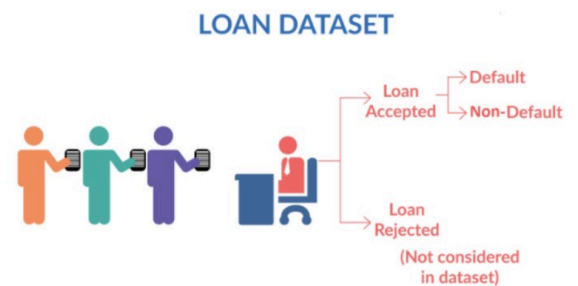# LENDING CASE STUDY

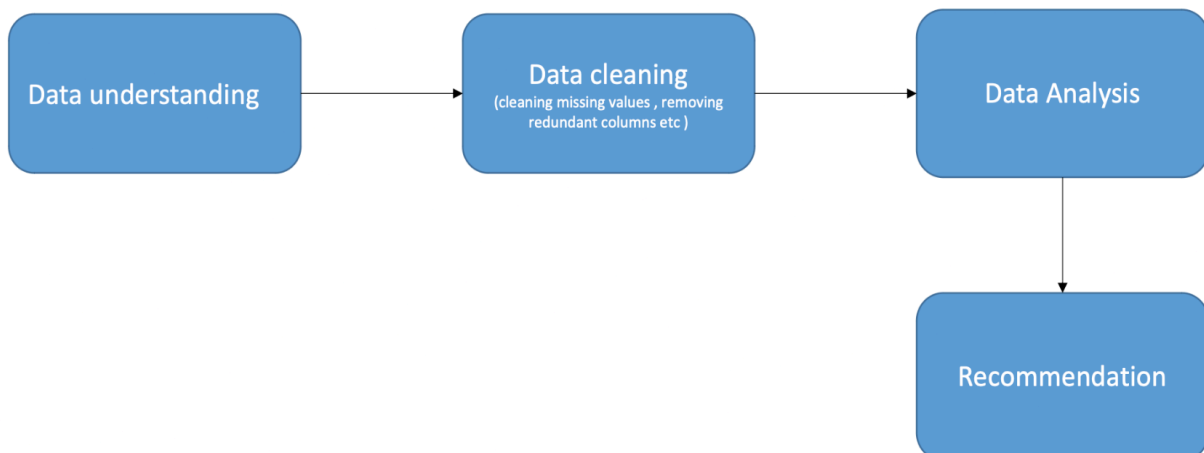By: Pratteek Shaurya and Sai siva subramanian

Abstract

- Customer finance company lends various type of loans to urban customer.

- When company receives loan application, the company has to make a decision for loan approval based on applicant profile.

- There are two types of risk associated with bank's decision :
    1. Applicant likely to repay the loan – If not approved that could be loss of business to company.
    2. Applicant Not likely to repay the loan – If approved that could be financial loss for the company.

Objective

Identify the risky loan applicants at the time of loan application so that such loans can be reduced. Identification of such applicants using EDA is the aim of this case study.
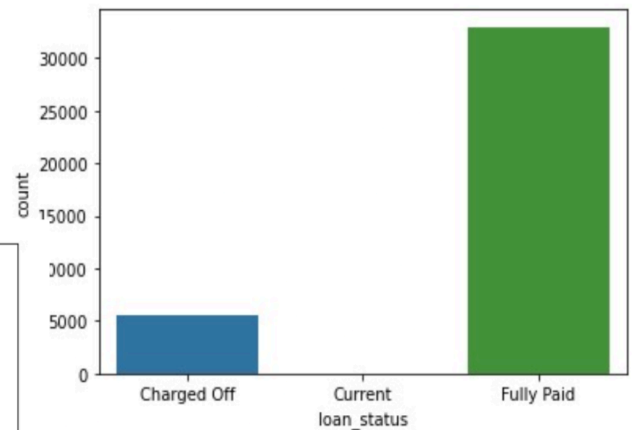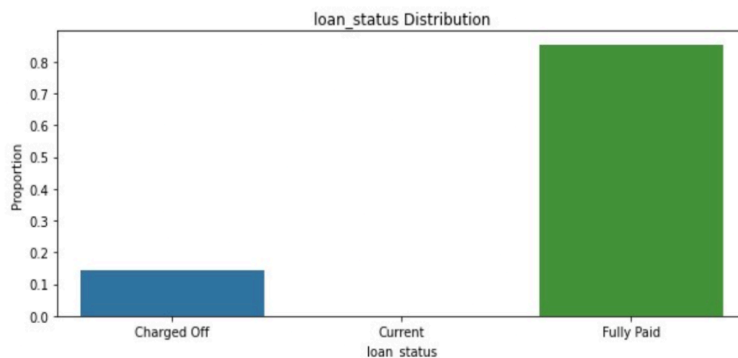

LOAN DATASET

Problem solving methodology

Data understanding → Data cleaning (cleaning missing values , removing redundant columns etc) → Data Analysis → Recommendation

Loan Status Analysis

- Observations :
    1. Most of the loans are Fully Paid.
    2. About 14% of loan are having status as defaulters.
    3. 85% of borrowers has paid the loan fully.

# 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.

2. High Quality loans have low interest rate.

3. Which depicts, higher interest rate have higher tendency to default the loan.

4. The Lower grades(E,F,G) have higher chances of defaulting the loan than Higher ones(A,B)
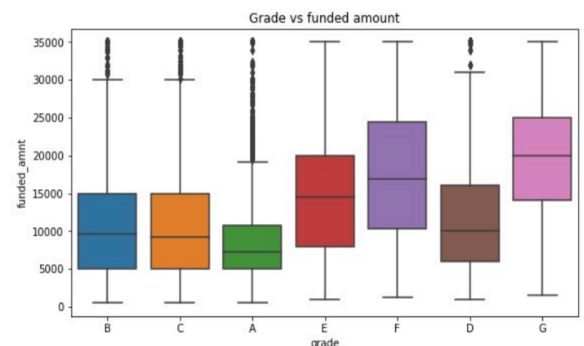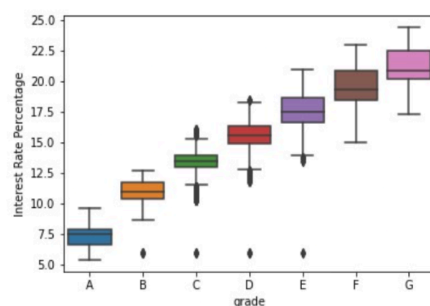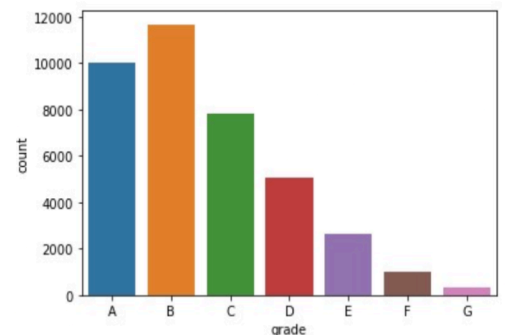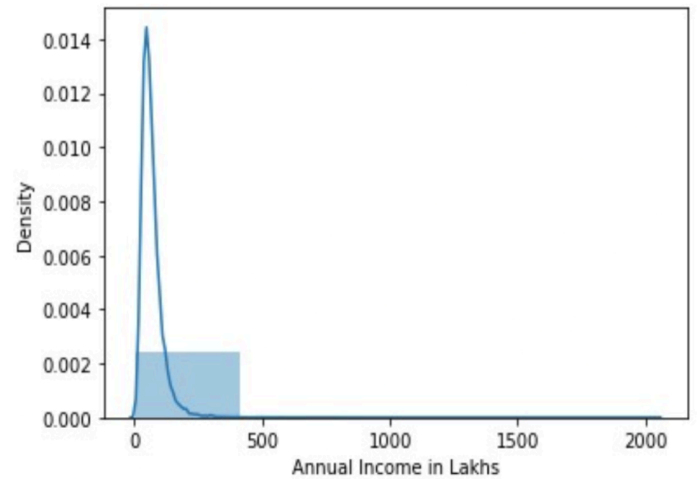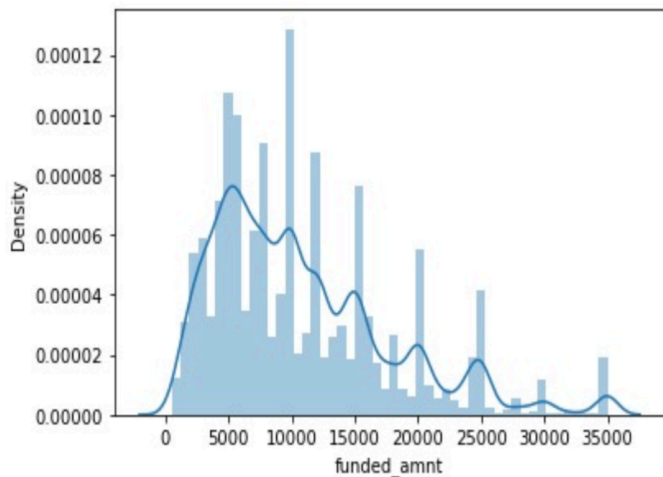
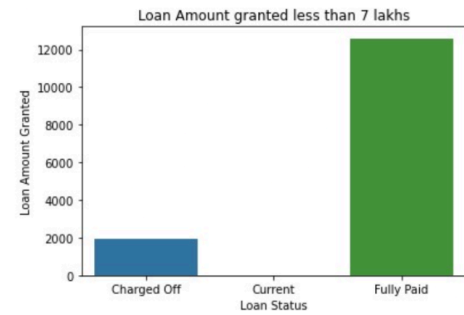# Loan Applicants Work Experience Analysis

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.
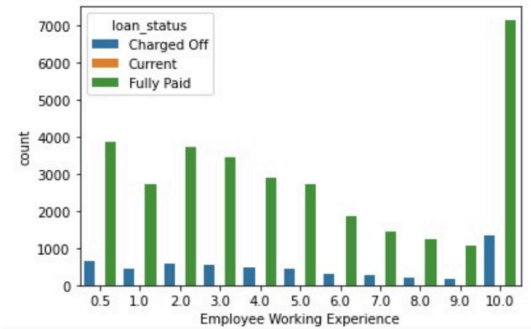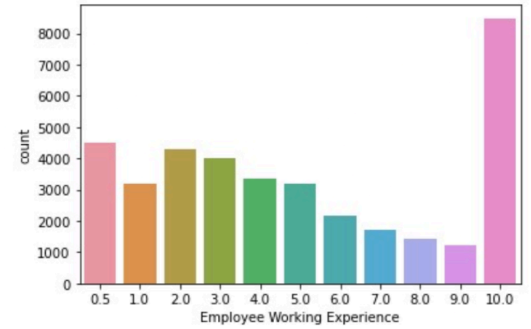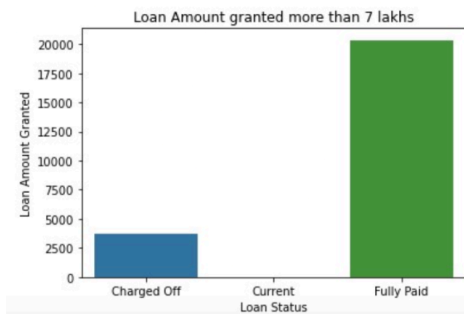

Loan Amount Analysis - 1
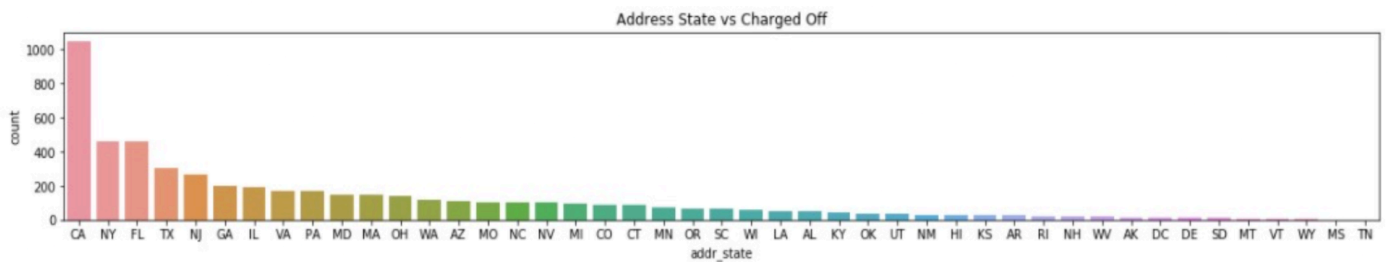
Loan Amount Analysis -2

Observation :

1. Majority of loan applicants have income less than 5 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.

3. Funded amount is left skewed. Most of the loan amount given is below 7 lakhs.
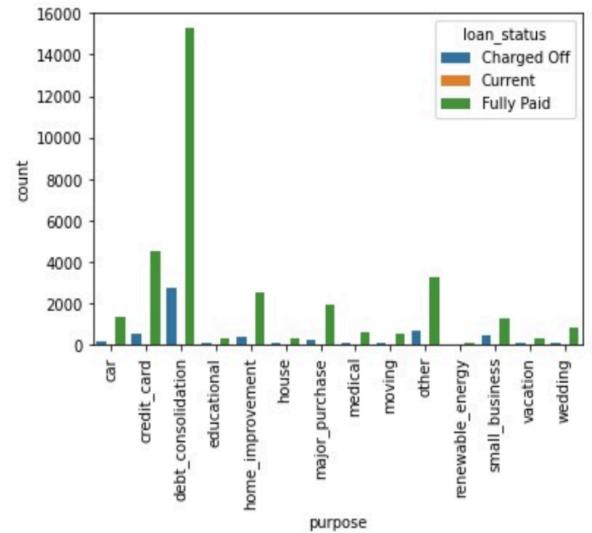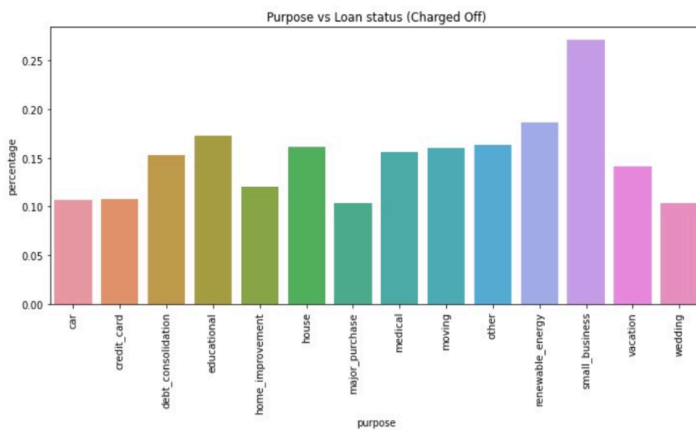
Loan Defaulters by State Analysis

Observation :

The loans which are given for CA, FL and TX state borrower's are defaulted more than other states.

Purpose for applying Loan Analysis

Observation :

1. Most of the loans are granted were for debt consolidation.

2. Borrower's who took loans for small business purpose have defaulted more.

# Loan Status vs Loan Tenure Analysis

Observation :

1. Most of the loans granted were of 36 months.

2. 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.
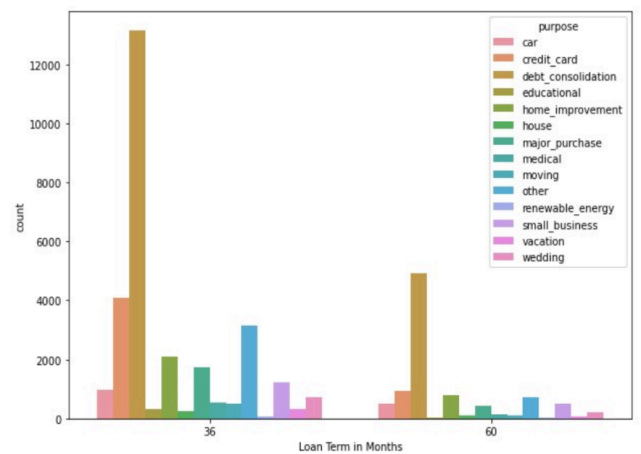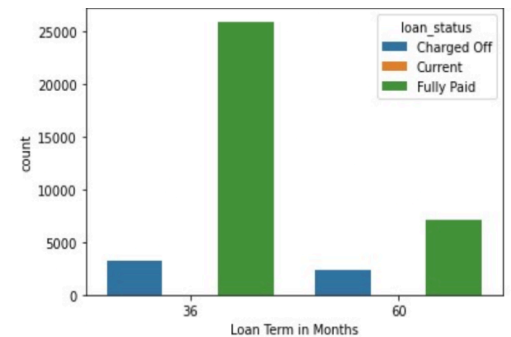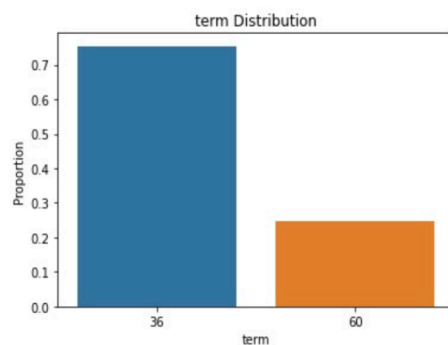
Loan Status by Home Ownership

Observation :

Applicants having there home rented or on mortgage have almost equal tendency to default the loan.
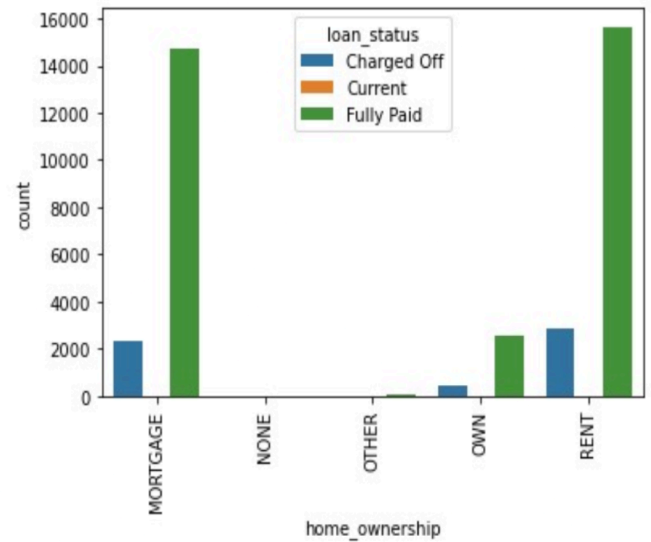
Conclusions

- Low grade loans have high tendency to default. Grading system is working as expected.

- Loans having higher interest rate have more defaulters. Check the background of applicant thoroughly if interest rate is high.

- Extra scrutiny must be done for the applicants belonging to CA state, as tendency to default is high.

- When the purpose is debt consolidation check applicant thoroughly as it has high tendency to default.

- Applicants having there home rented or on mortgage have almost equal tendency to default the loan.

- Small business loans are defaulted more. Lending club should stop/reduce issuing the loans to them.

- Tendency of person to default the loan with 10 years of experience is also high. So company need to be careful when granting loan