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#LifeKoKaroLift

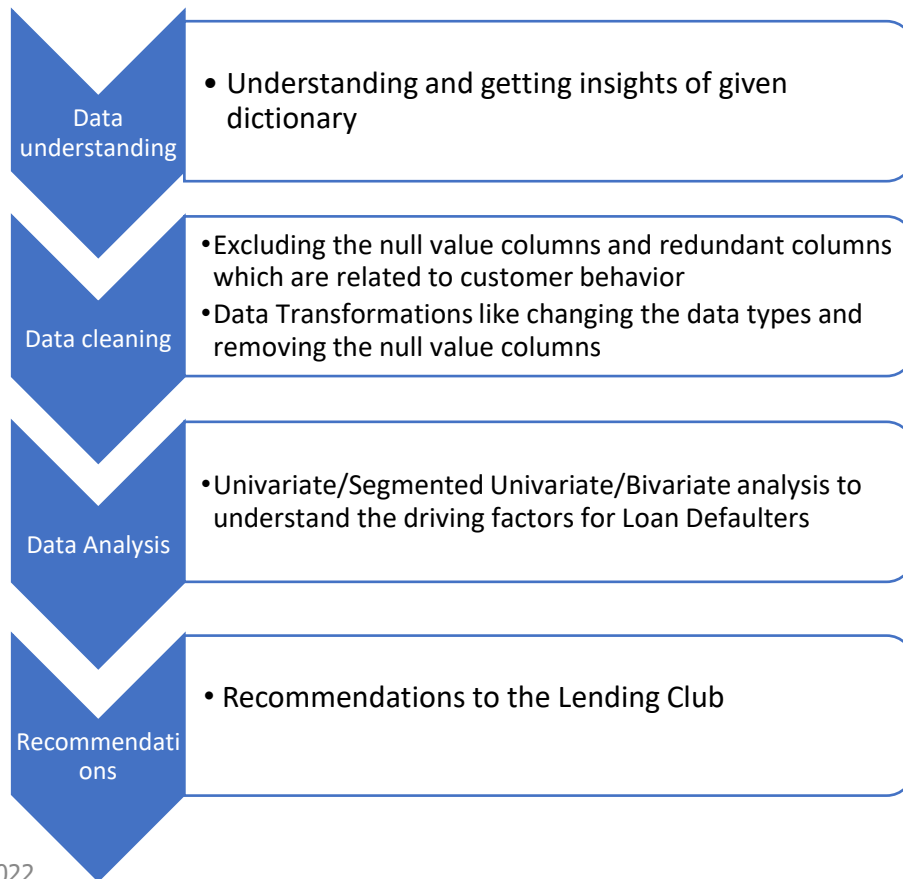# Lending Club Case Study

Group Members:
Dinesh Krishna Kerlepalli
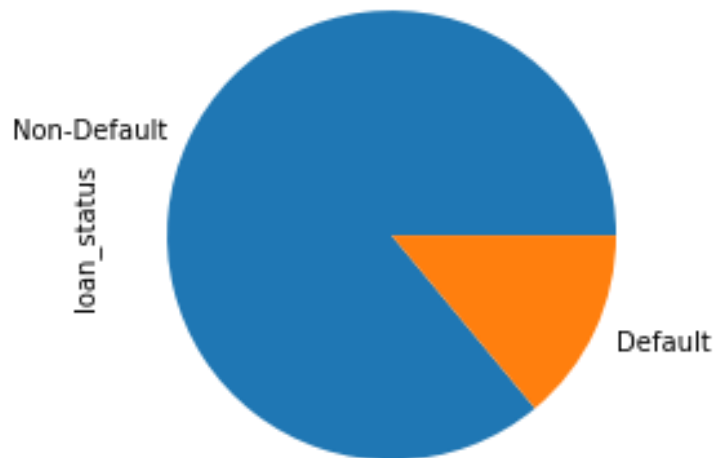Sunnihith Srivatsav Kankati

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Lending Club

- 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.

- 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

Objective

- Understand the driving factors behind loan default, i.e., the variables which are strong indicators of default.

Data understanding
- Understanding and getting insights of given dictionary

Data cleaning
- Excluding the null value columns and redundant columns which are related to customer behavior
- Data Transformations like changing the data types and removing the null value columns

Data Analysis
- Univariate/Segmented Univariate/Bivariate analysis to understand the driving factors for Loan Defaulters

Recommendations
- Recommendations to the Lending Club

- Showing the proportion of Default/Non-Defaulters
  - Objective is to understand the driving factors of Default
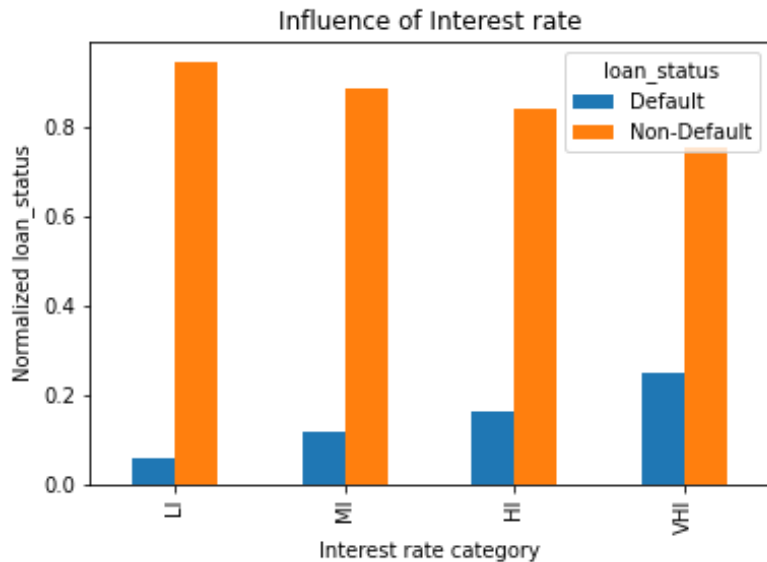
Influence of loan purpose on loan status

Influence of Purpose of loan
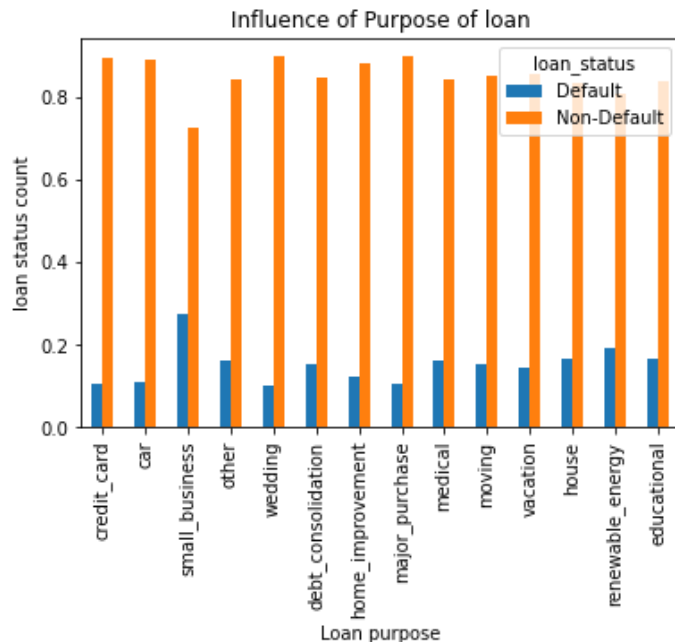
- Certain Loan purposes(like small_business, medical, educational) have higher defaulters

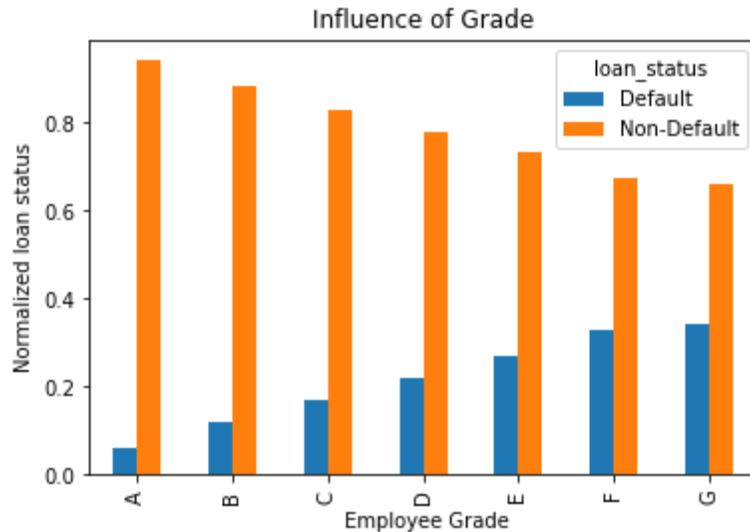**Influence of DTI on loan status**
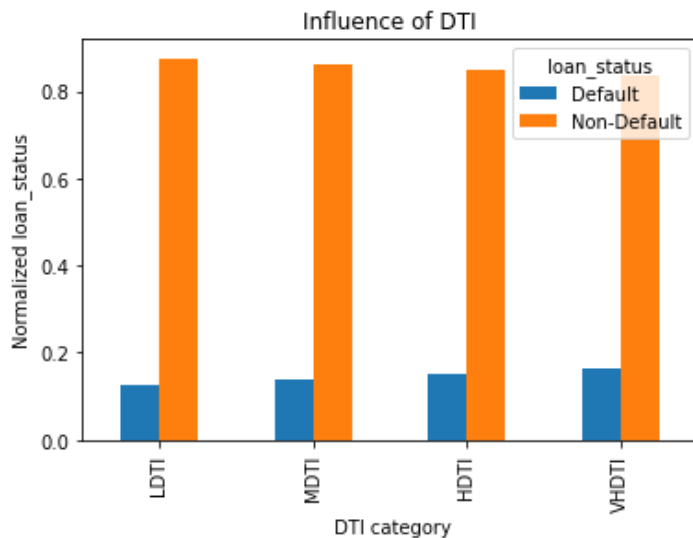
- People with Higher Debt to income ratio(DTI) are more likely to default

Influence of Interest rates on loan status

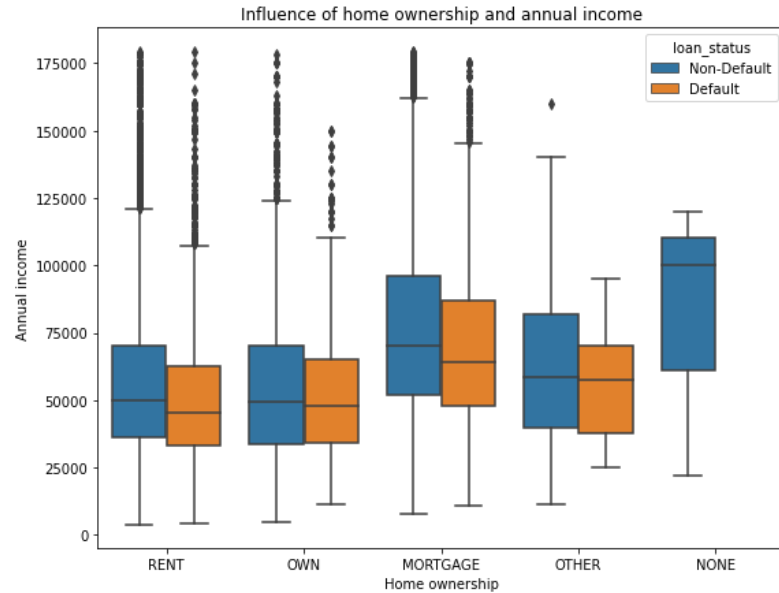- Loans offered at higher interest rate are more likely to default

Influence/impact of grade in profiling of default vs non-default

- Defaulters are increasing with loans graded higher(A being small grade and G being higher grade

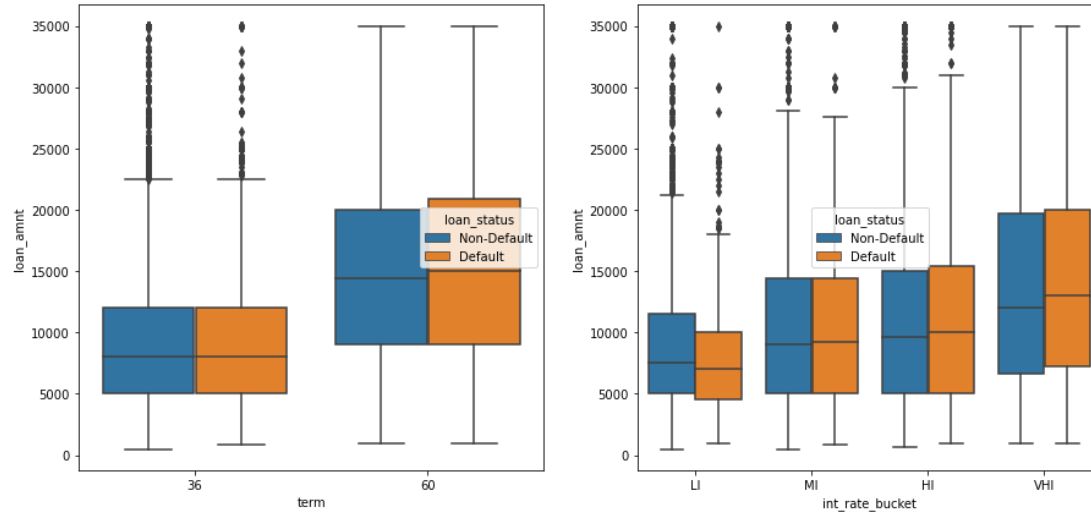**Analysis of annual income and home ownership on loan status**

Influence of home ownership and annual income

- Employees with higher annual income but whose home ownership is MORTGAGED are more likely to default

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Influence of loan amount, term, interest rate on loan status

- Higher loan amounts issued at higher interest rates for longer terms are more likely to be defaulted

Recommendations

- Reduce approving loans to those whose home ownership is mortgaged

- Reduce interest rates for higher loan amounts taken for longer term

- Reduce loan approvals given for small business purpose

- Reduce loan approvals for individuals with higher Debt to Income ratio(DTI)

- Reduce loan amounts disbursed to lower income groups

- Reduce loan amounts disbursed for loans which are graded badly

- The driver variables which are of utmost importance are interest_rate, home_ownership, loan_purpose, DTI, annual_income, term, loan_grade. Lending Club must consider the above driver variables carefully while disbursing loans to reduce the number of Charged Off/defaulted loans

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Thank You!