

LENDING CLUB CASE STUDY SUBMISSION

Group Members:

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Case Study Objectives

- To Identify the defaulters traits among the loan applicants
- Understand the 'Driving Factors' of defaulters
- Loan Lending Organization may utilize this insights for its portfolio and risk assessment of new loan applicants

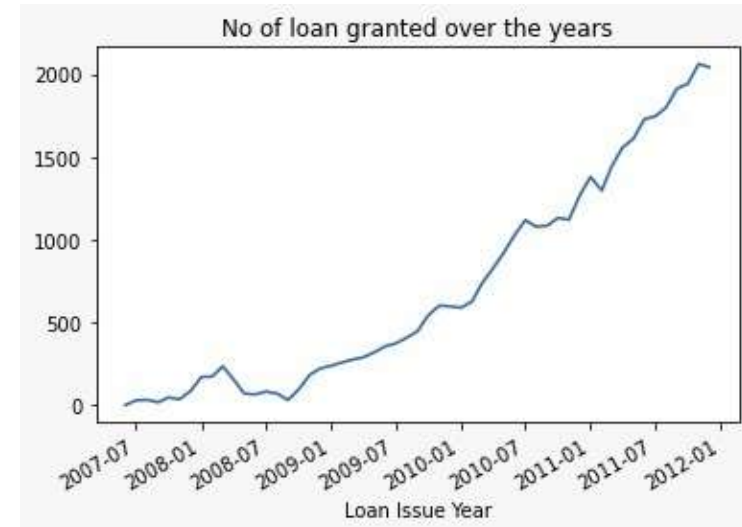
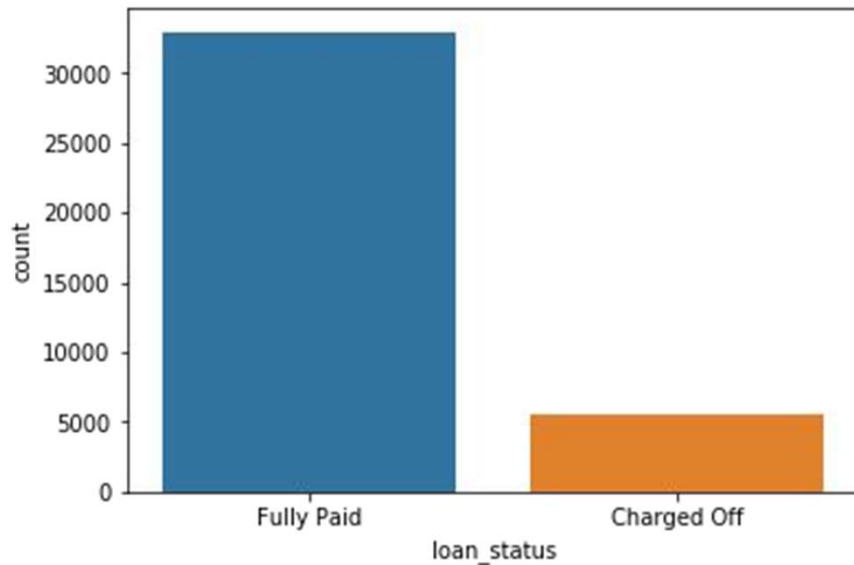
Data Cleaning Steps

- **Delete columns:** Delete unnecessary columns
- **Missing values:** Treat missing values with appropriate approach.
- **Duplicate data:** Remove identical rows, remove rows where some columns are identical.
- **Filter rows:** Filter by segment, filter by date period to get only the rows relevant to the analysis.
- **Data Transformation:-** Change the Data Types of Few columns to actual Data types

Analysis

- Analyzed the consumer, loan attributes and identified the key driving factors of defaulters
- We performed **data cleaning and preparation** on the Loan dataset:
 - Created two new columns:
 - Defaulter
 - Interest_rate
 - term_month
 - Verification_status
- During **univariate analysis**:
 - Histograms and Bar charts to check out the distribution of all the columns
 - Multivariate analysis to understand how different variables correlates with each other and how they depend on each other

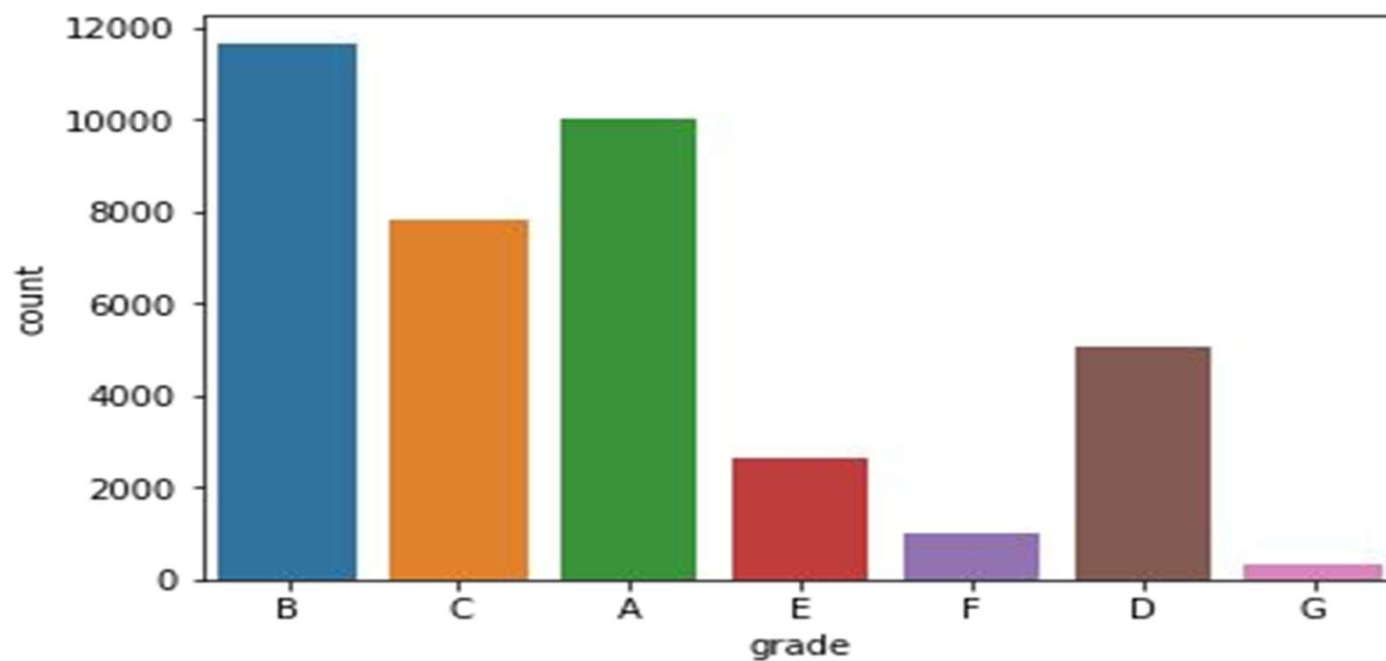
Loan Status Analysis



Observations:

1. Most of the loans are Fully Paid.
2. About 14% of loan are having status as defaulters.
3. The loan has been increasing exponentially over the years.

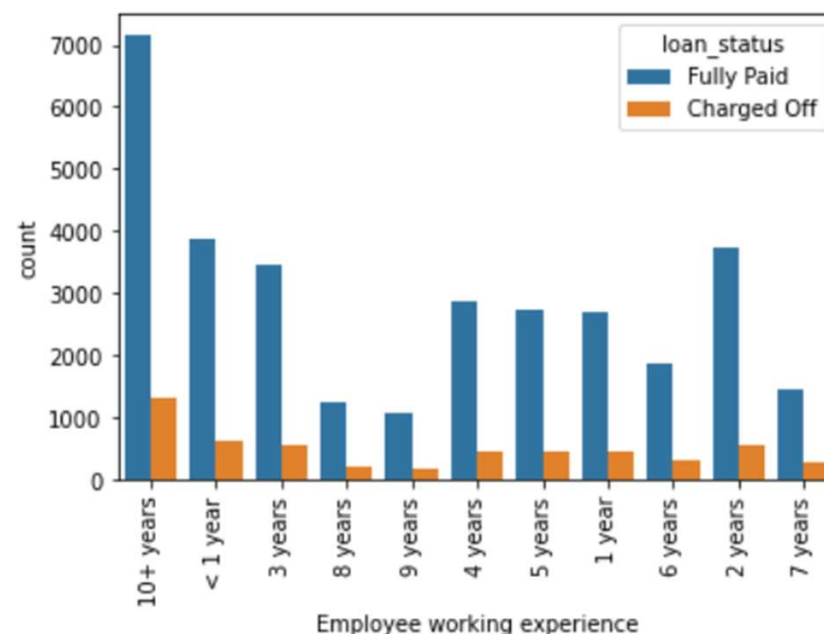
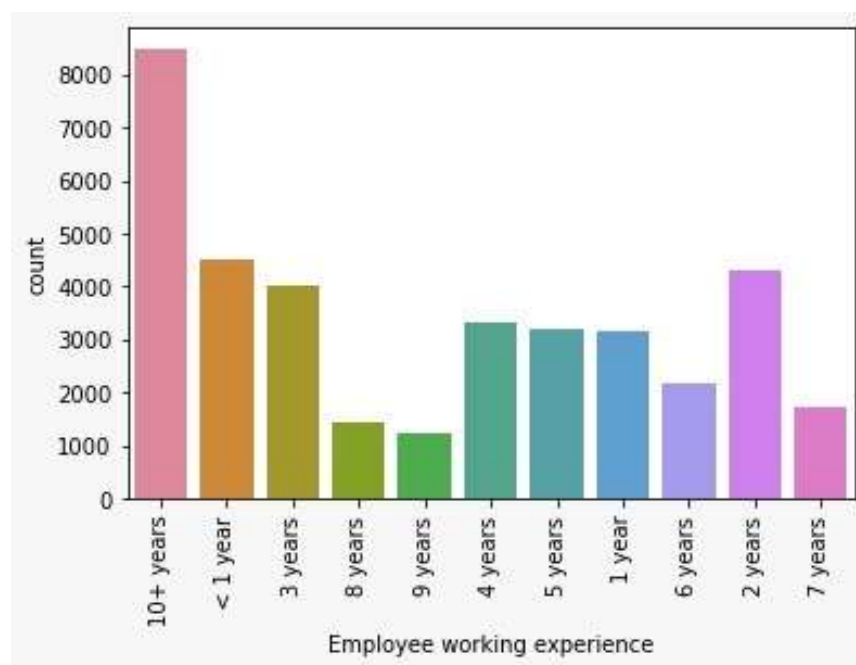
Loan Grade Analysis



Observation:

1. Most of the loans have grade of A and B. Therefore stating most of the loans are high graded loans.

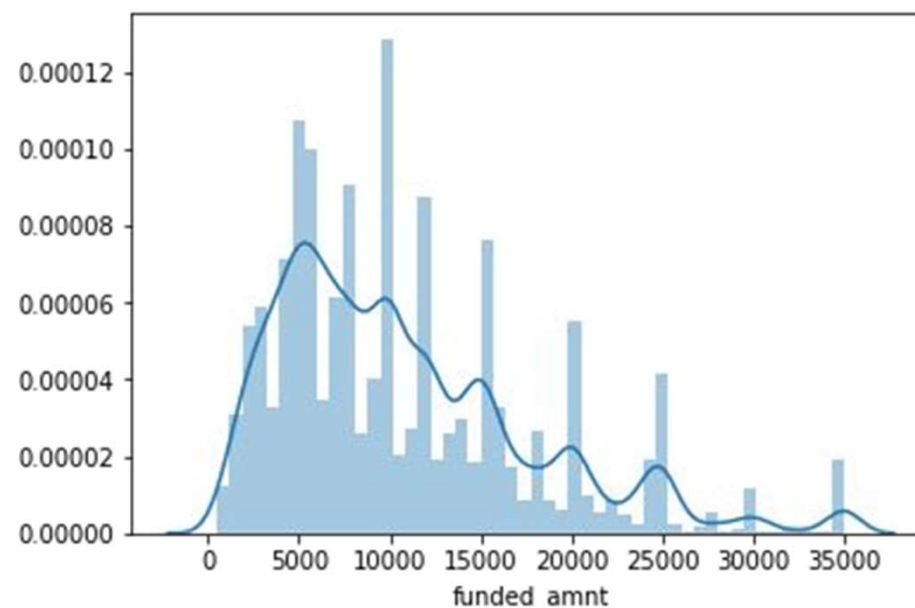
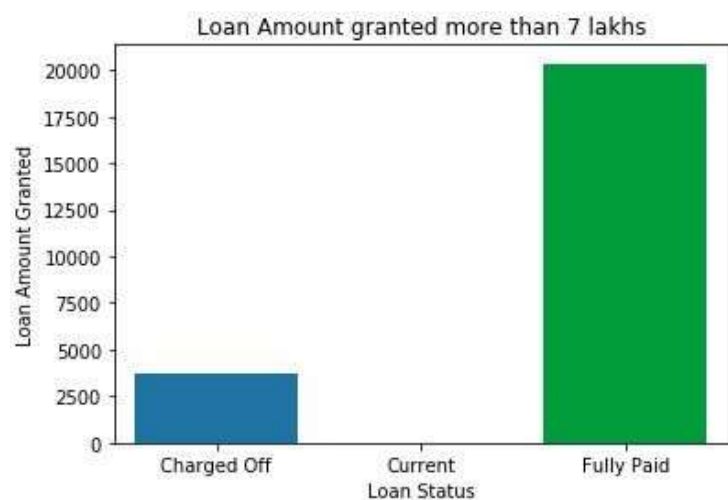
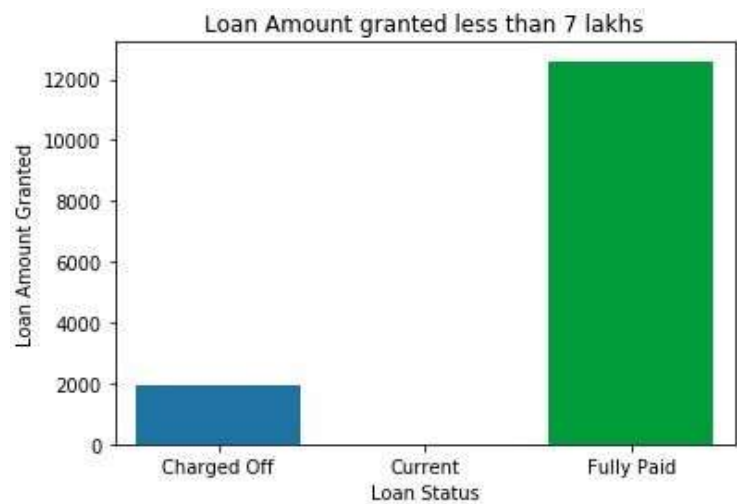
Loan Applicants work Experience Analysis



Observation:

1. Majority of employees applying for the loan have more than 10 years of experience
2. Tendency of person to default the loan with 10 years of experience is also high. So company need to be careful when granting loan.

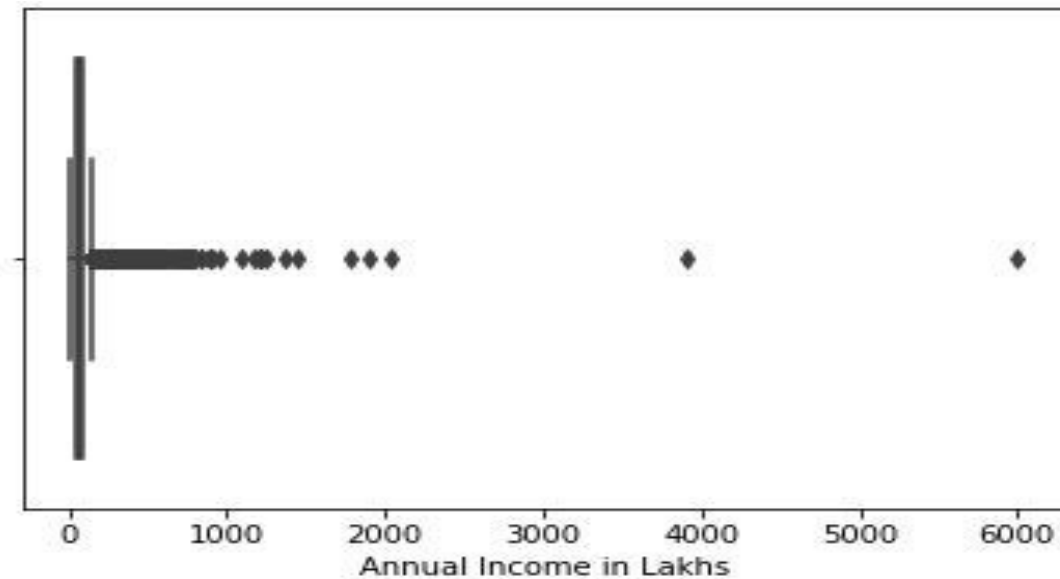
Loan Amount Analysis



Observation:

1. Funded amount is left skewed. Most of the loan amount given is below 7 lakhs.
2. Probability of people with loan amount greater than 7 lakhs tends to default is more than the people with less than 7 lakh

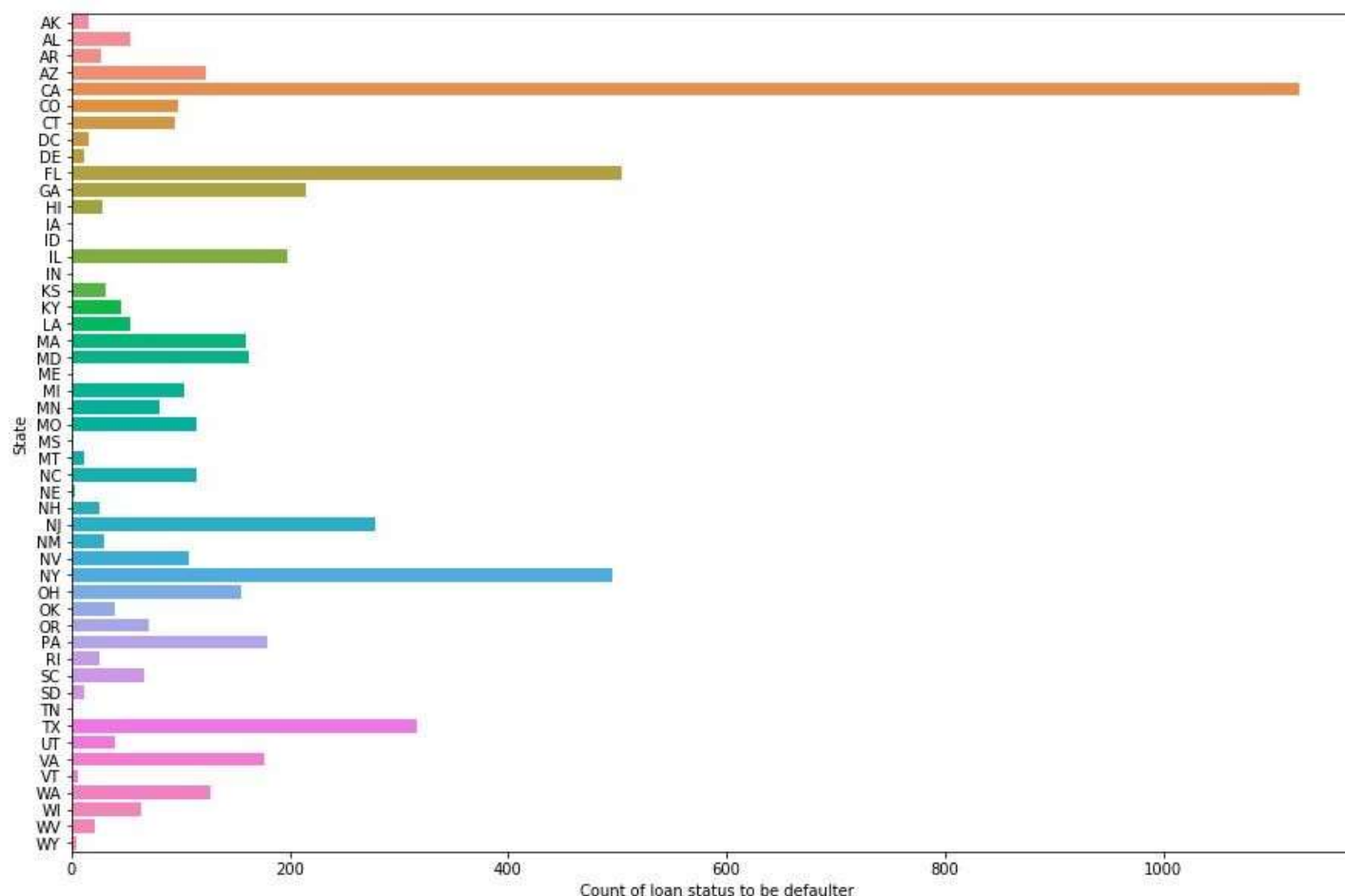
Income Analysis for the loan applicants



Observation:

1. Most of the applicants have income between 0 to 5 lakhs.
2. There are two applicants having income above 30 lakhs

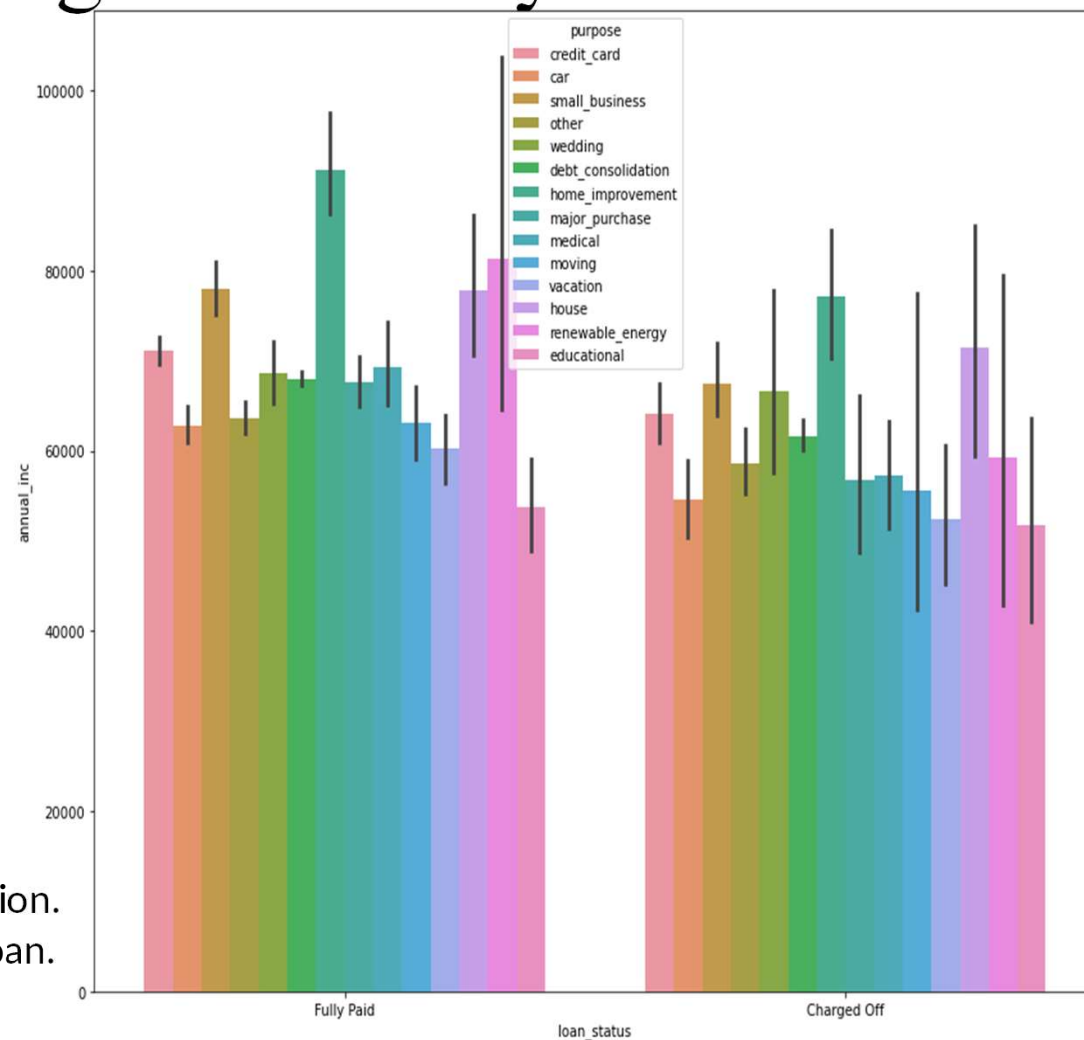
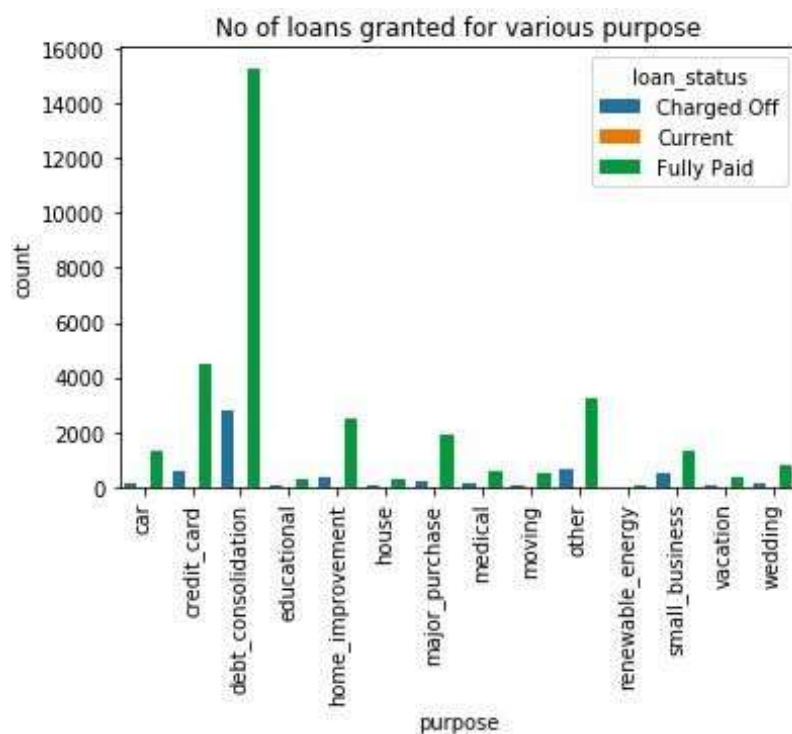
Loan Defaulters by State Analysis



Observation:

Applicants from state CA have high tendency to default the loan

Purpose for applying Loan Analysis



Observation:

1. Most of the loans are granted were for debt consolidation.
2. Applicants having higher income tends to default the loan.

1. Most of the loans granted were of 36 months.
2. And loans granted for 36 months have slightly high tendency to default.
3. Additionally, Debt Consolidation is the most common purpose and loans are granted for 36 months and 60 months.



Conclusion

Results

1. It is observed that of the purpose is debt consolidation then check applicants history and verify the source thoroughly as they might have a high tendency to default.
2. Loans with high interest rates have more defaulters, and make sure the history of applicants show the ability of the candidate to bare that interest cost.
3. As observed the CA State has more defaulters, there should be stick verification process to be implemented