



# Lending Club Case Study

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# Problem Statement

## Business Understanding

- ▶ We work in a consumer finance company where we lend loans for various types of urban customers
- ▶ Company has to take decision on loan approval based on applicants profile.
- ▶ We have data set which has details about past loan applicants and whether they 'defaulted' or not.
- ▶ The aim is to identify patterns which indicate if a person is likely to default, which may be used for taking actions such as denying the loan, reducing the amount of loan, lending (to risky applicants) at a higher interest rate, etc.

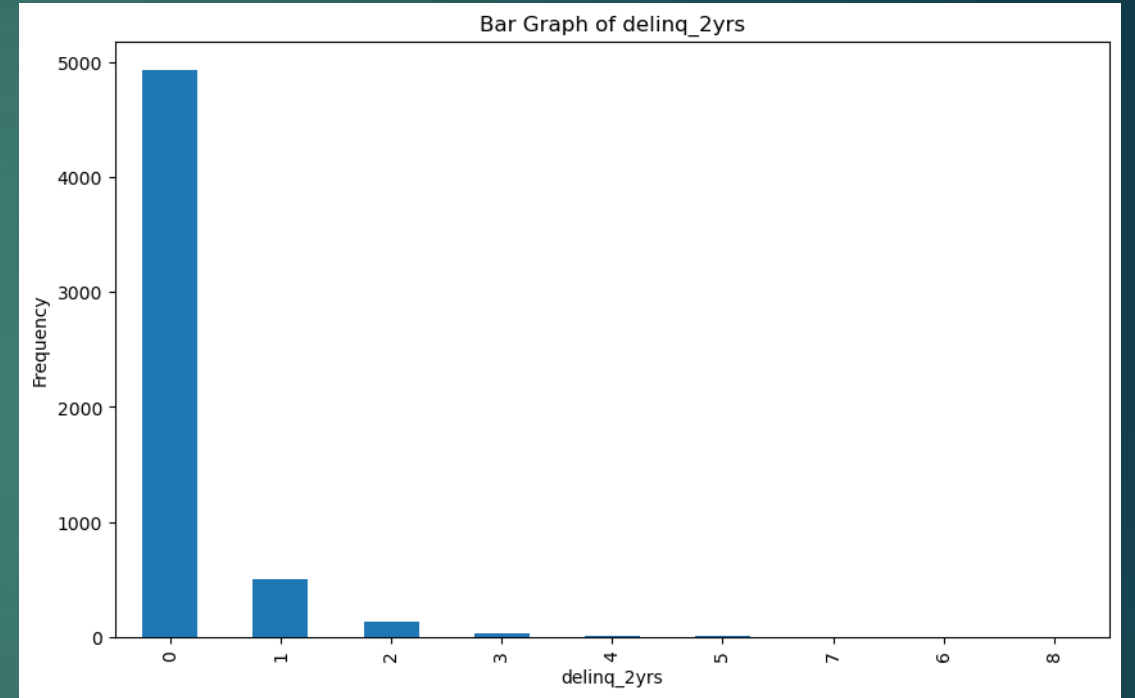
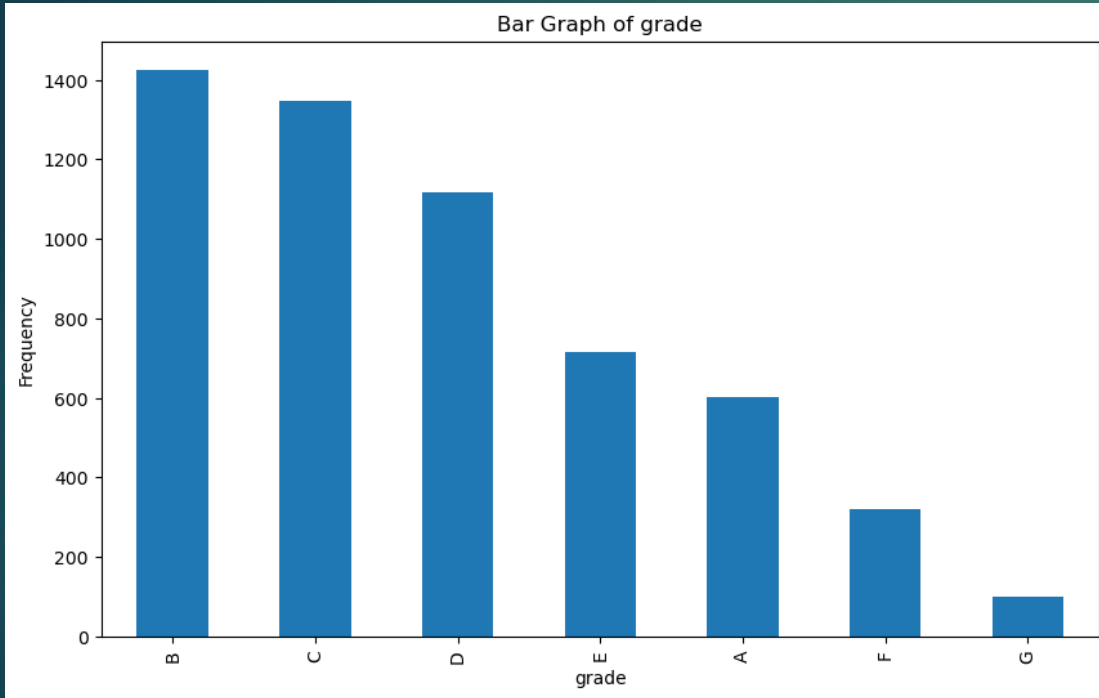
# Business Objectives

- ▶ Lending loans to 'risky' applicants is the largest source of financial loss .
- ▶ Borrowers who default cause the largest amount of loss to the lenders. In this case, the customers labelled as 'charged-off' are the 'defaulters'.
- ▶ The company can utilise this knowledge for its portfolio and risk assessment.

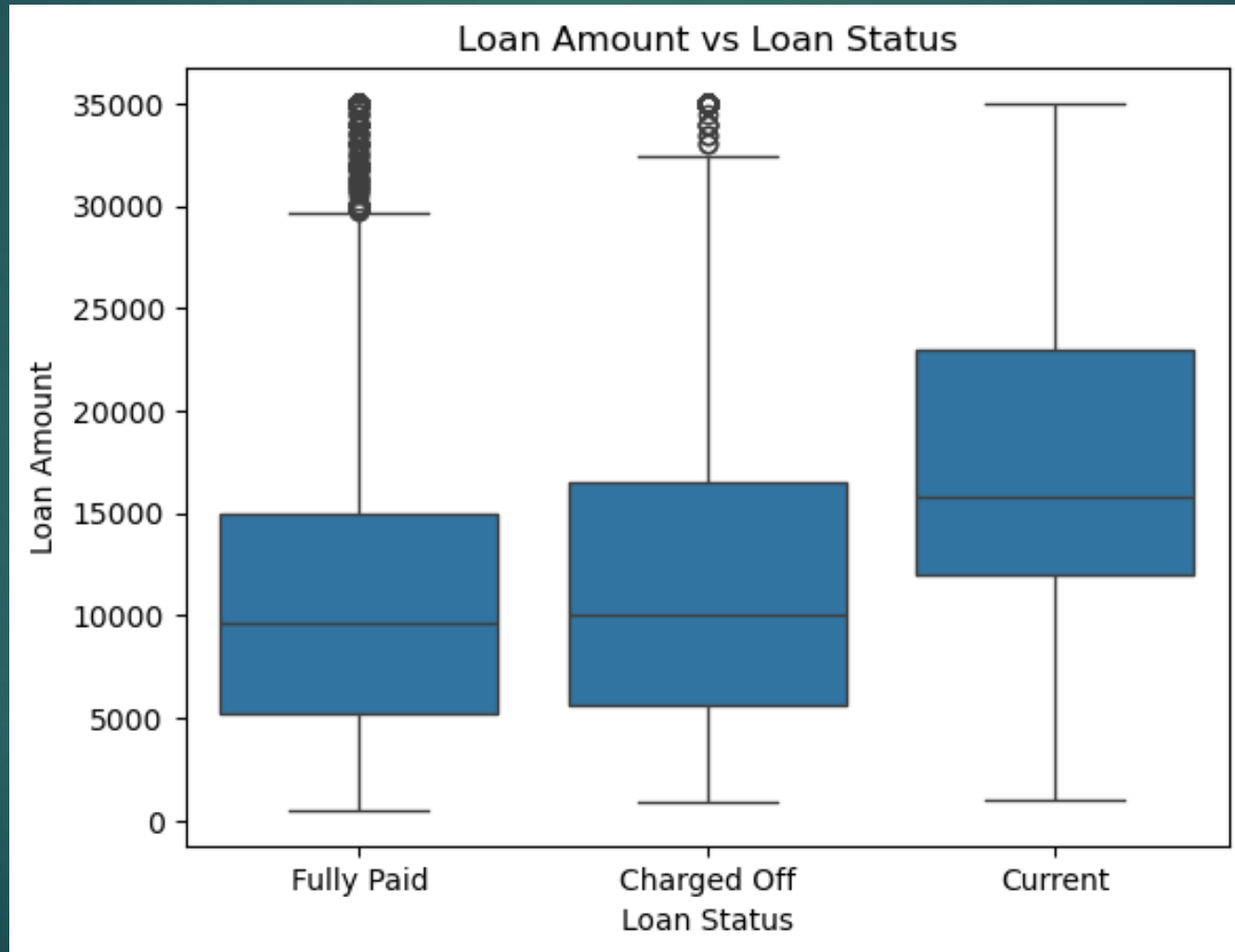
# Analysis Approach

- ▶ Getting the complete dataset information
- ▶ Drop if there any null columns
- ▶ Calculate the percentages of null values in each column
- ▶ Check for duplicate rows and drop it
- ▶ Plot the loan status to visualize the data
- ▶ Univariate Analysis
- ▶ Bivariate Analysis
- ▶ Using Bar plot check Verified status
- ▶ Summary and Observations

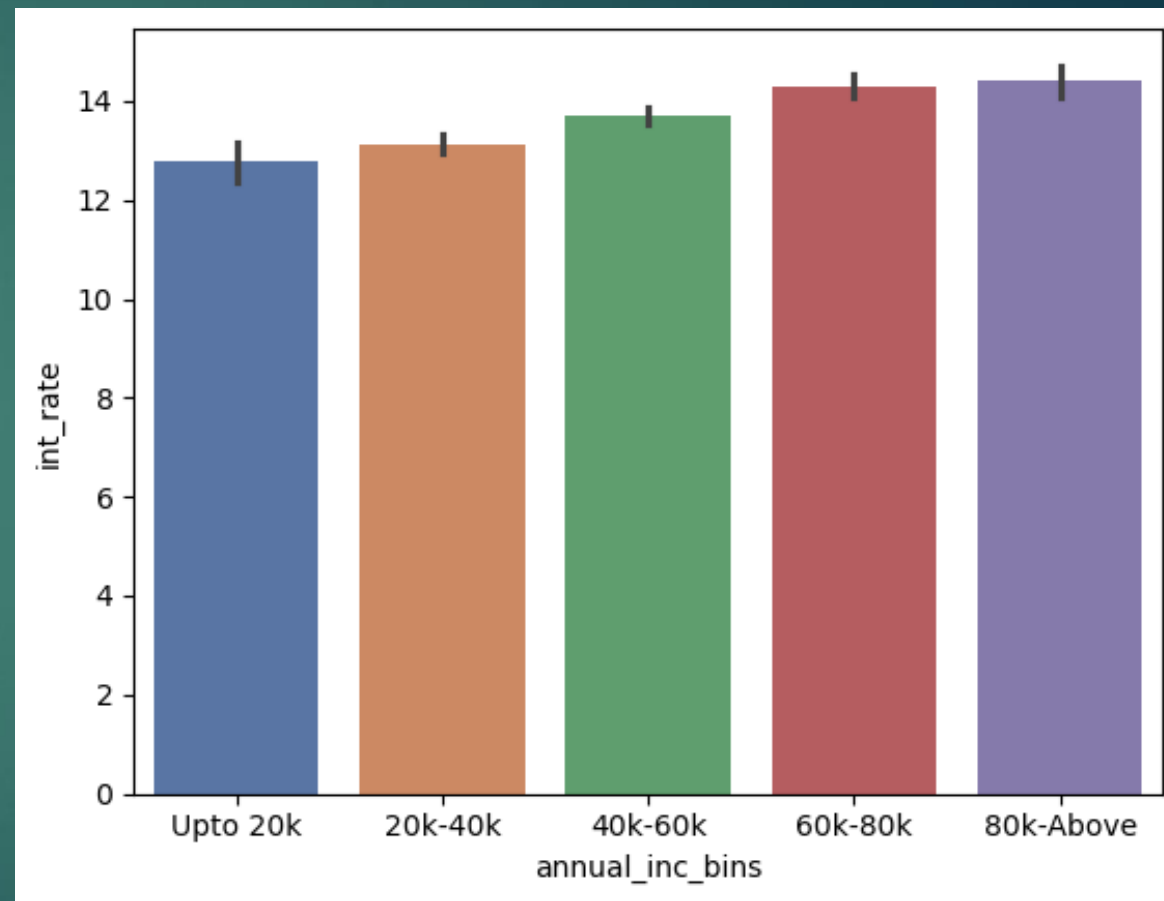
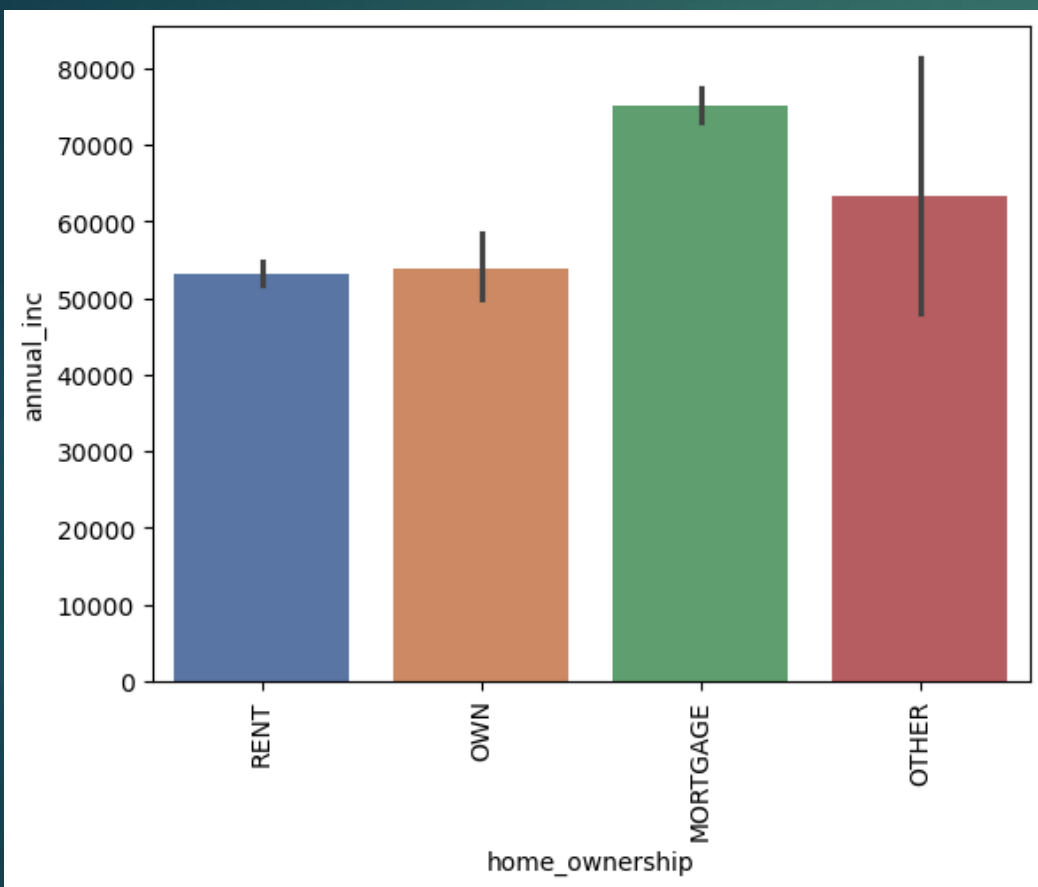
# Univariate Analysis



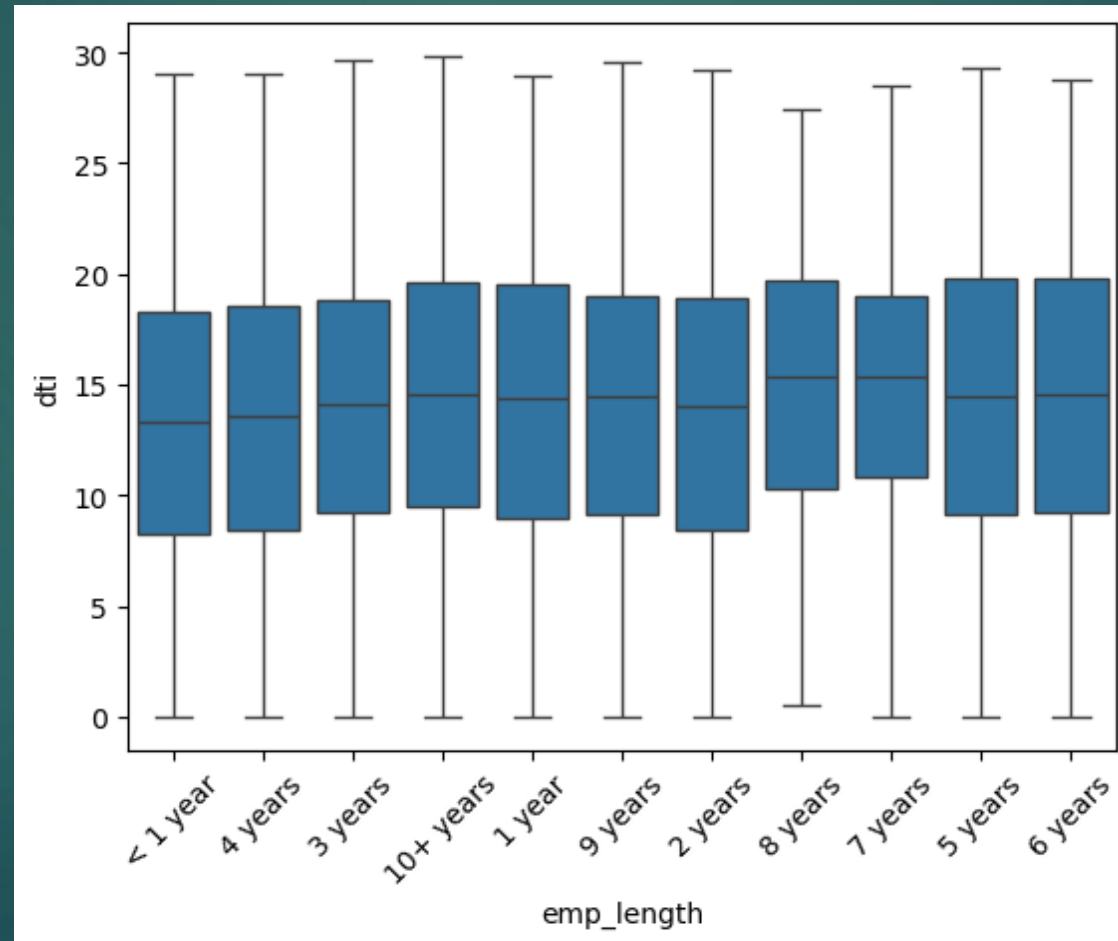
# Observation



# Bivariate Analysis



# Bivariate analysis between employ\_length and dti





# Summary

- ▶ It is observed that the defaulters who have higher annual salary took loan for home improvement followed by house, small business and wedding
- ▶ More loan amount was funded for small business
- ▶ Loan applicants having employment length more than 10 years were funded highest loan amount
- ▶ Loan was approved mostly for verified applicants. This is a good trend. This will reduce the risk of charged off customers.
- ▶ Maximum average loan amount was funded to the applicants who opted term 60.
- ▶ Most of the loan applicants who charged off have significantly high Debt-to-Income (dti) ratios.
- ▶ Majority of loan applicants who charged off received loans with interest rates in the range of 13% to 17%.