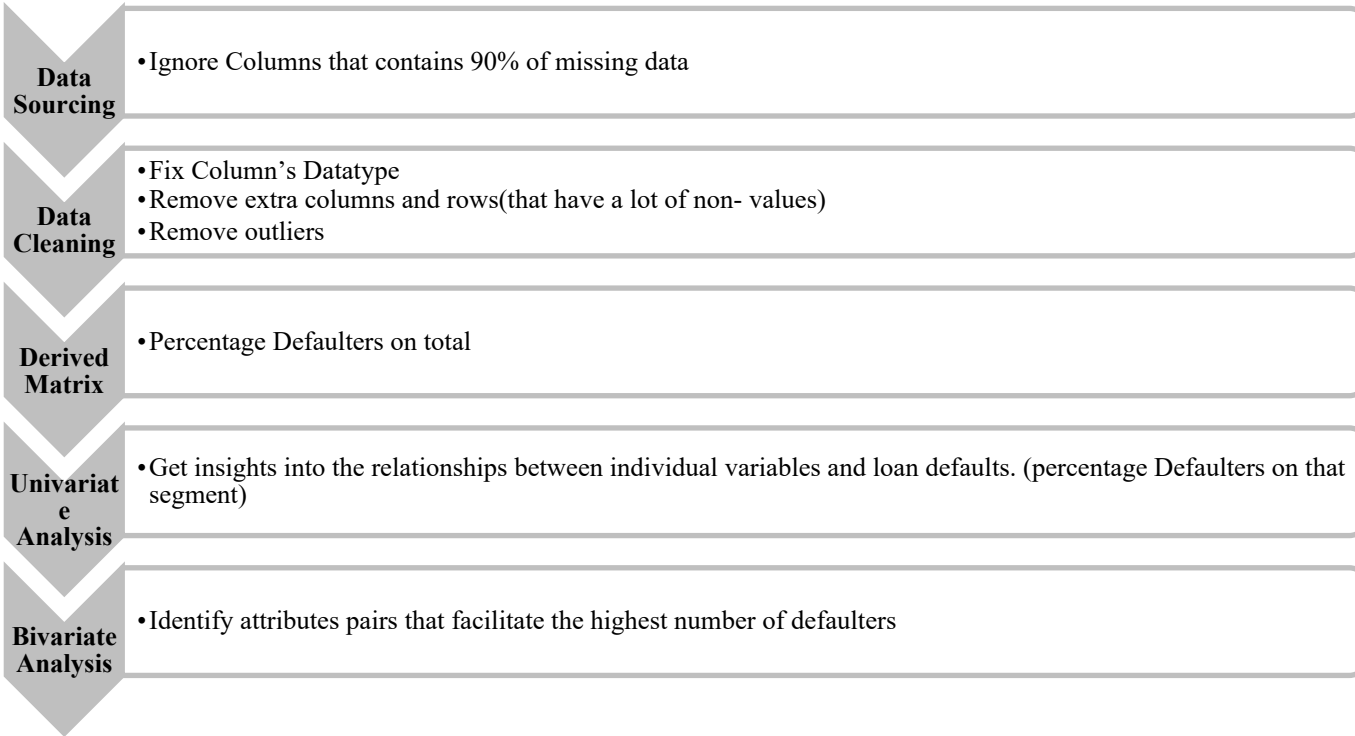
Business Objectives

The company, a major online loan marketplace, aims to reduce credit losses, which occur when borrowers default on their loans. Credit loss is a significant financial concern for lending companies. To achieve its objectives, the company wants to:

1. Identify Risky Loan Applicants: Recognize applicants who are more likely to default on loans. This can help reduce credit losses.

2. Understand the Driving Factors: Determine the variables that strongly indicate loan default. This knowledge can be used for portfolio and risk assessment.

Analysis Approach

Data Sourcing
- Ignore Columns that contains 90% of missing data

Data Cleaning
- Fix Column's Datatype
- Remove extra columns and rows(that have a lot of non- values)
- Remove outliers

Derived Matrix
- Percentage Defaulters on total

Univariate Analysis
- Get insights into the relationships between individual variables and loan defaults. (percentage Defaulters on that segment)

Bivariate Analysis
- Identify attributes pairs that facilitate the highest number of defaulters

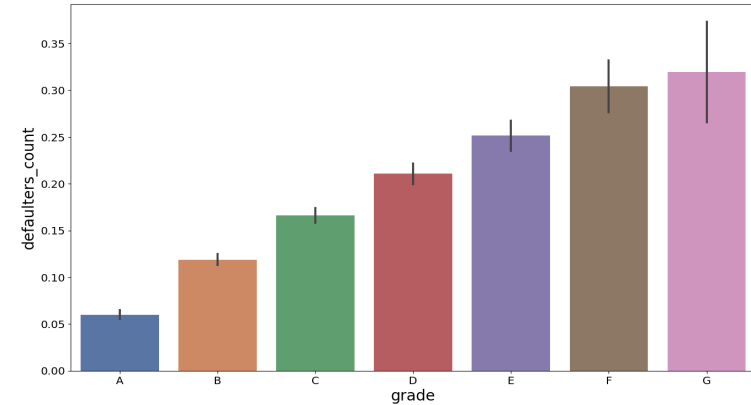# Relevant Attributes for Analysis

- Grade and Sub Grade
- Term
- Loan Status
- Verification Status
- Purpose
- Home Ownership
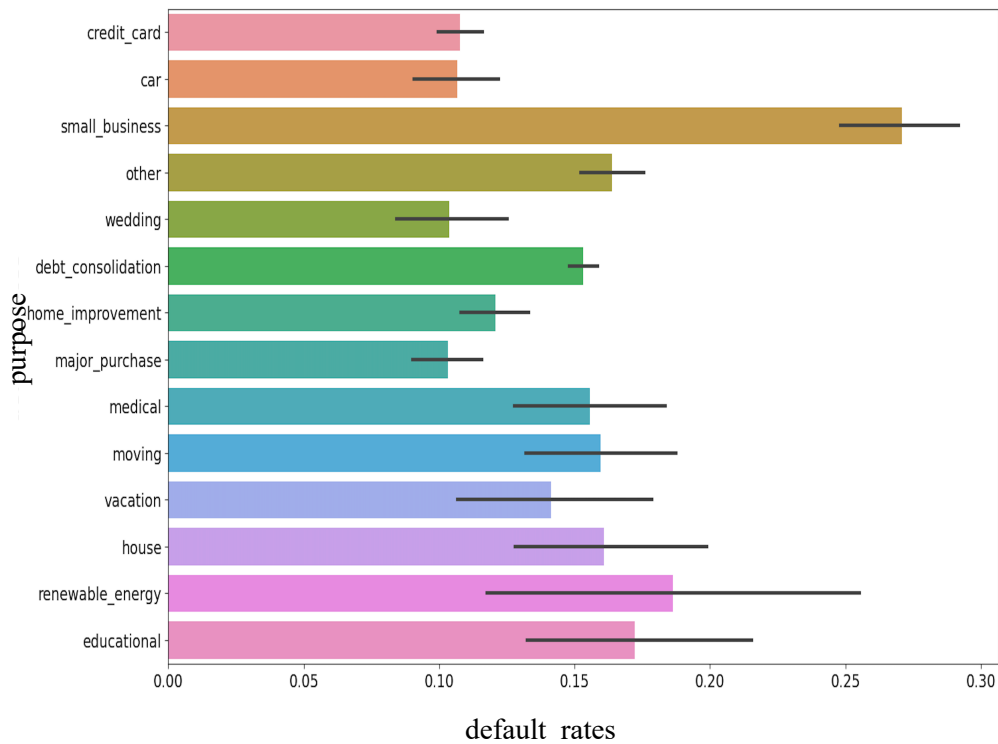- Annual Income

Analysis - Grade

As we can see, The amount of Defaulter increases towards G grade.
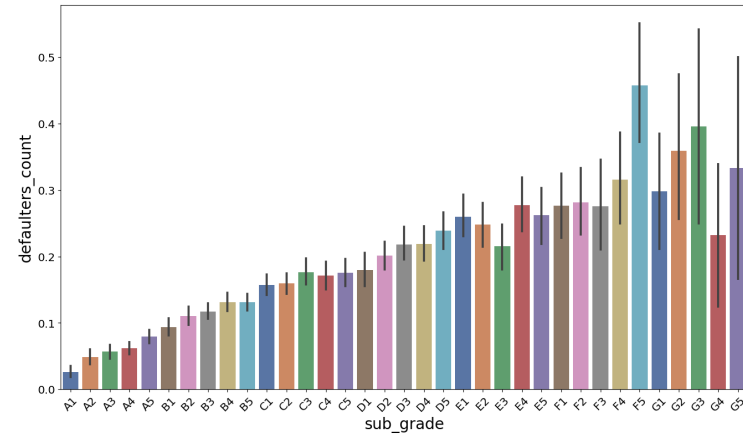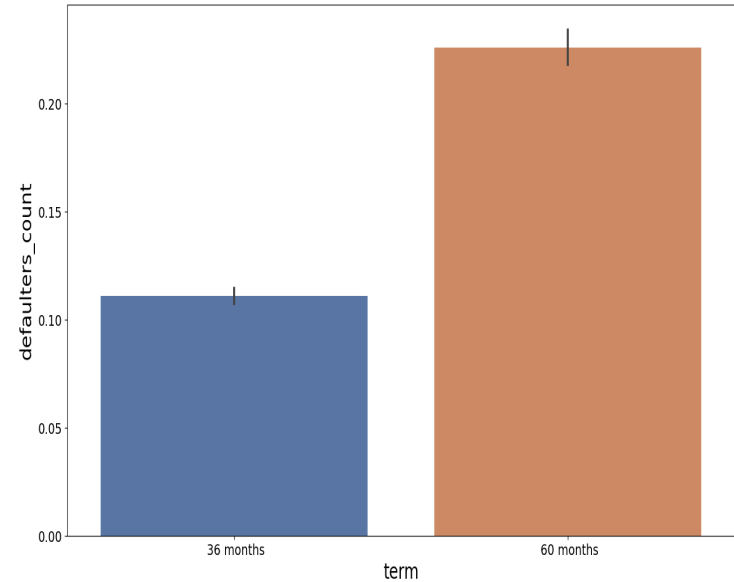
Analysis - Purpose

Customer took loan with purpose of small business has a high chances to comes under defaulter than credit_card

Analysis - Terms

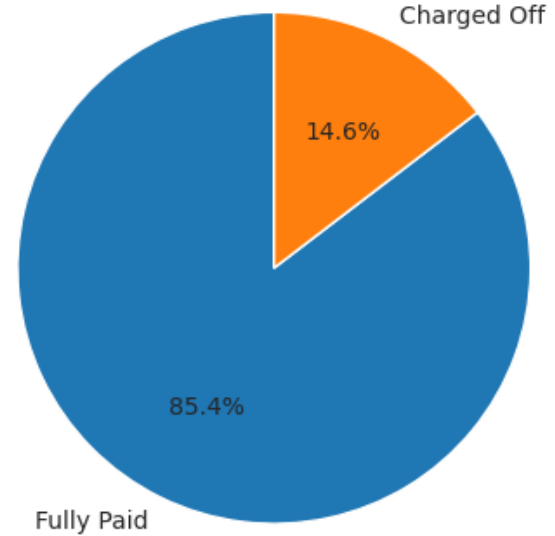The Borrowers who took loan for 60 months have higher percentage of defaults.

Analysis - Loan Status

14.6% borrower has failed to repay the loan, leading to a financial loss for the lending company.
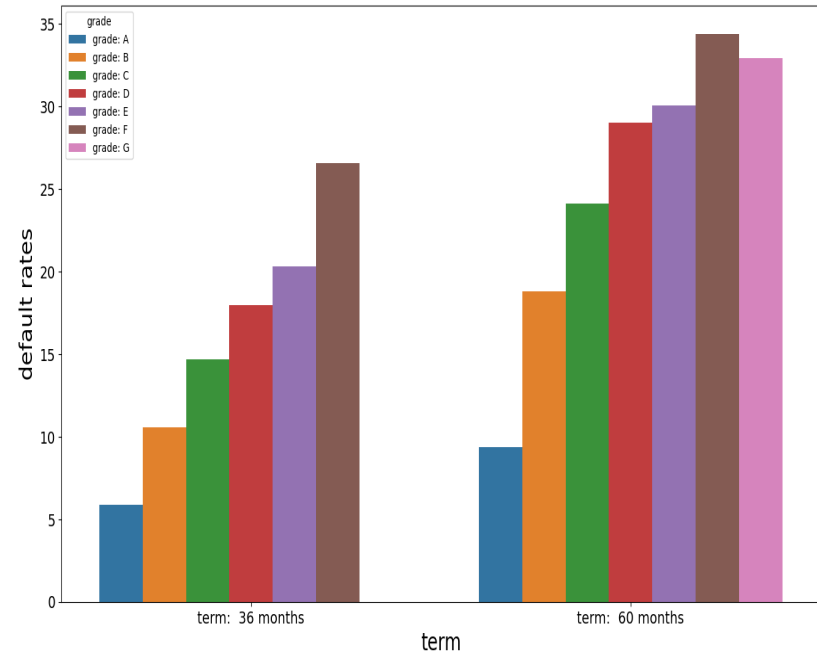
Loan Status Distribution

Bivariate (term-grade)

The loan approved are majorly of higher grade as they are of low risk thus low chance of defaulting. 60 months term loans have larger number of lower grade loans with high risk
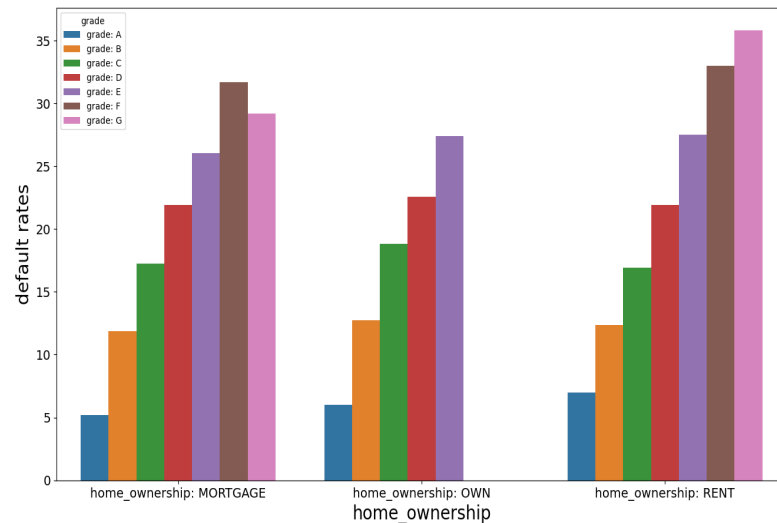
Bivariate (home ownership-grade)

This indicates how different types of home ownership are related to the Grades.
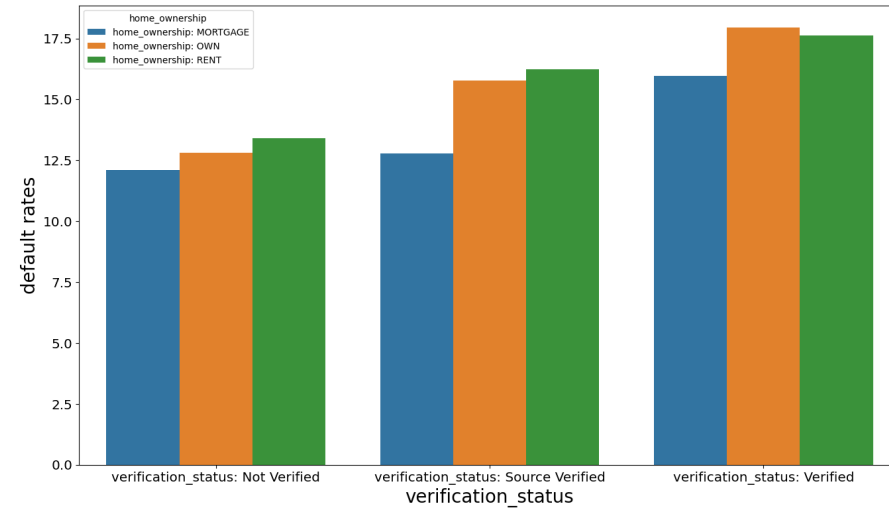People having home ownership of Rent have high rate of defaulter

Bivariate (home ownership-verification status)

From the graph, Loan Applicants whose home ownership is 'RENT' and have verified status likely to get defaulted.

Conclusion

- The observation that 60-month term loans have a higher default rate compared to 36-month term loans aligns with common industry knowledge. Longer loan terms are often associated with increased risk, as they allow for smaller monthly payments but can result in a higher overall interest cost. This finding highlights the importance of considering loan term in assessing default risk.

- Noting that verified loans have a higher default rate compared to non-verified and source-verified loans highlights the importance of income verification in the lending process. Loans that are not verified or source-verified might be less risky due to the rigorous income verification process associated with "Verified" loans.

- Borrowers who take on substantial loans may face more significant financial challenges in repaying them, especially if their business operations or financial stability are uncertain. This can lead to a higher likelihood of default.

Thankyou