



# Lending Club Case Study

Exploratory Data Analysis

**Team:**

**Geetha Jakka.**  
**Mohit Shinde.**

## **Contents:**

- About Lending Club Case Study.
- Approach followed .
- Analysis details.
- Insights.



# About Lending Club Case Study:



## Problem Statement:

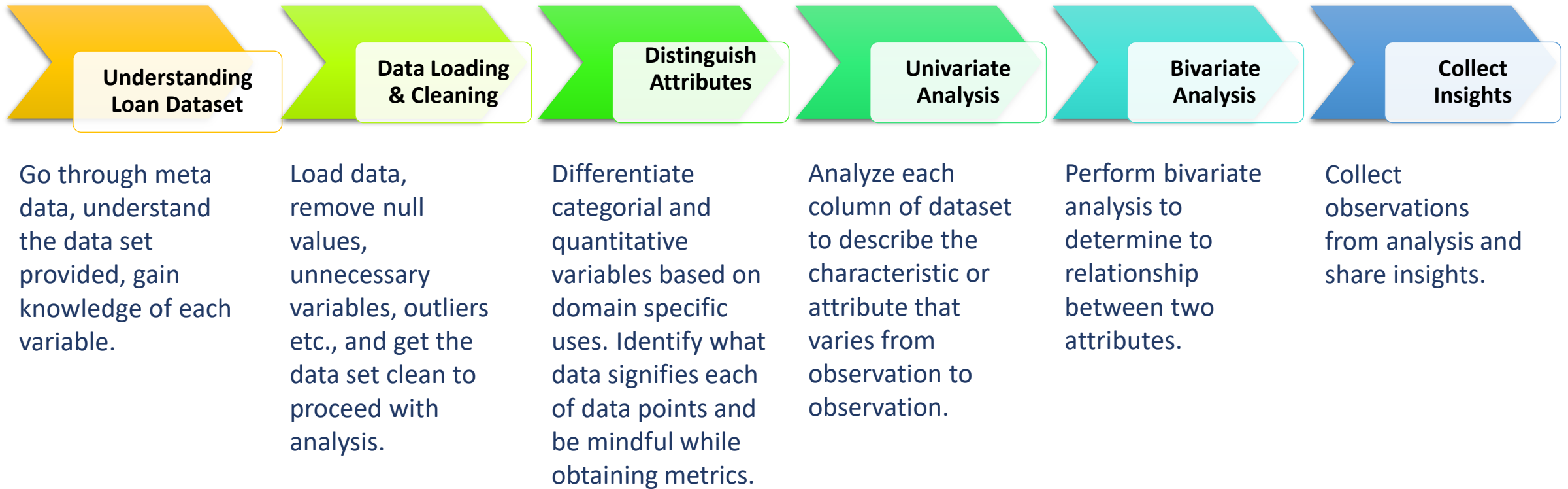
**Consumer finance company** which specializes in lending various types of loans to urban customers. This company is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures. Borrowers can easily access lower interest rate loans through a fast online interface.

Lending loans to 'risky' applicants is the largest source of financial loss (called credit loss). The company wants to understand the **driving factors (or driver variables)** behind loan default, i.e. the variables which are strong indicators of default so company can utilize this knowledge for its portfolio and risk assessment.

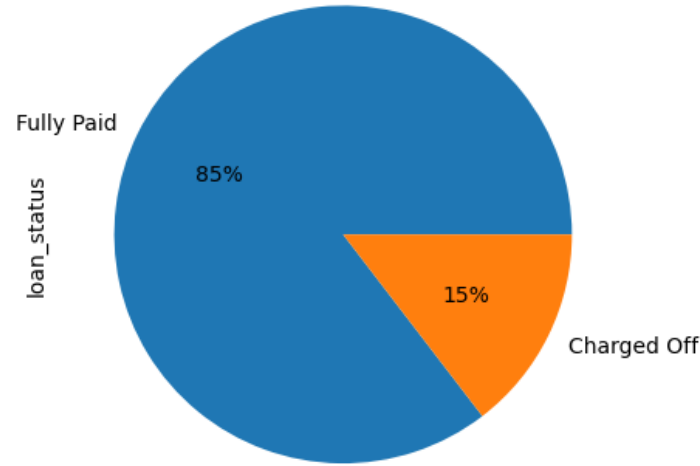
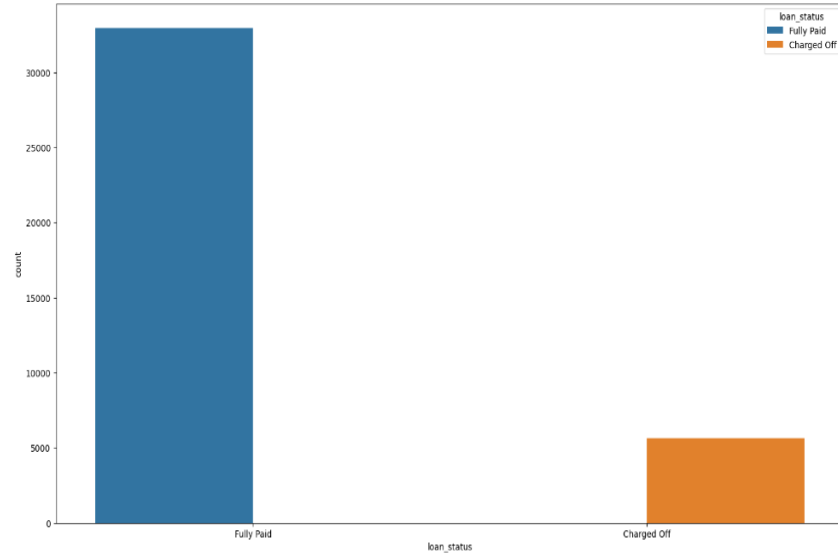
## Objective:

Perform Exploratory Data Analysis to analyze loan dataset of the company and identify variables which are strong indicators of defaulting loan.

# Approach followed:

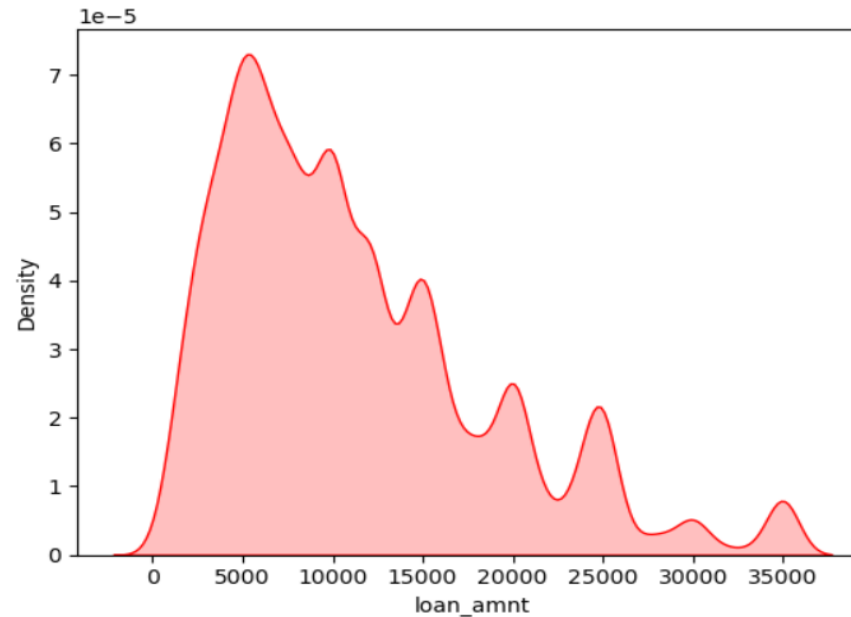
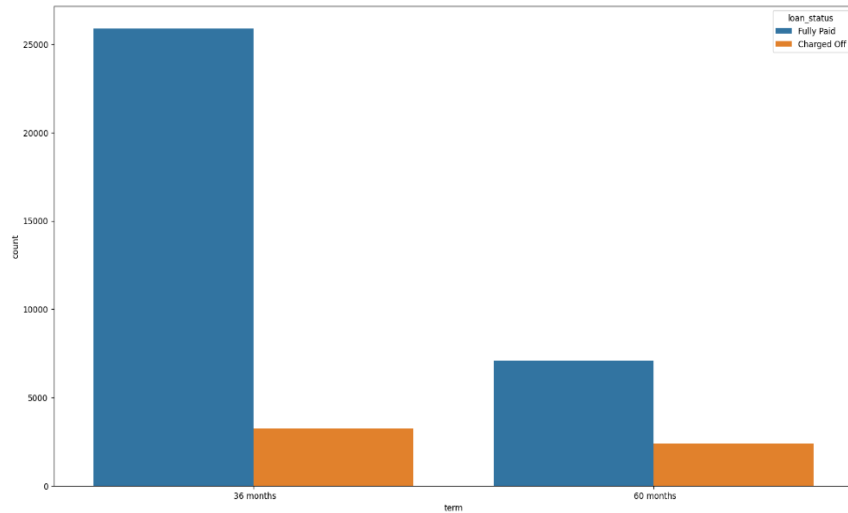


# Analysis details:

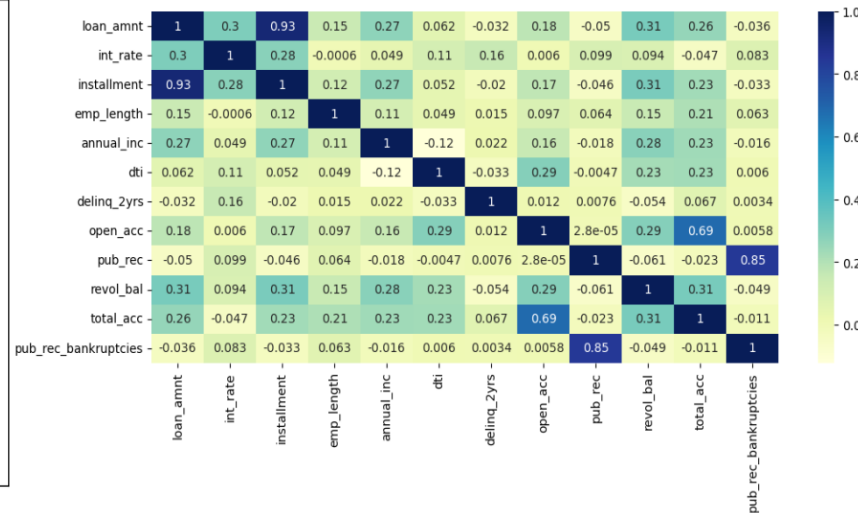
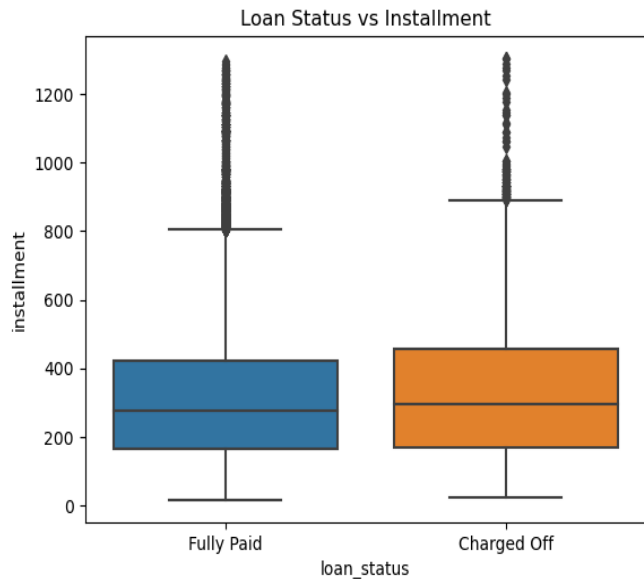
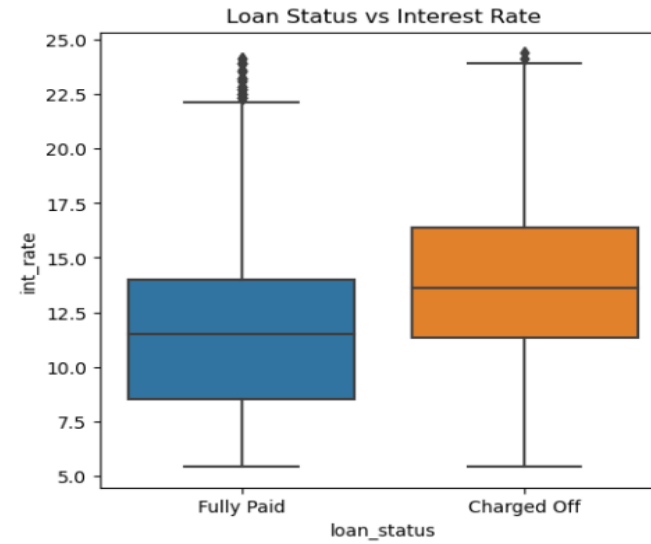
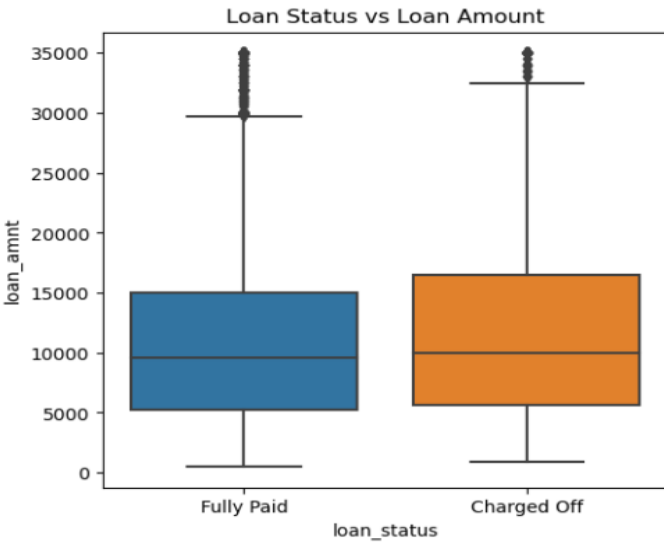


## Observation:

- 15% of loan applications are Charged off.
- Short term loans are more than long term loans.
- Most of loan applications are below 15K.



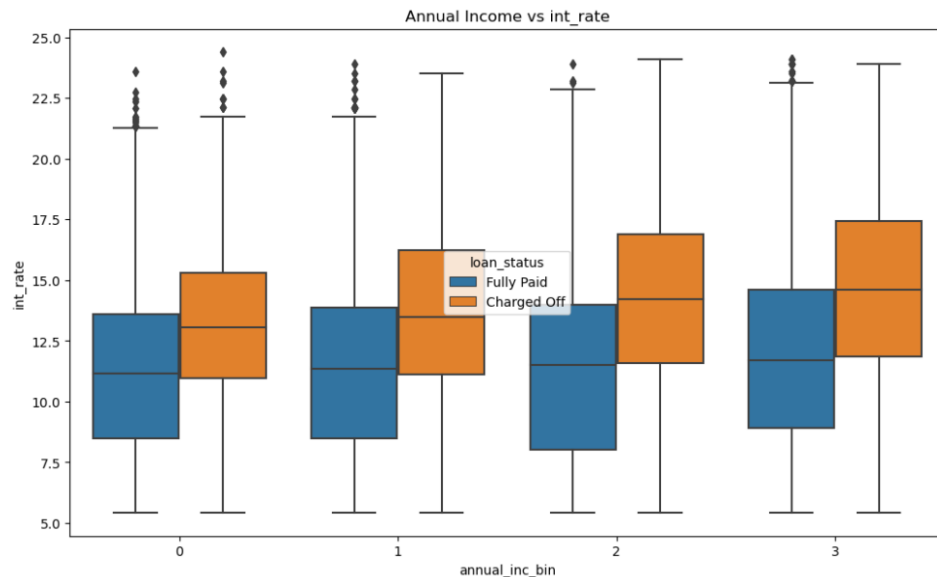
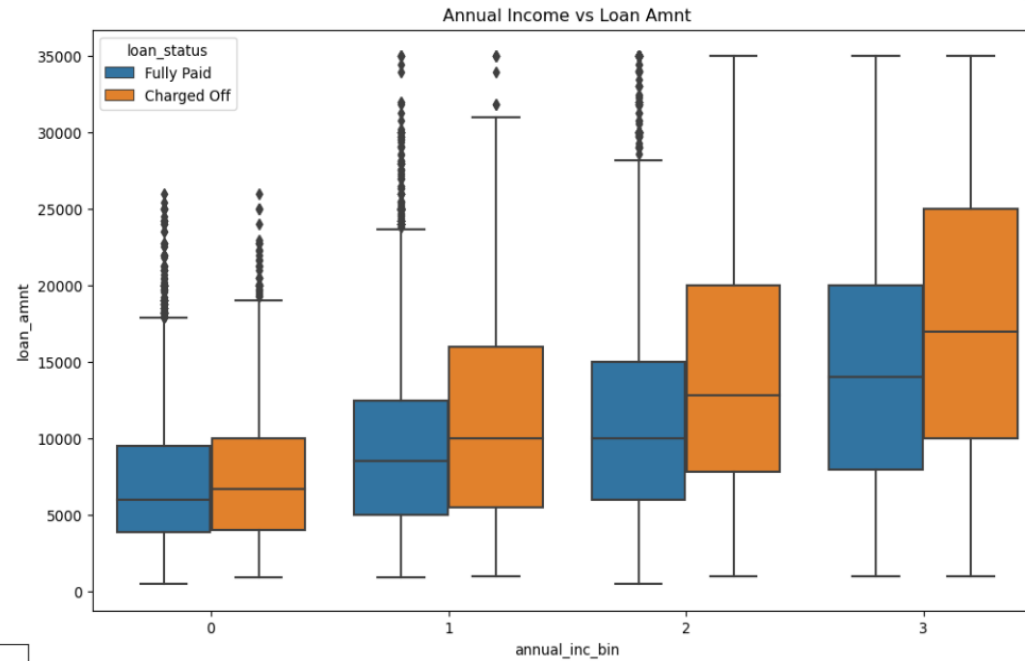
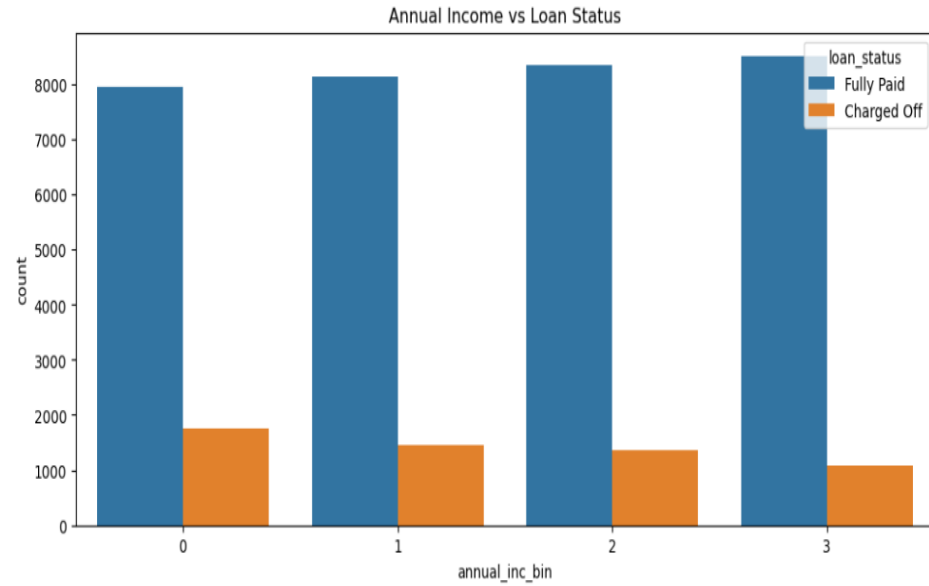
# Analysis details:



## Observation:

- Loan amounts which has high interest rates have high chances for charged off.
- In case of Charged off loan applications, installment is little higher could because of high interest rate.
- Loan amount, Installment share strong correlation.

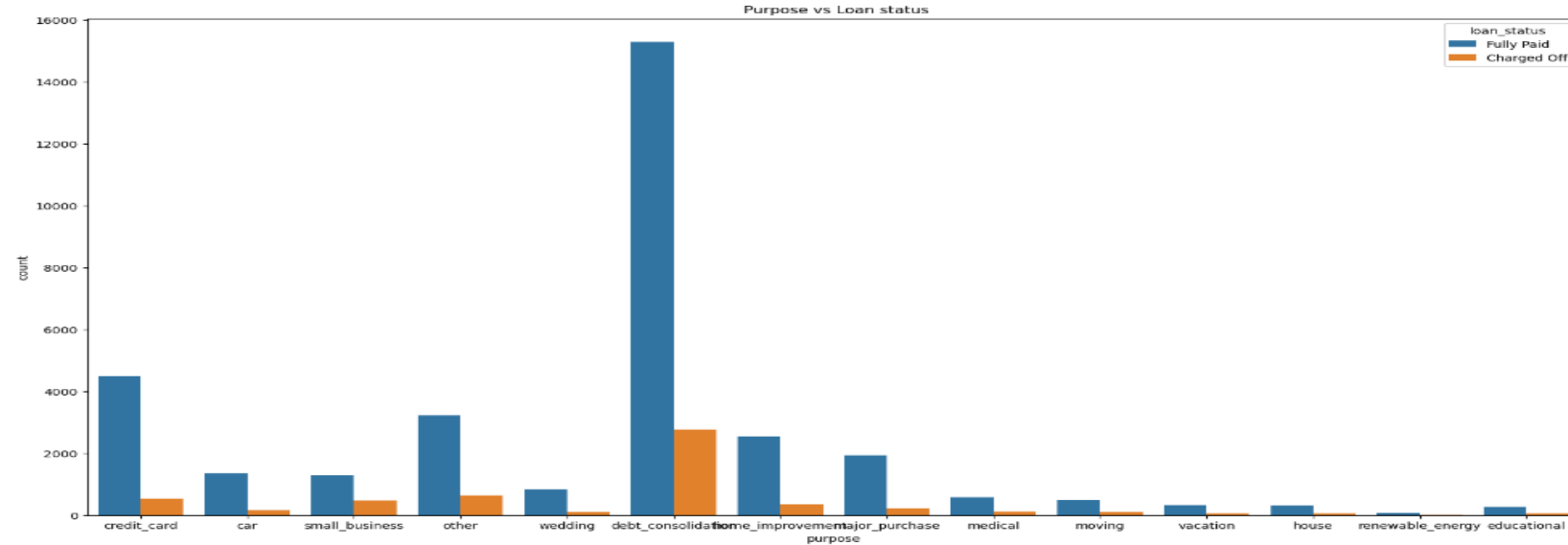
# Analysis details:



## Observation:

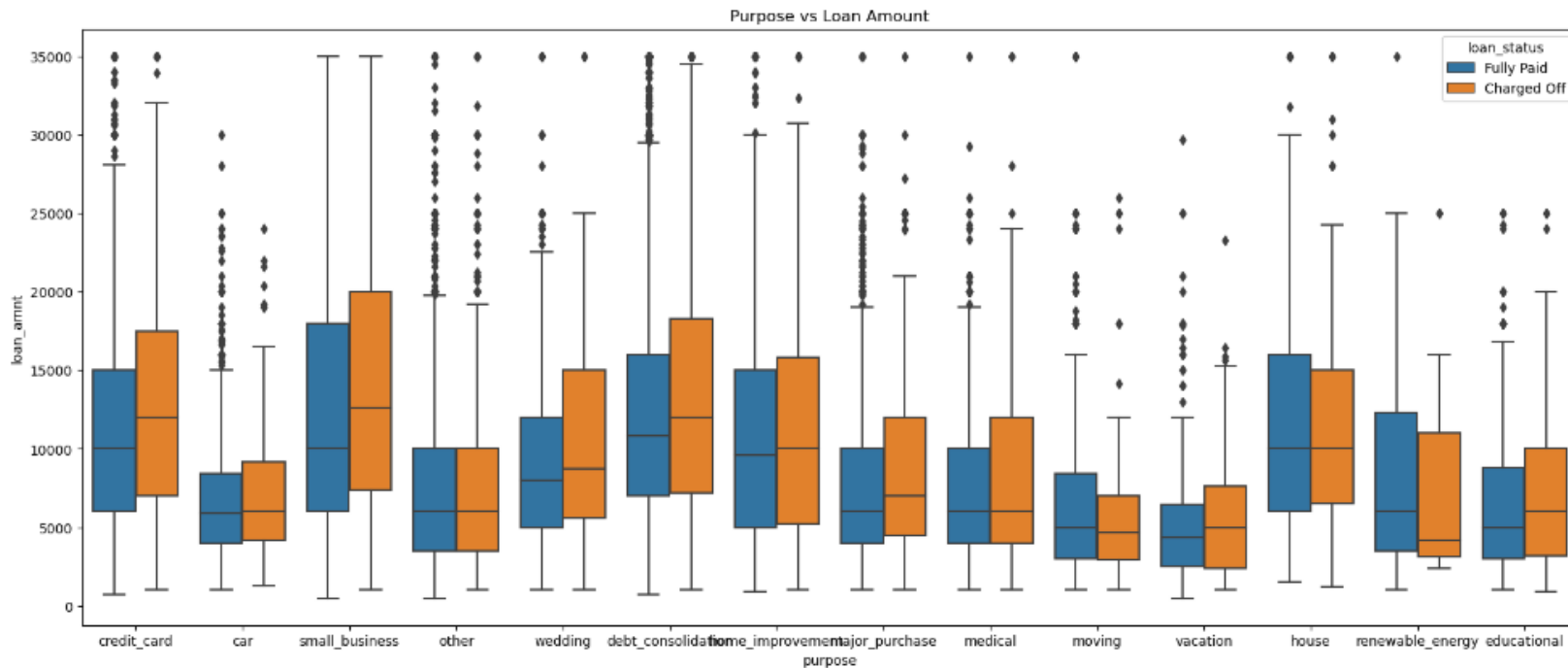
- Charged Off is higher with less annual income.
- For same Annual Income, Loan Amount provide is high in case of Charged Off loans than Fully paid. Some standardization on Annual inc and loan amount need to be there.

# Analysis details:



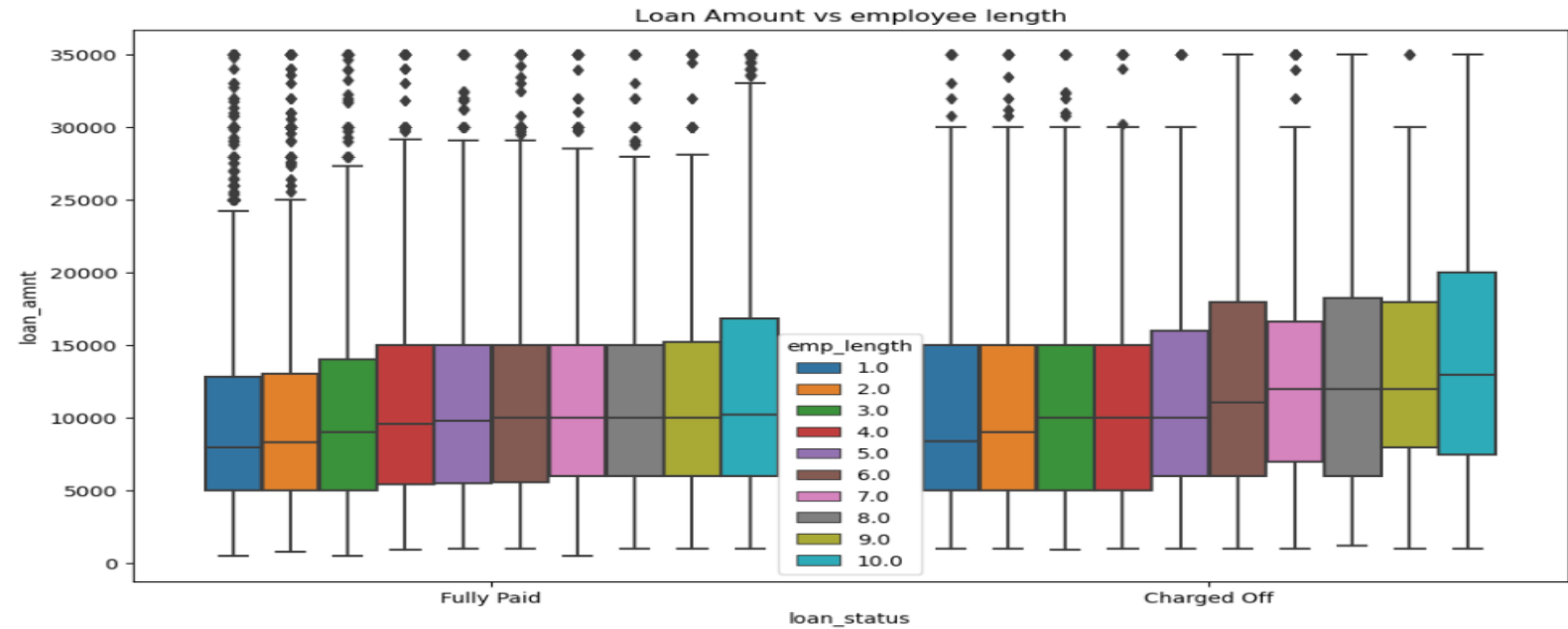
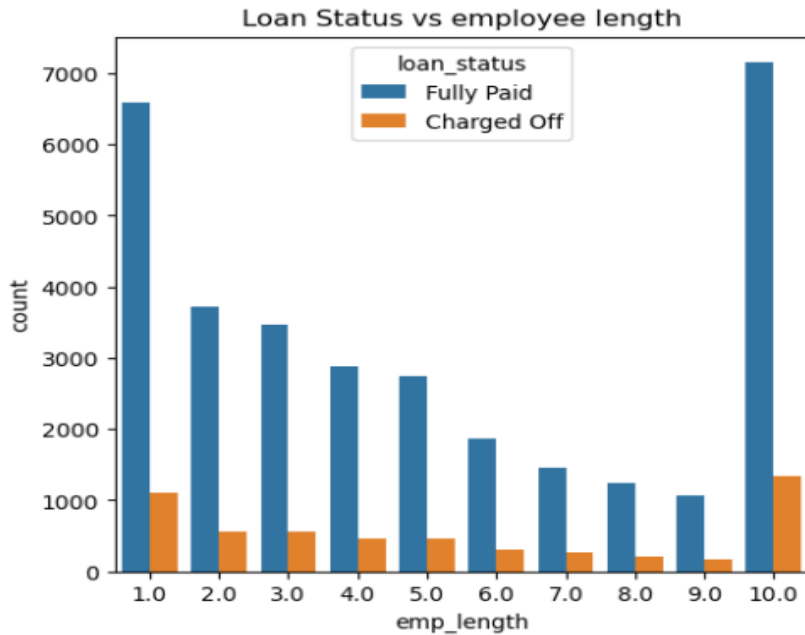
## Observation:

- Debt consolidations loans contribute to major loan applications.
- Small business, credit card loans provided with high loan amounts are charged off.





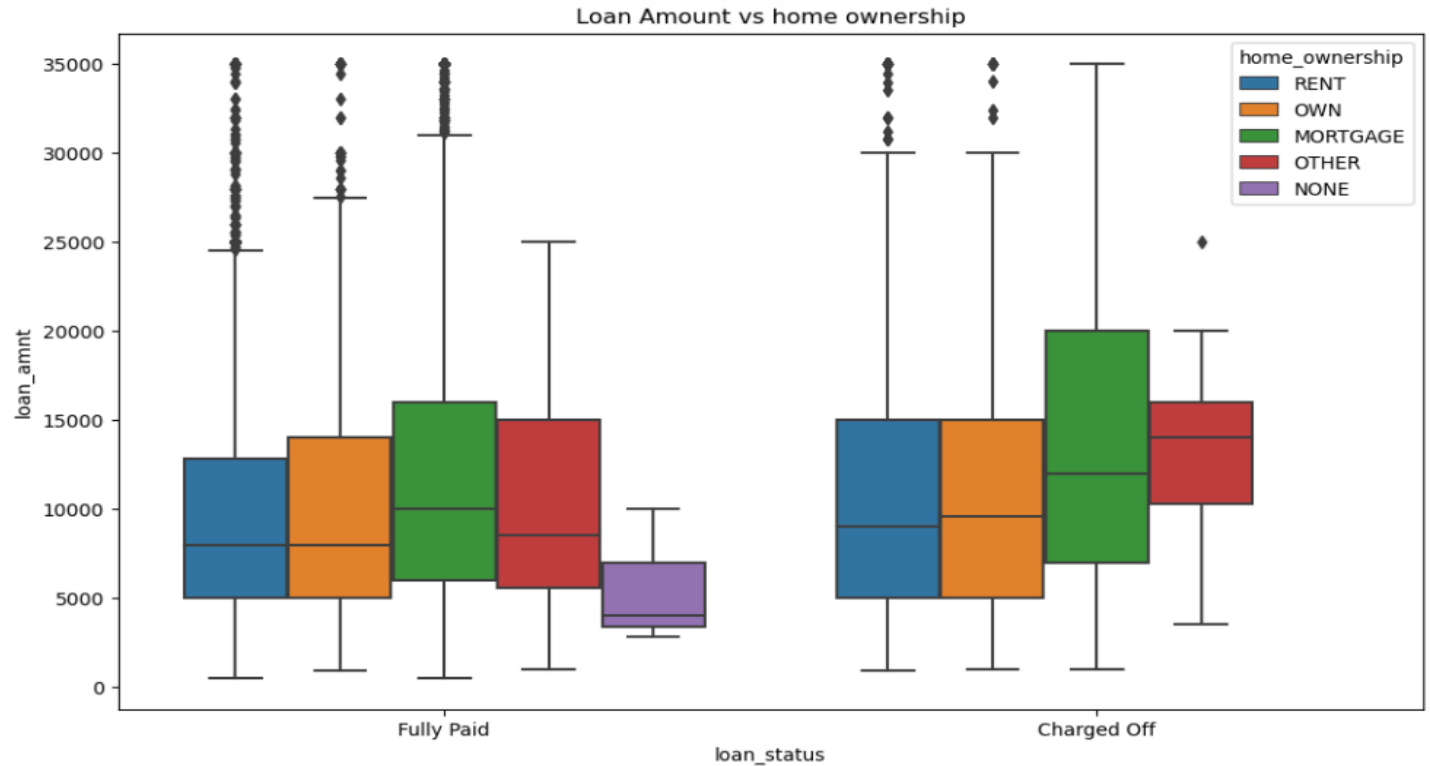
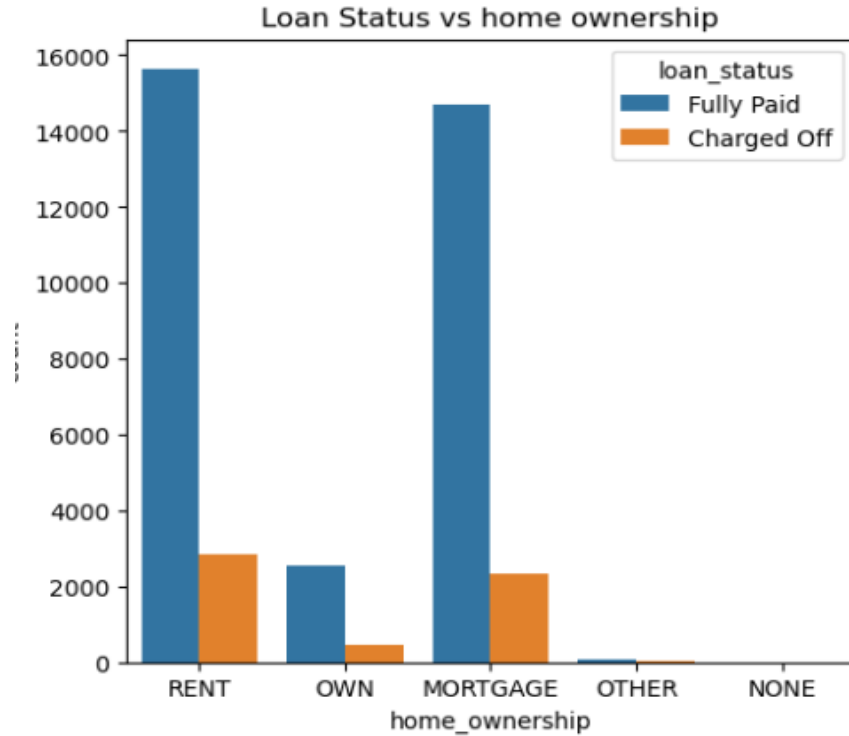
# Analysis details:



## Observation:

- Loan amount is higher in case of charged off loans than fully paid in case high employee duration. There is no standardization on employee duration on loan amounts.

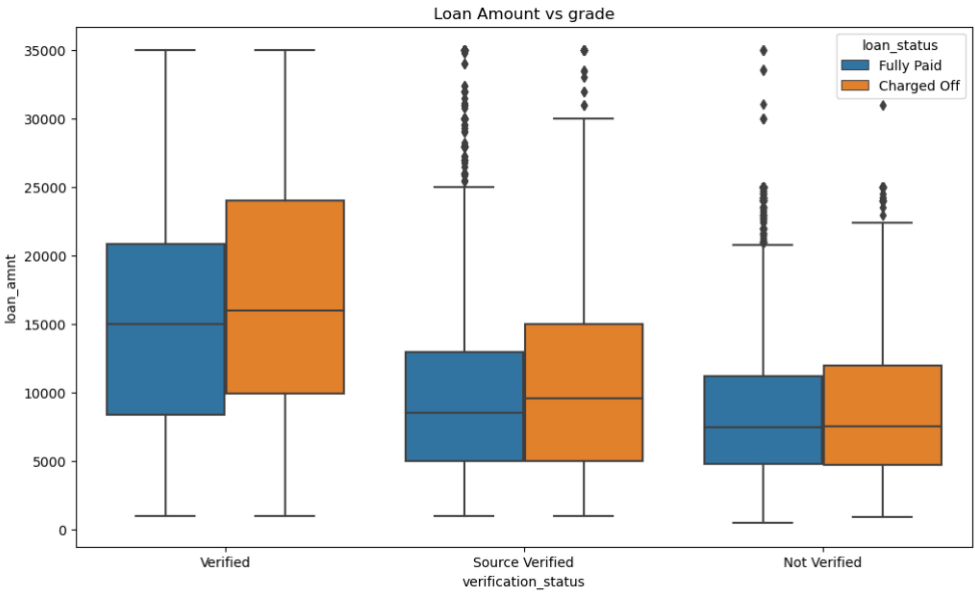
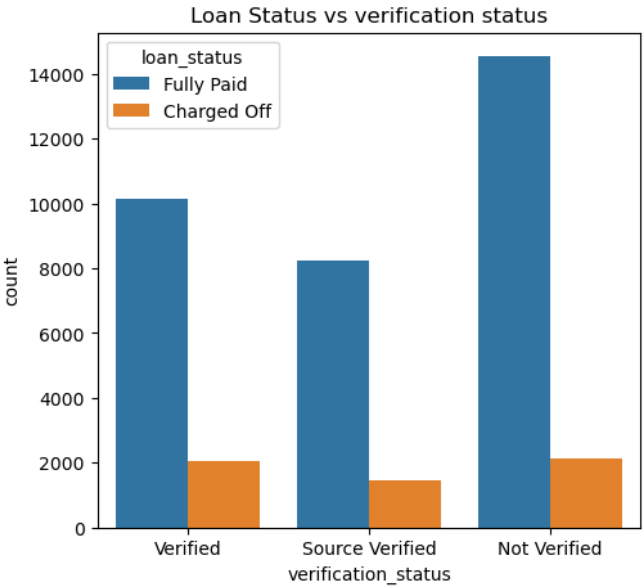
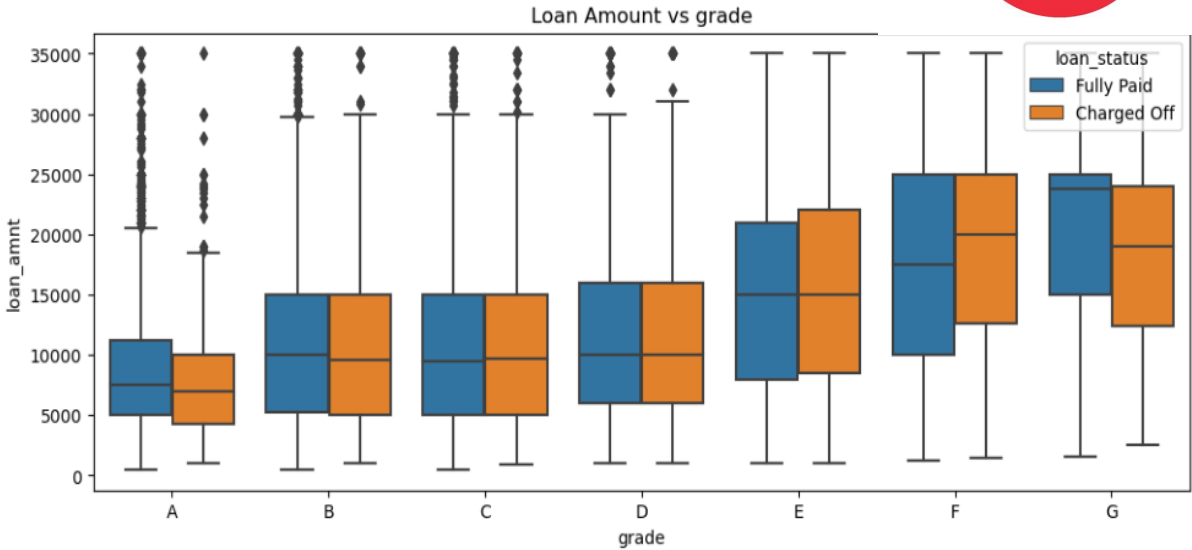
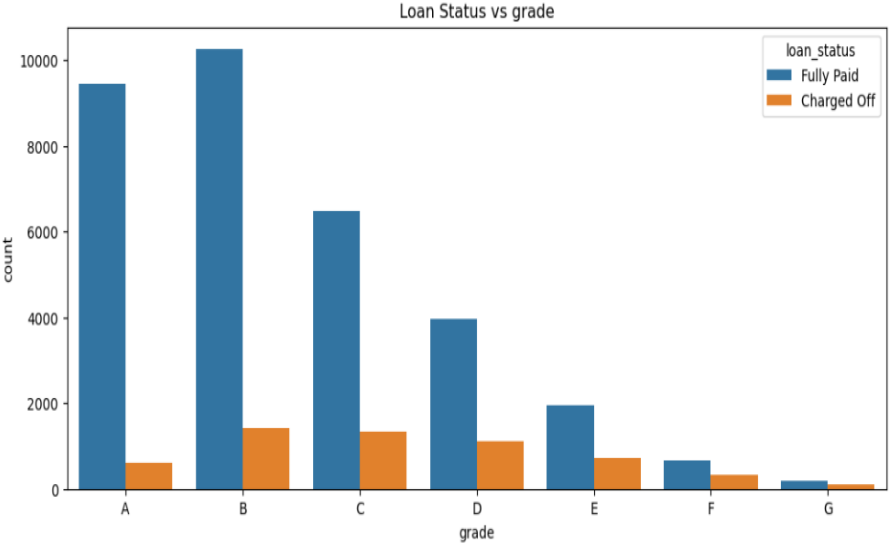
# Analysis details:



## Observation:

- When compared with home ownership, loan amount higher in charged off loans for mortgage and other..

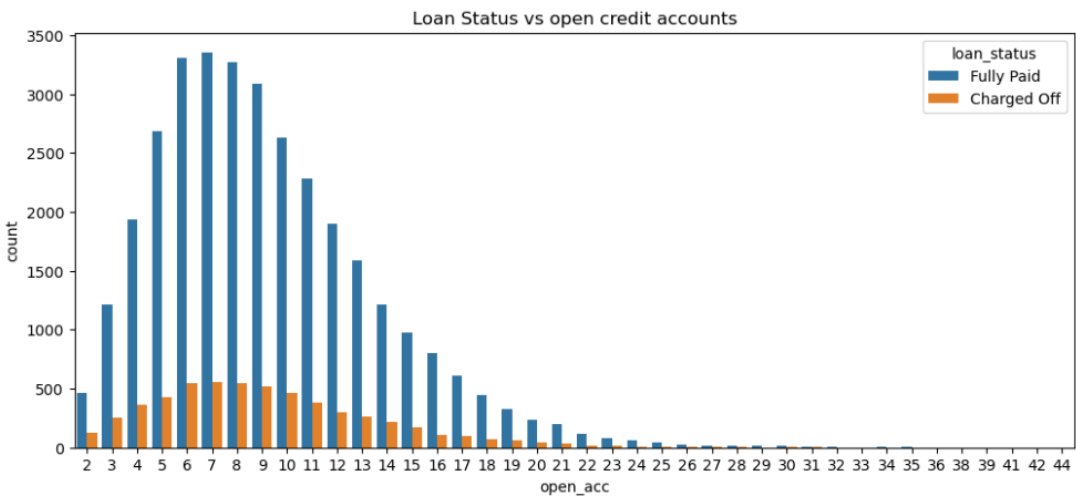
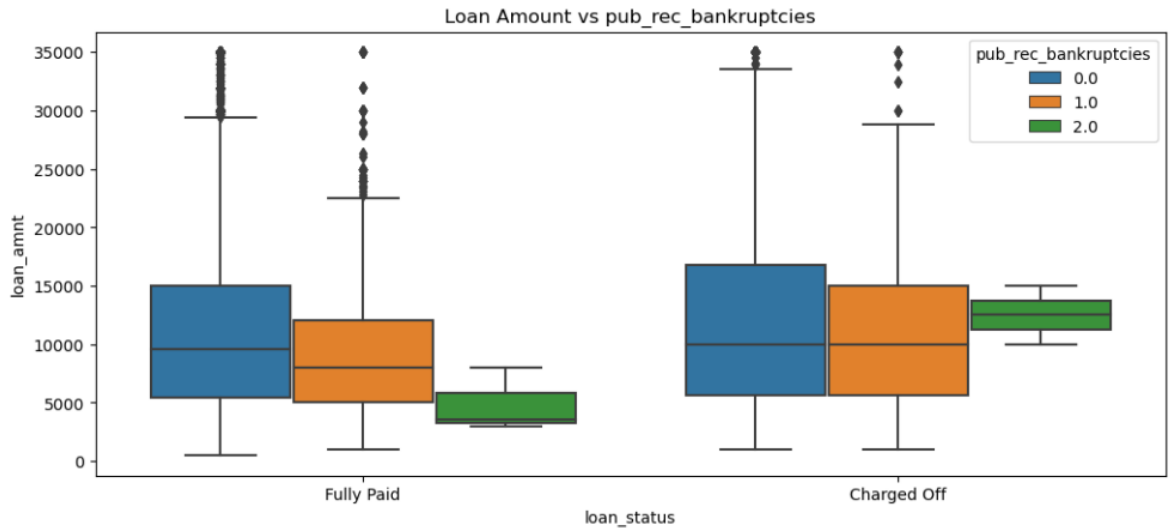
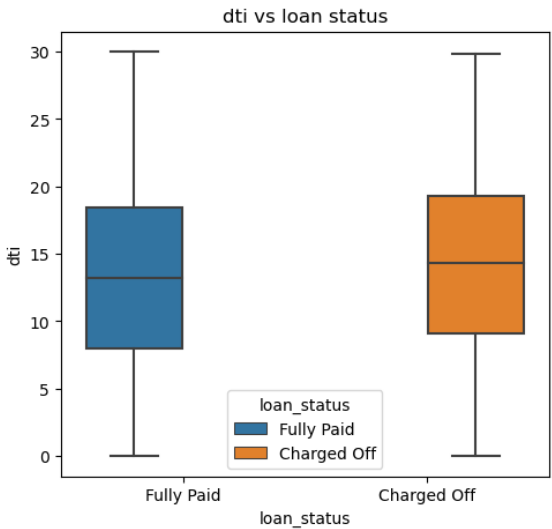
# Analysis details:



## Observation:

- Lower grades with high loan amount have changes of charged off..

# Analysis details:



## Observation:

- Borrower with high public record bankruptcies have provide high loan amount in case of charged off Loans.

# Insights:



- For same range loan amounts, there are different interest rates. Loan amounts which has high interest rates have high chances for charged off.
- In case of Charged off loan applications, installment is little higher could because of high interest rate.
- For same range of annual Income, loan amounts are higher in case of Charged Off loans than Fully paid. Lending club company should bring some standardization on loan amount against annual income. Same with employee duration also.
- Loans with mortgage home ownership have taken high loan amounts and defaulted. Lending club company should not approve high loan amount on this category to avoid charged off.
- Small business, credit card loans provided with high loan amounts are charged off, Lending club company should not approve high loan amount on this category too, to avoid charged off.
- Lower grades with high loan amount have changes of charged off. Borrower with high public record bankruptcies have provide high loan amount in case of charged off Loans