



Lending Club Case Study

Group Members:

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Objective/Goals



Background

- This company is the lending company connecting Borrowers with Lenders.
- Borrowers can apply for loan through an online interface.

Objective

- The company wants to understand the **driving factors (or driver variables)** behind loan default.
- Use this insight to approve/reject loan applications

Strategy

- Identify the variables as
 - Customer Demographic, Loan related information, Customer behavior (when loan is granted)
- Perform Univariate/Bivariate analysis
- Identify the driving factors for different types of loans



Data understanding



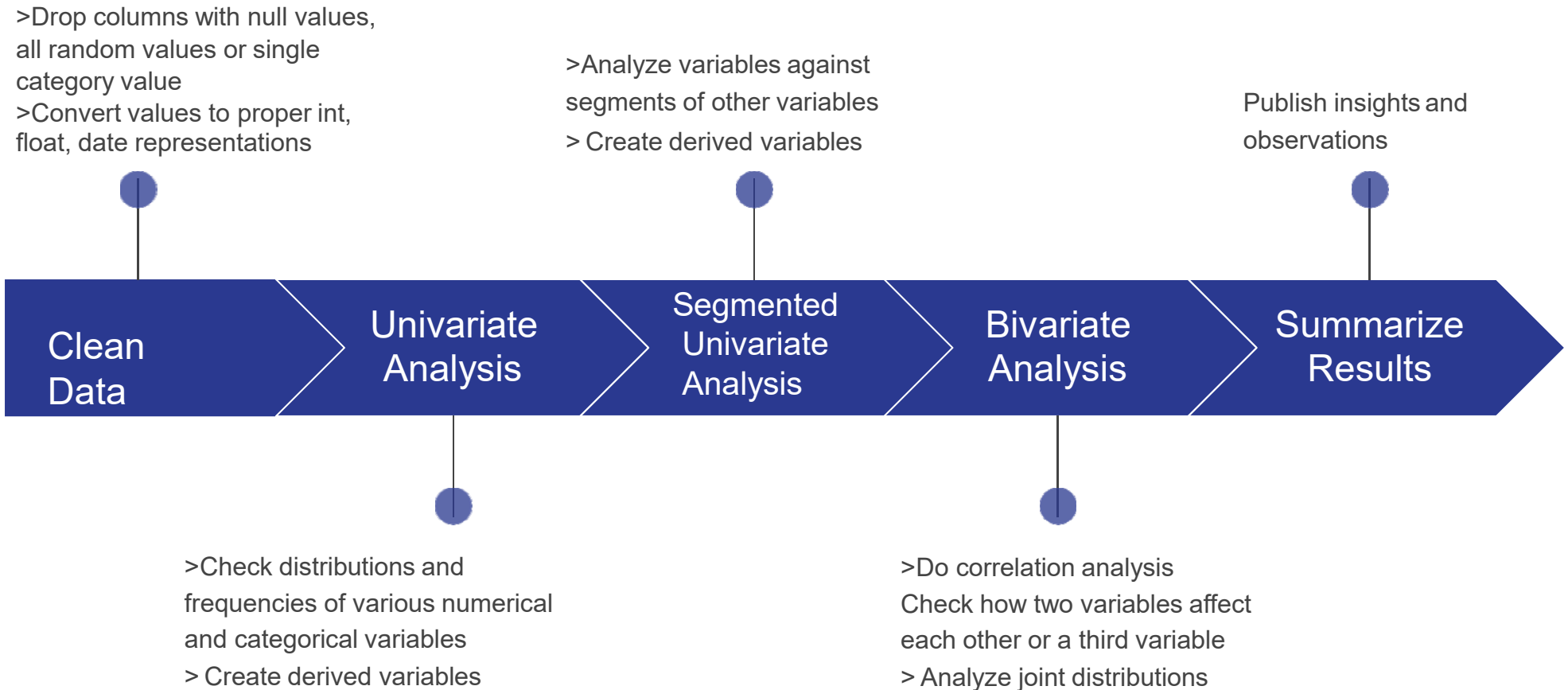
Customer Demographic
Employment Length
Emp Title
Annual income
Addr state

Loan information
Loan Amount
Funded Amount
Funded Amount Investment
Interest rate
Loan status
Loan Grade and Subgrade
Loan Term
Loan Issue Date
Installment

Customer Behaviour
Loan purpose
Dti
Pub rec bankruptcies
Verification status

This indicates it is sufficient to do analysis with loan amount and default status

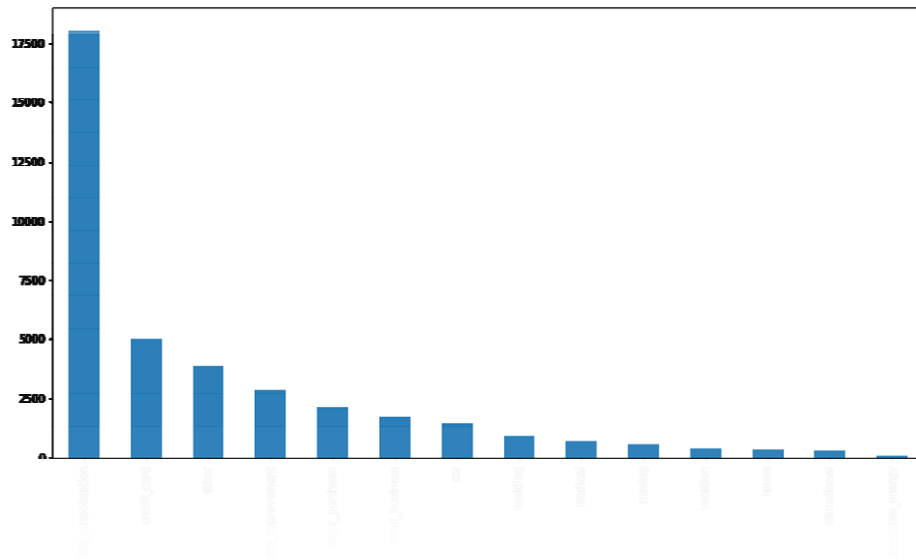
Analysis Approach



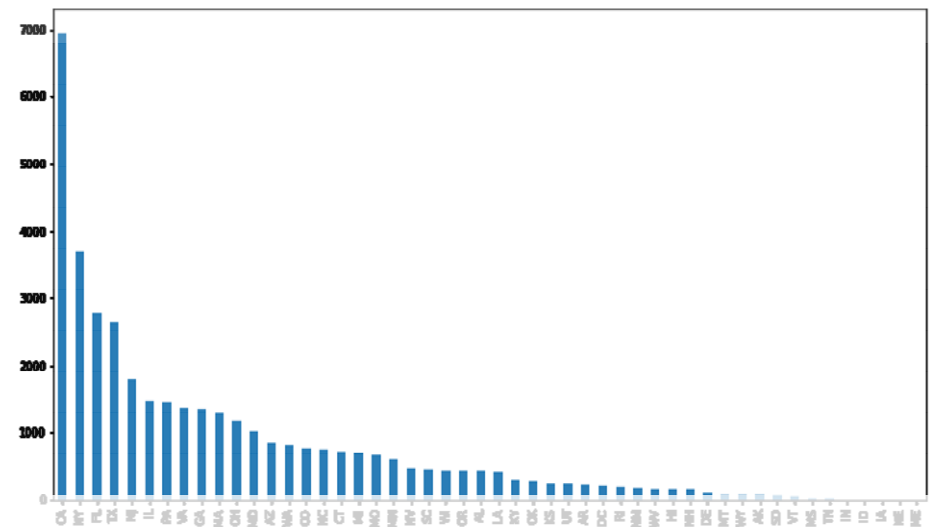


Univariate Analysis:

Purpose of loan:



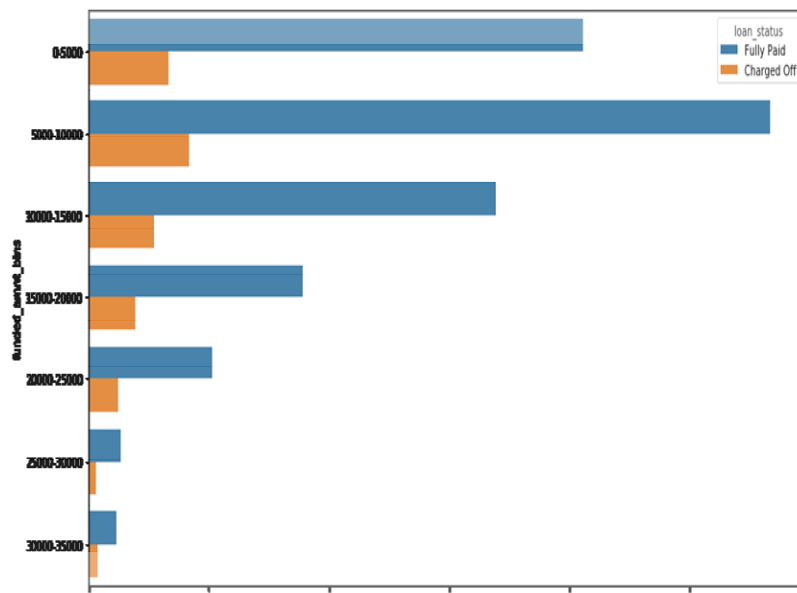
Address state:





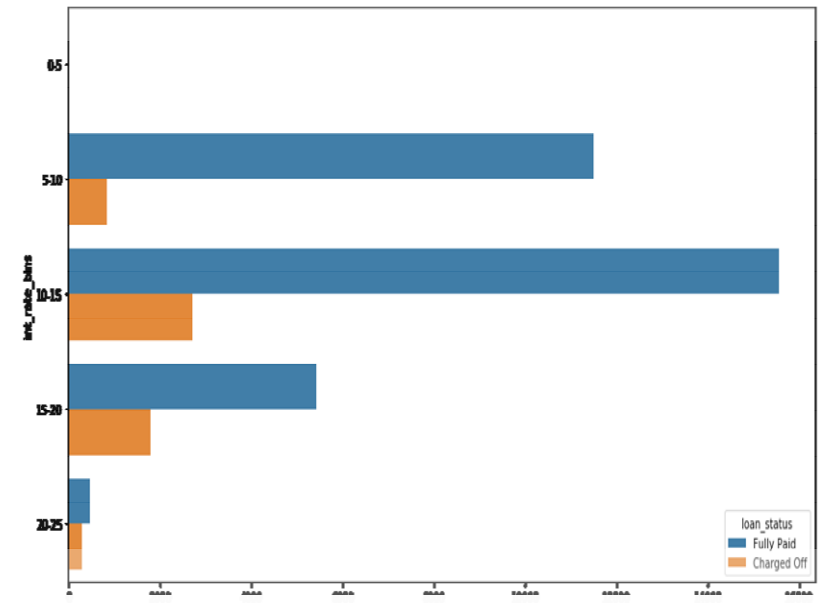
Segmented Univariate Analysis:

Funding Amount:



Funding amount upto 15,0000 has more charged off customers

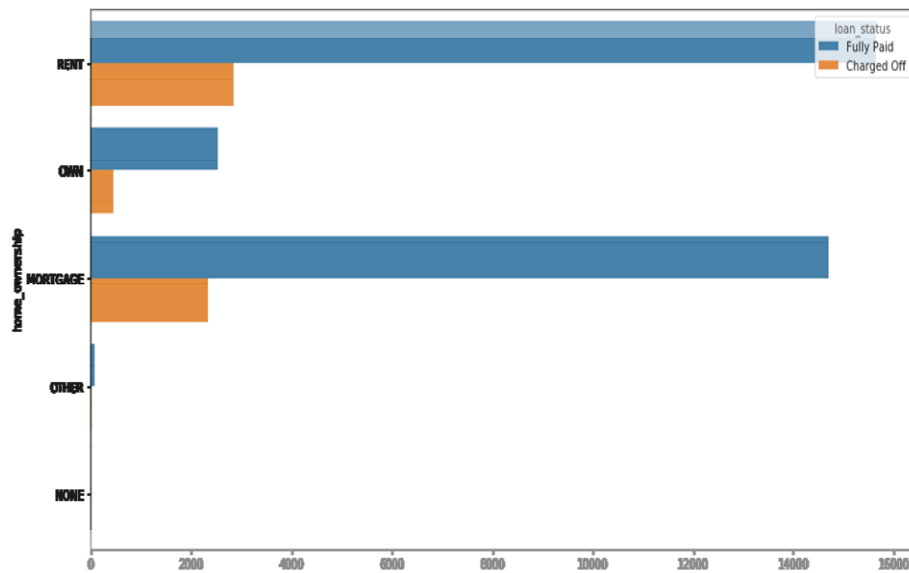
Interest Rate:



Interest rate 10 to 20 has more Charged off customers

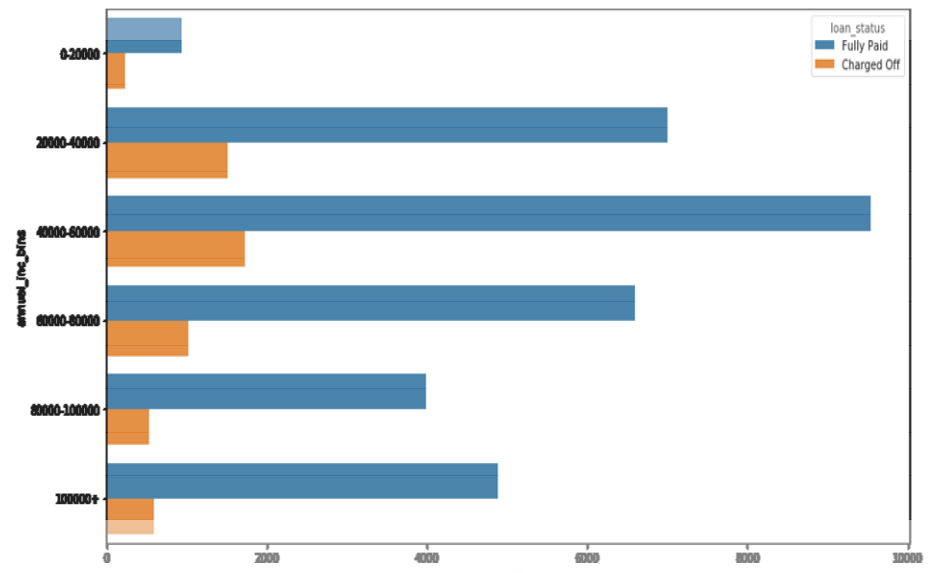
Segmented Univariate Analysis

Home ownership:



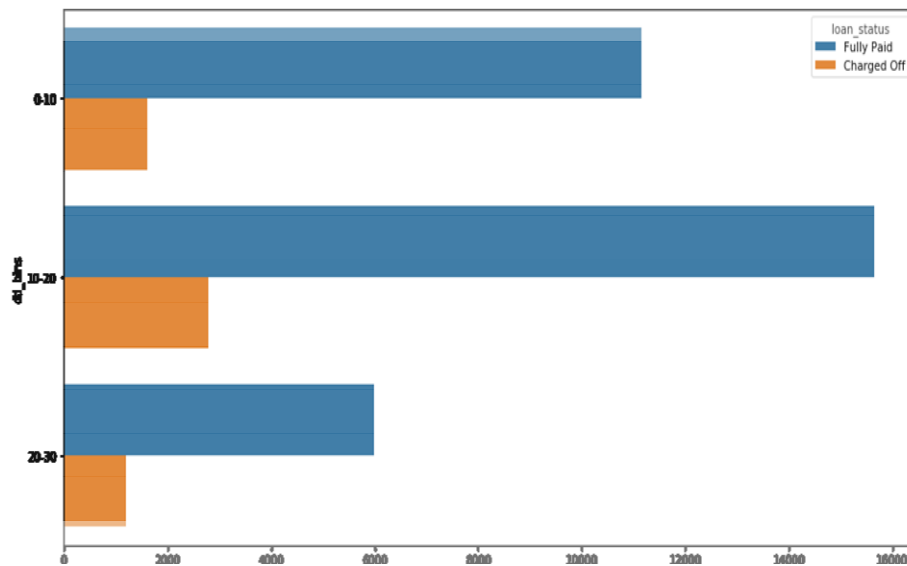
Customer from home ownership as RENT & MORTGAGE are more charged off

Income range:



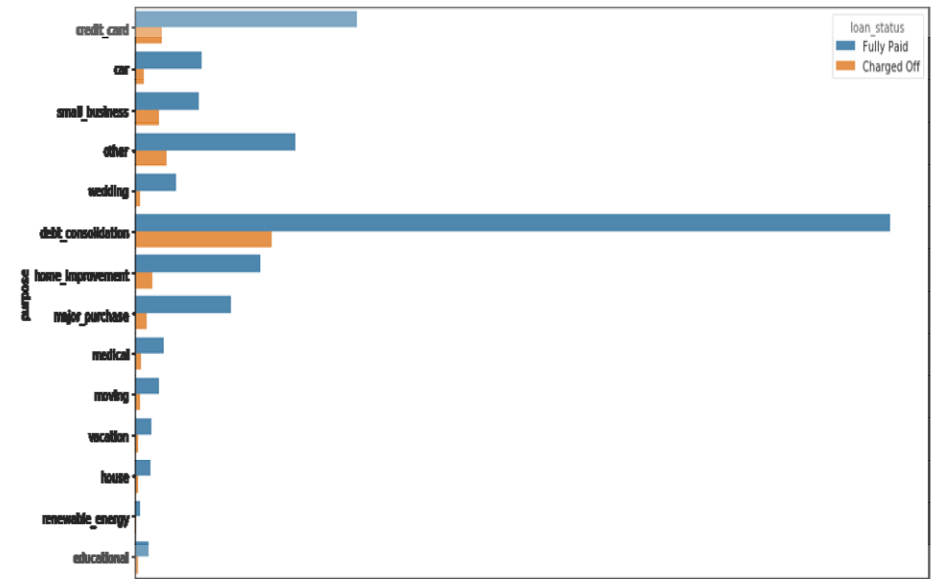
Income range 20,000 to 60,000 has more charged off customers

Dti:



Dti with 10 to 20 has more charged off customers

Debt_consolidation purpose:

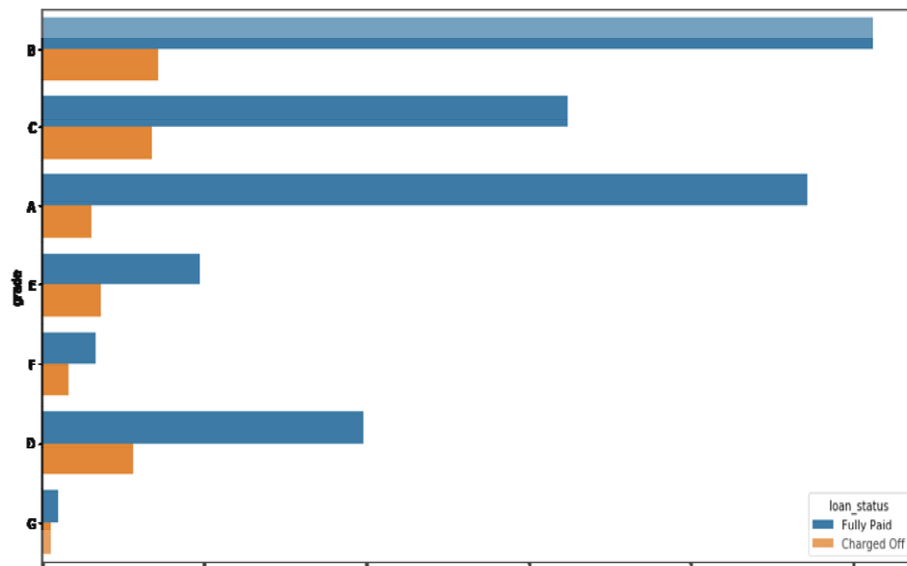


As the more number loans are provided in debt_consolidation purpose the more "Charged Off" (Defaulters) are from the same



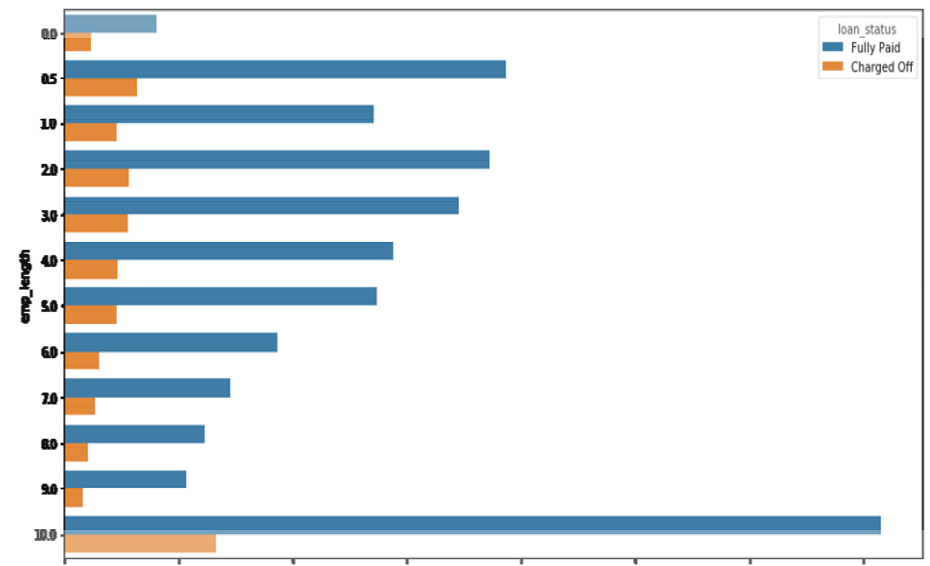
Segmented Univariate Analysis

Loan grade:



Loan grade B, C, D are having higher number of charged off

Employment length:

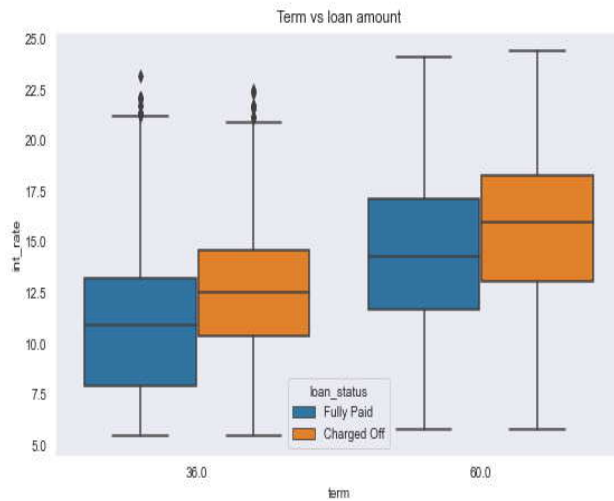


The customer whose employment length is 10+ years there "Charged Off" is high

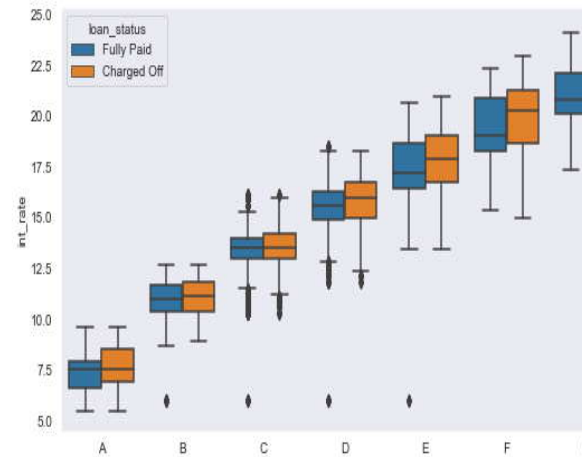


Bivariate Analysis:

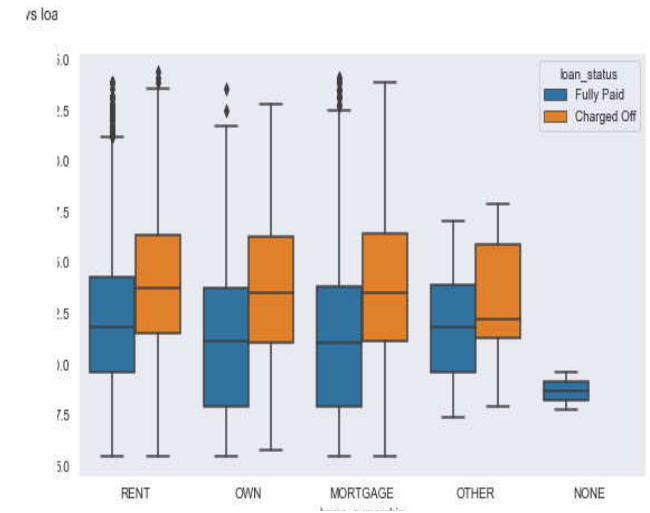
Higher the interest rate higher the Defaulter



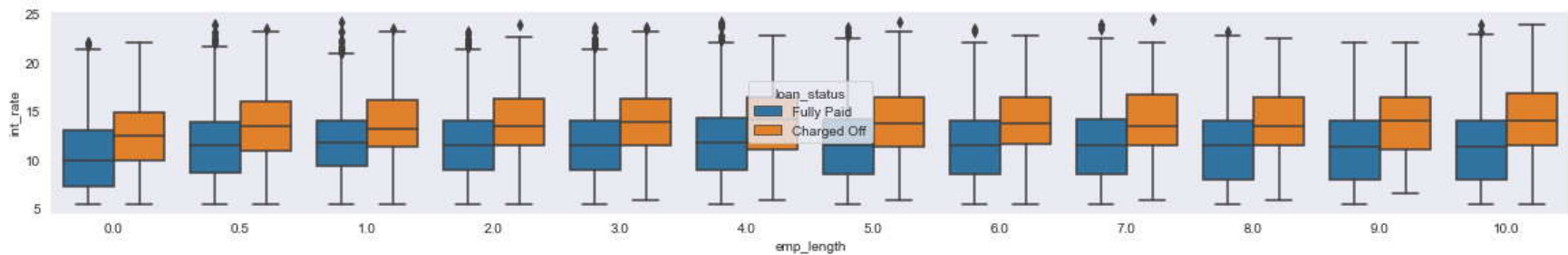
Term



Grade



Home ownership



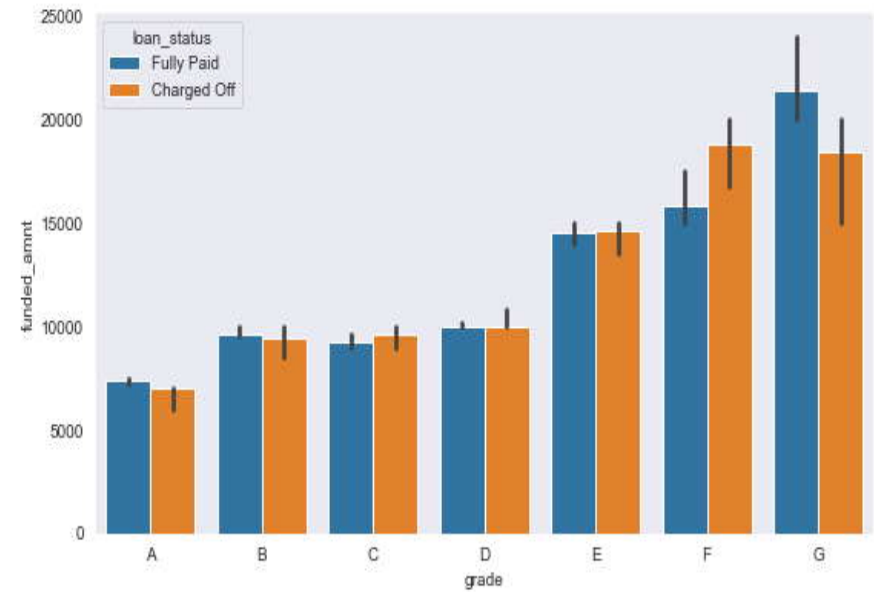
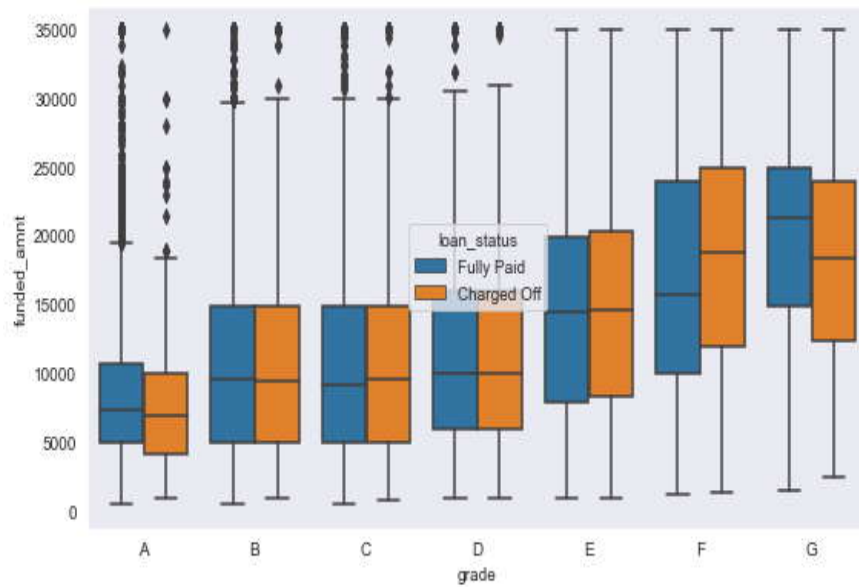
Emp_length



Bivariate Analysis:

Grade: Lower the grade more prone to default the loans

Term vs loan amount

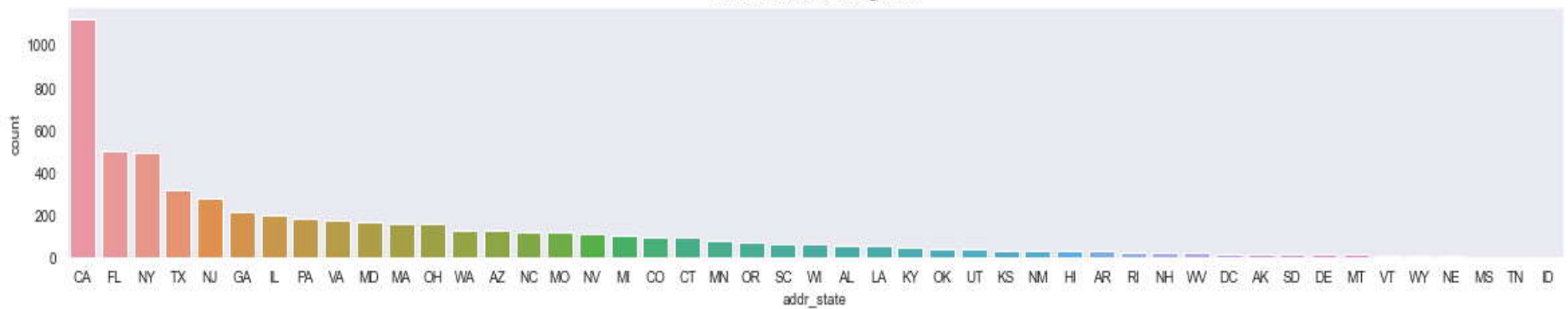




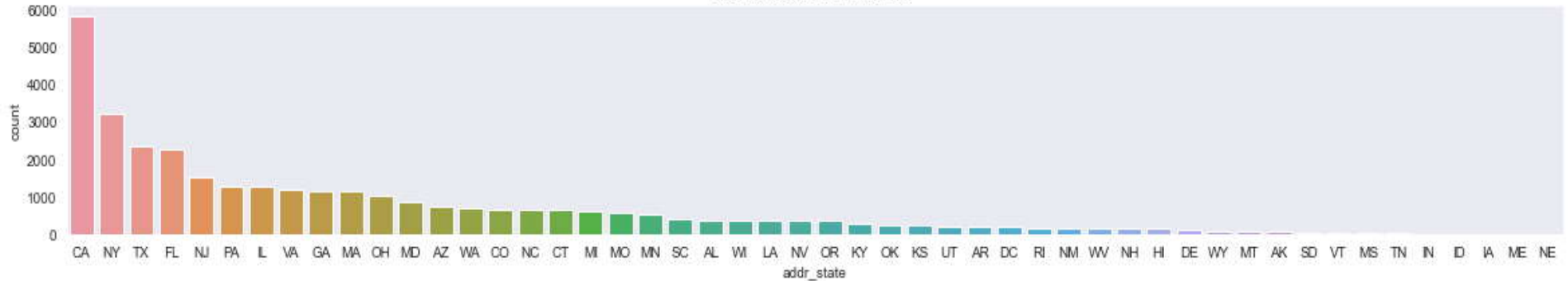
Bivariate Analysis:

Address State: More number of borrowers defaulted in CA , FL and NY states.

Address State vs Charged Off



Address State vs Fully Paid

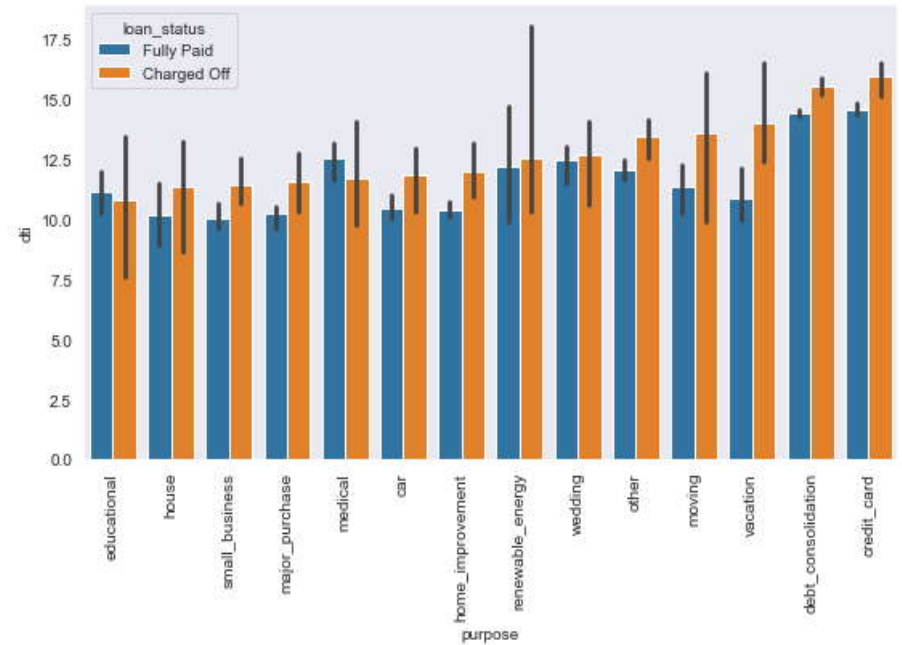
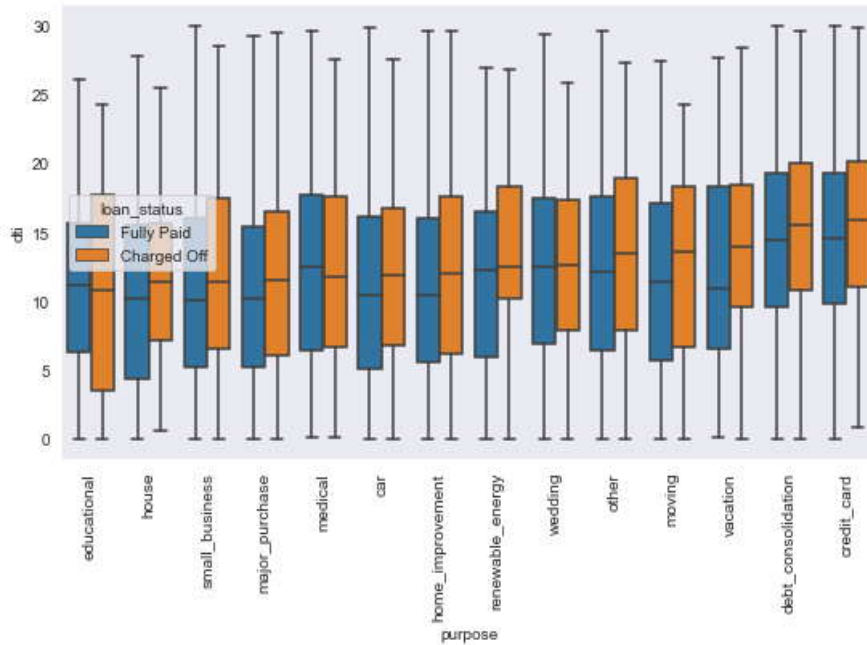




Bivariate Analysis:

Purpose: Small business are defaulting more loans

purpose vs DTI





Conclusion:

- 1. Higher the interest rate there is more possibility of defaulting**
- 2. More number of borrowers defaulted in CA , FL and NY states.**
- 3. Small business are defaulting more loans**
- 4. Higher the funded amount more changes to default**
- 5. Borrowers with more employment length have more higher loan they are tend to default more**
- 6. Lower the grade more chances to default**