Leading
Club case study

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In this case study, you will use EDA to understand how consumer attributes and loan attributes influence the tendency of default.

Business Objectives
- 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.

- Like most other lending companies, lending loans to 'risky' applicants is the largest source of financial loss (called credit loss). Credit loss is the amount of money lost by the lender when the borrower refuses to pay or runs away with the money owed. In other words, borrowers who **default** cause the largest amount of loss to the lenders. In this case, the customers labelled as 'charged-off' are the 'defaulters'.

- If one is able to identify these risky loan applicants, then such loans can be reduced thereby cutting down the amount of credit loss. Identification of such applicant's using EDA is the aim of this case study.
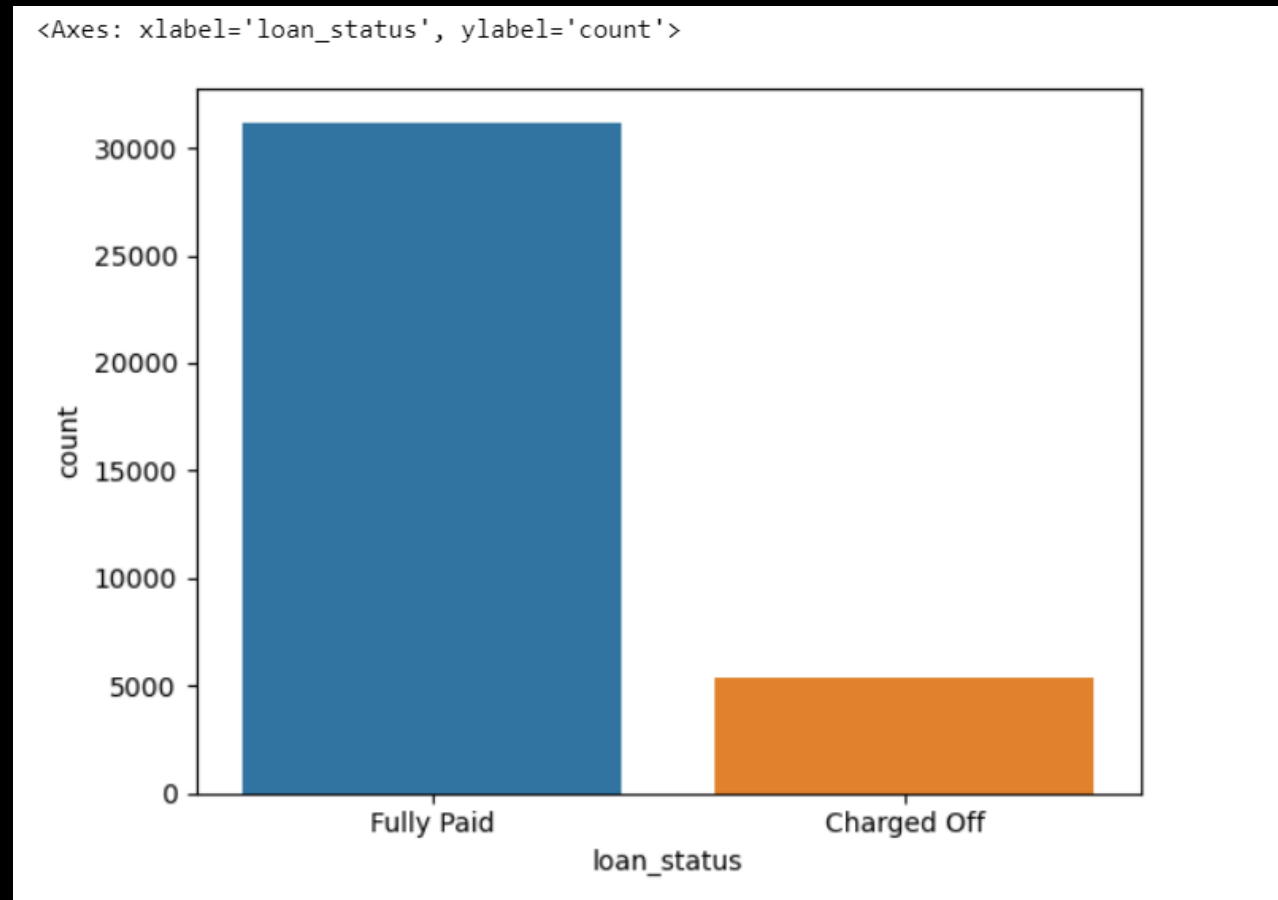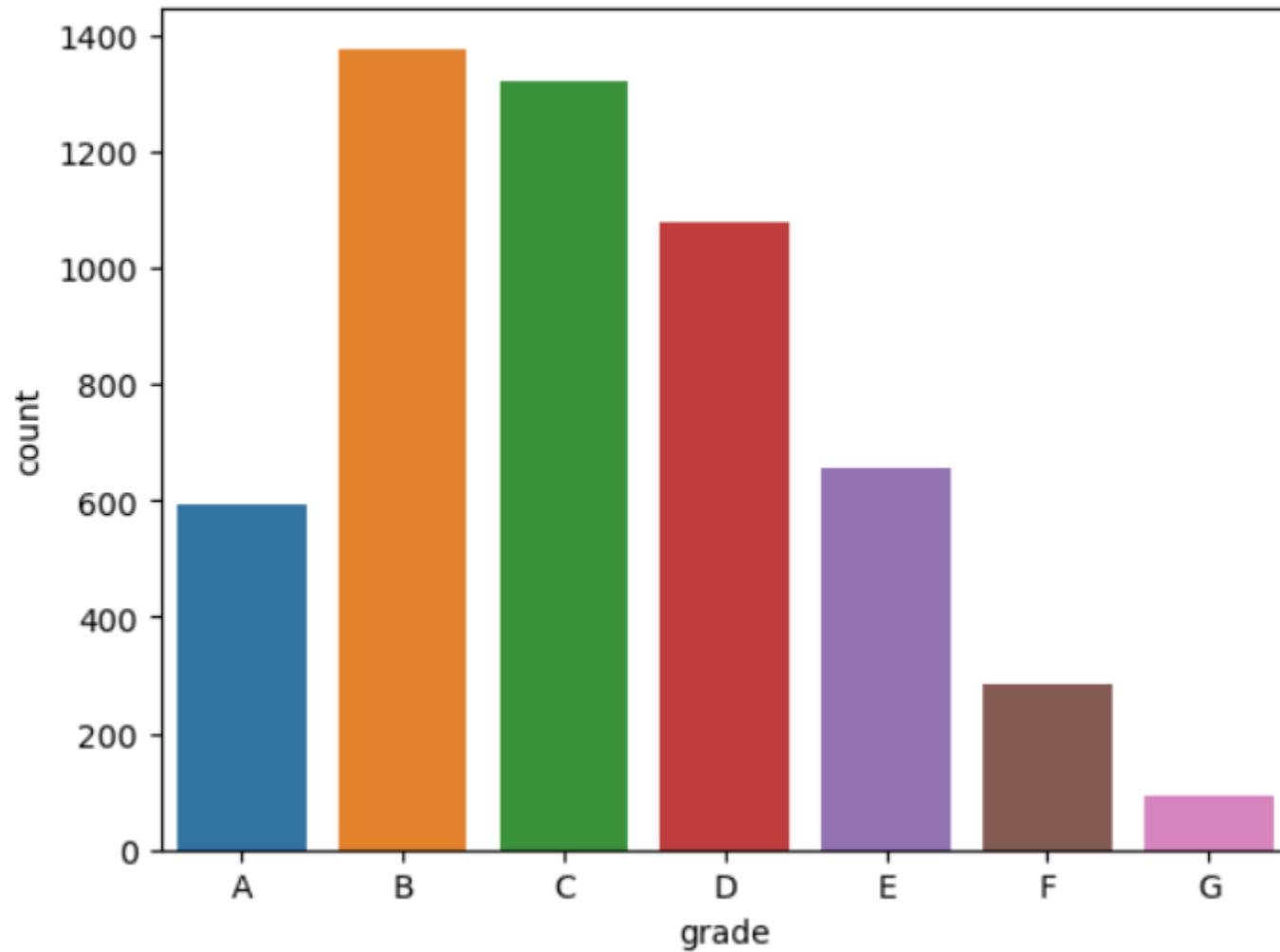
Problem solving methodology.
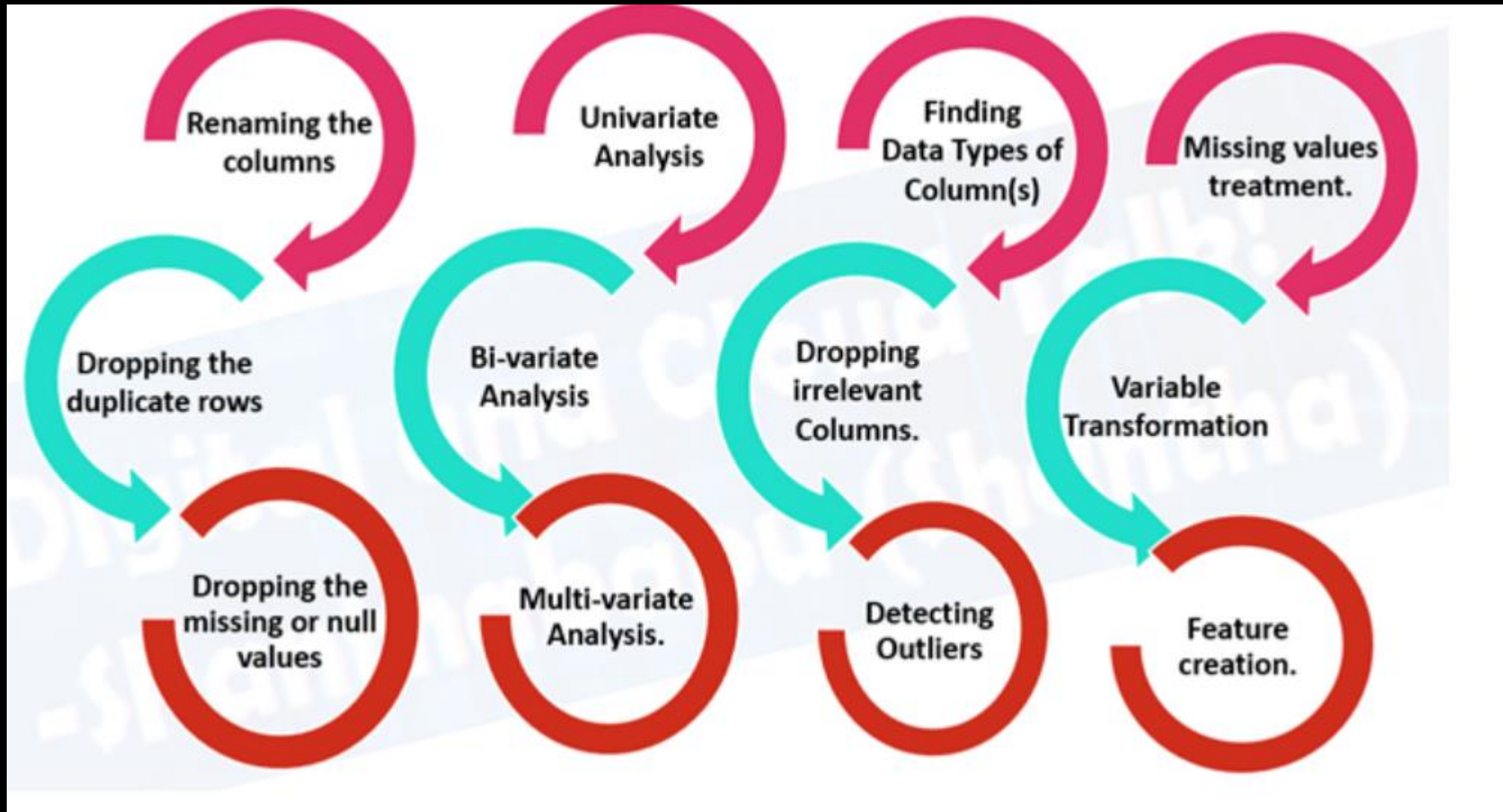
Let analyze Categorial Data

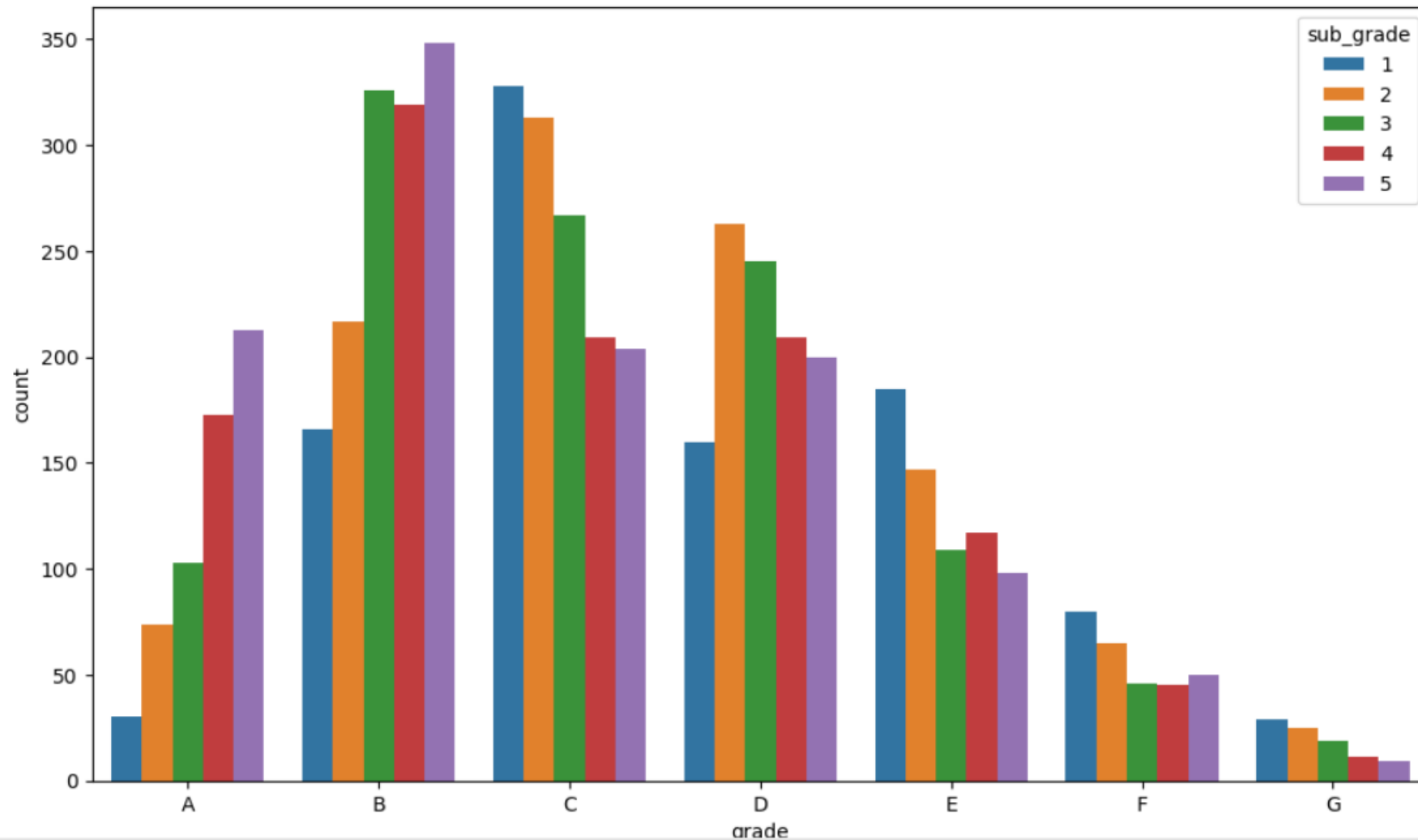- We are analyzing and visualizing only the defaulter data for categorial data loan_status

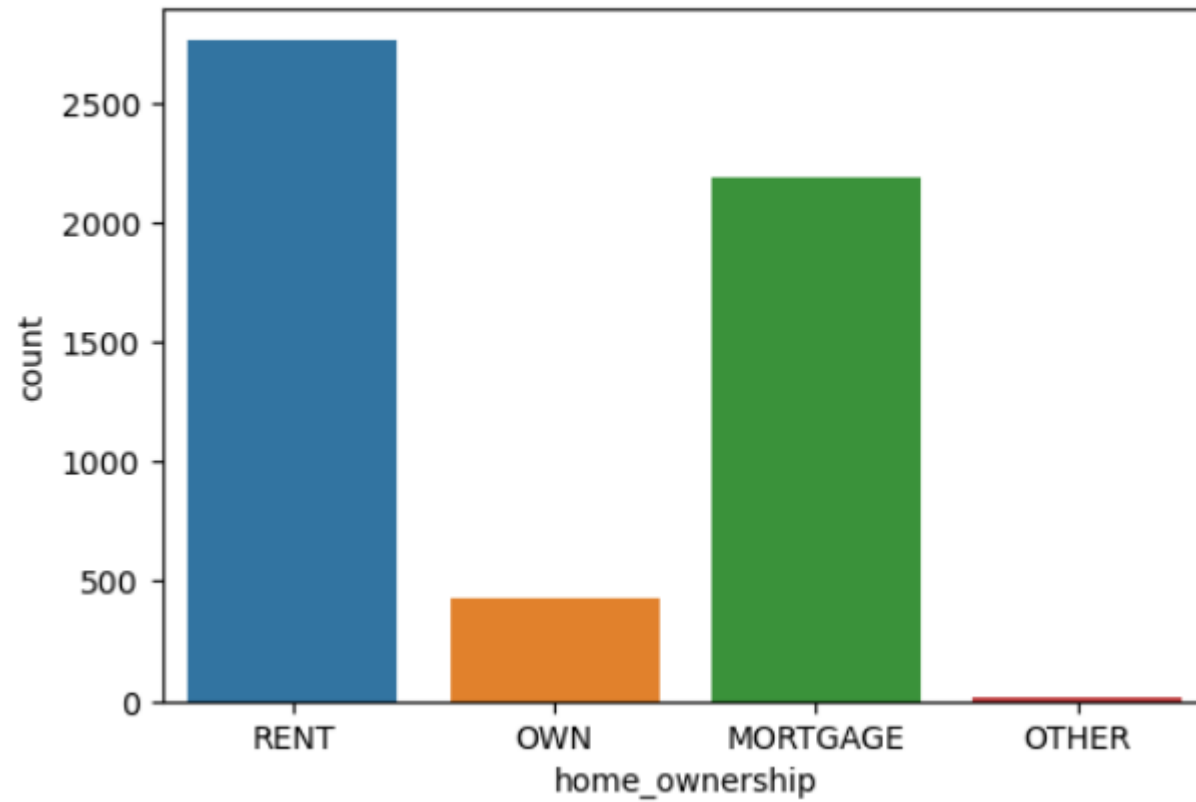# Analyzing defaulter based on grade, looks like grade B is contributing more.


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<Axes: xlabel='grade', ylabel='count'>
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Analyzing defaulter based on grade & subgrade, looks like grade B and sub grade B5 is contributing more.


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<Axes: xlabel='grade', ylabel='count'>
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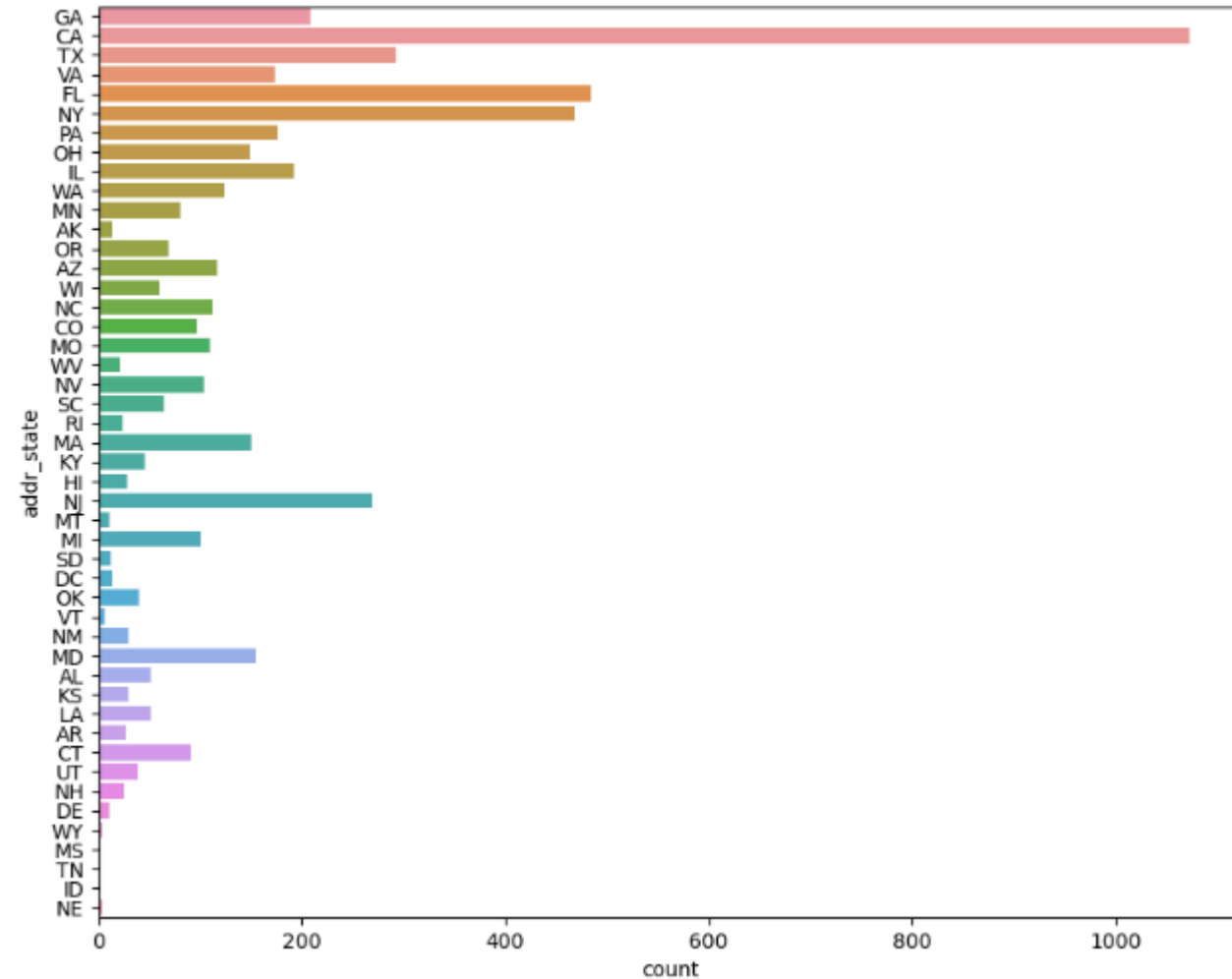
Analyzing defaulter based on homeownership, looks like Rent owner is contributing more.


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<Axes: xlabel='home_ownership', ylabel='count'>
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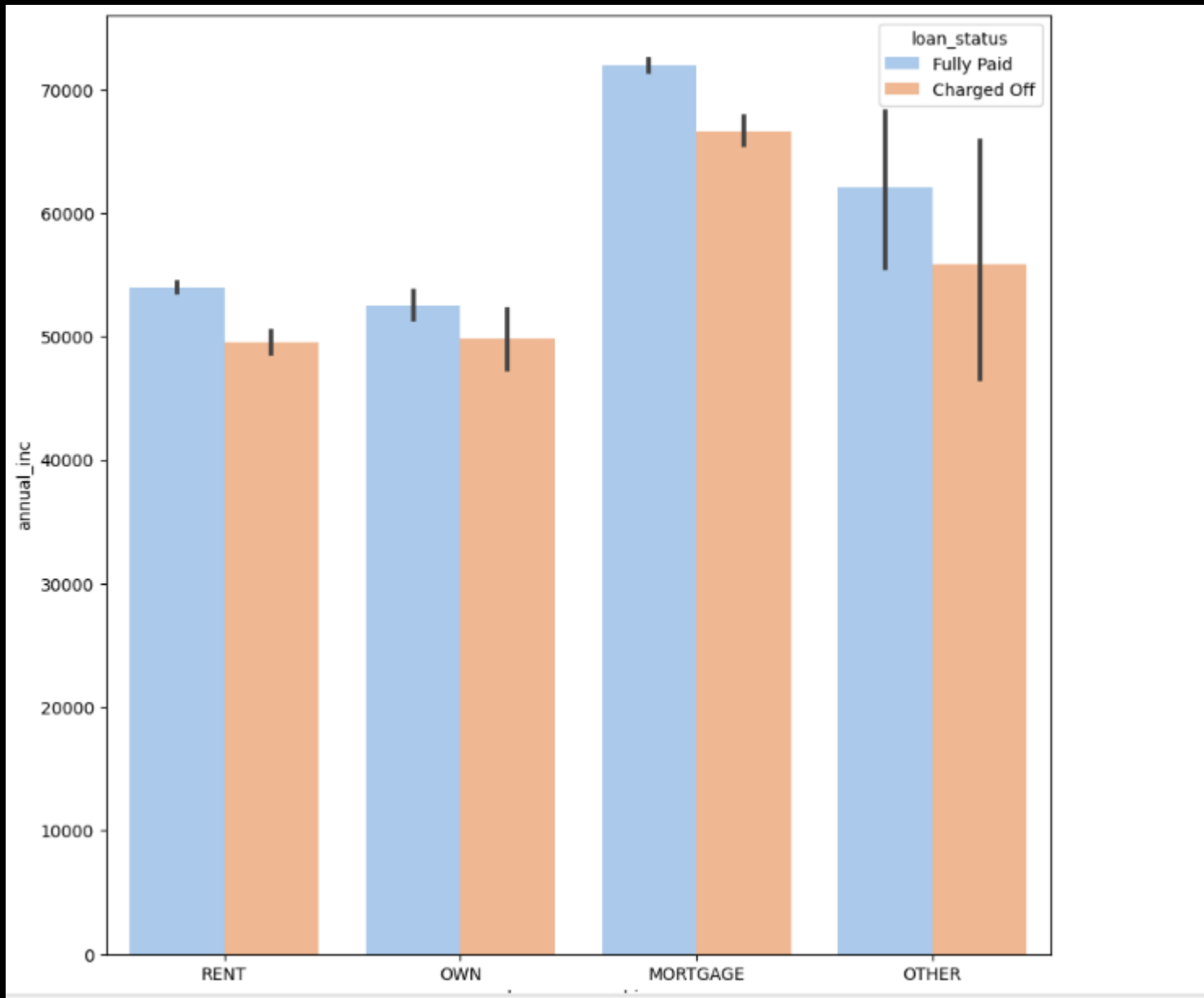
Analyzing defaulter based on state, looks like GA is contributing more.

Annual income vs home ownership

Annual income vs Loan Amount

Observation :-

The analysis with respect to the charged off loans for each variable suggests the
following. There is a more probability of defaulting when :
- Applicants having house_ownership as 'RENT'
- Applicants who have 20-37 open_acc
- Applicants with employement length of 10
- When the loan status is Not verified
- Grade is 'B'
- And a total grade of 'B5' level.

The analysis with respect to the charged off loans. There is a more probability of
defaulting when :

- Applicants whose home ownership is 'MORTGAGE and have income of 60-70k
- Applicants who receive loan amount 115000 - 145000 and have an income of
  58k-85k