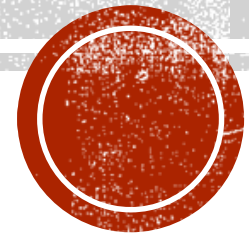


LENDING CLUB CASE STUDY



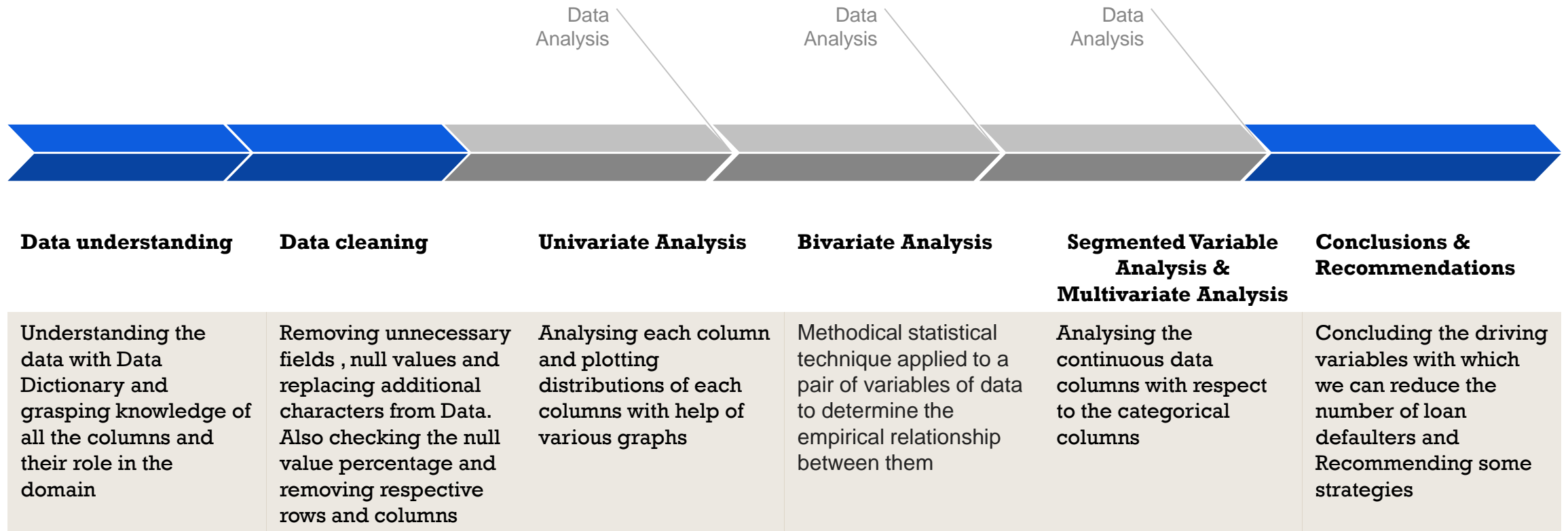
Submitted by:
Vijay Kumar Chhipa

PROBLEM STATEMENT

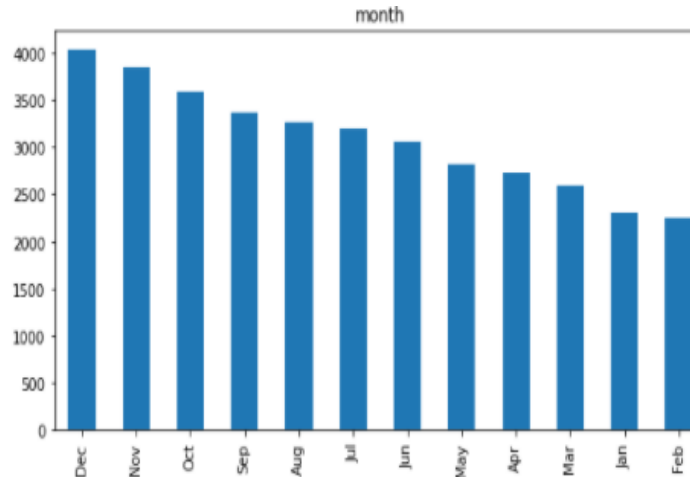
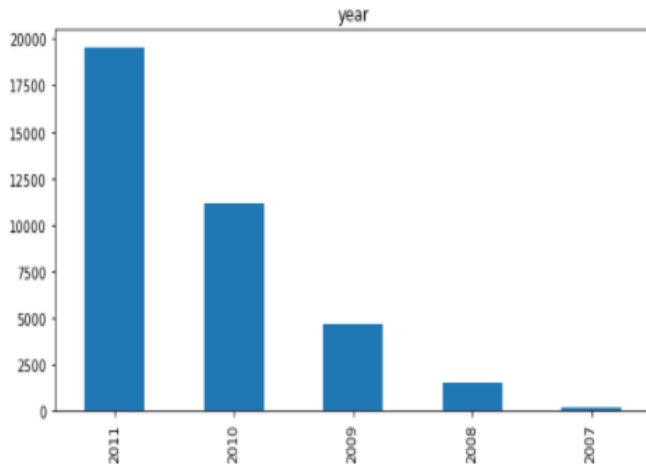
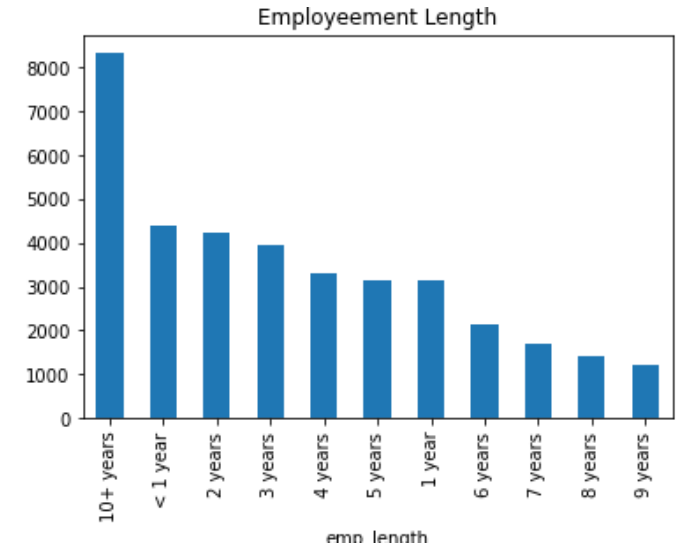
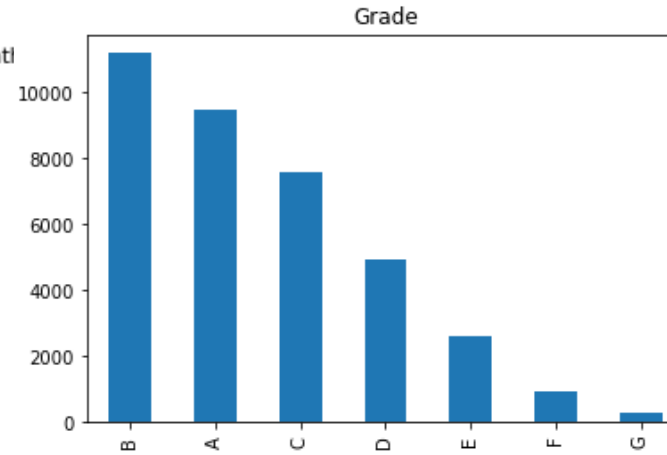
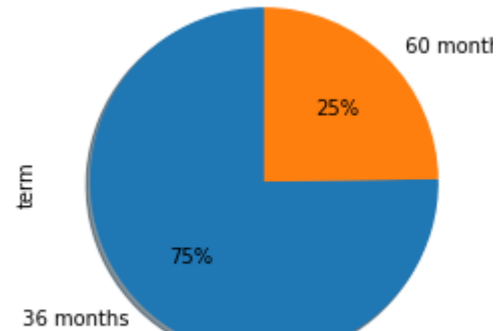
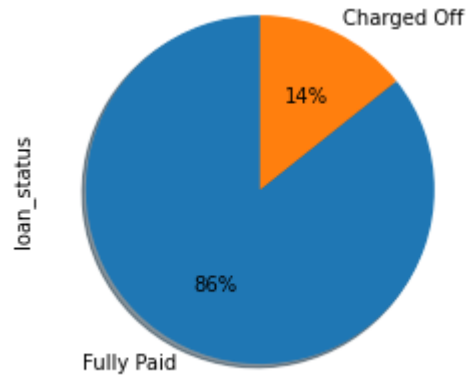
- Lending club is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures.
- Borrowers can easily access lower interest rate loans through a fast online interface.
- Borrowers who **default** cause the largest amount of loss to the lenders.
- The objective of analysis is to use the information about past loan applicants to understand the **driving factors (or driver variables)** behind loan default



PROBLEM SOLVING APPROACH



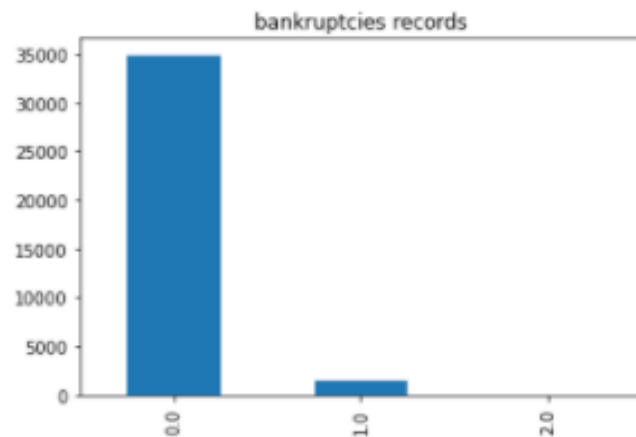
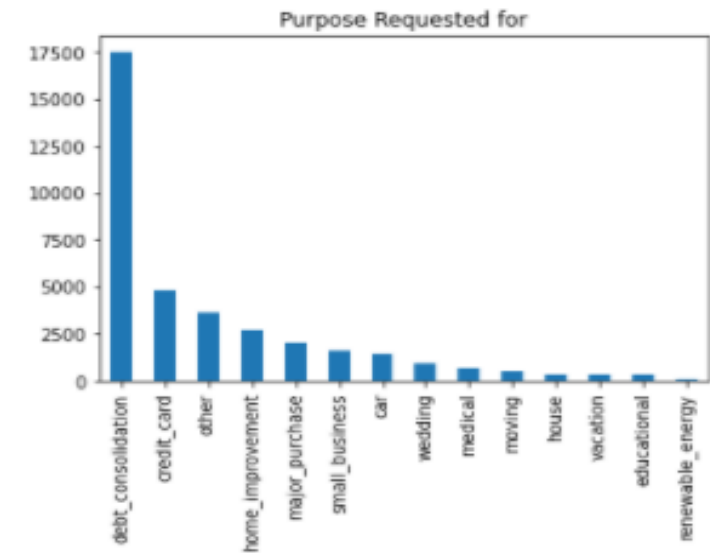
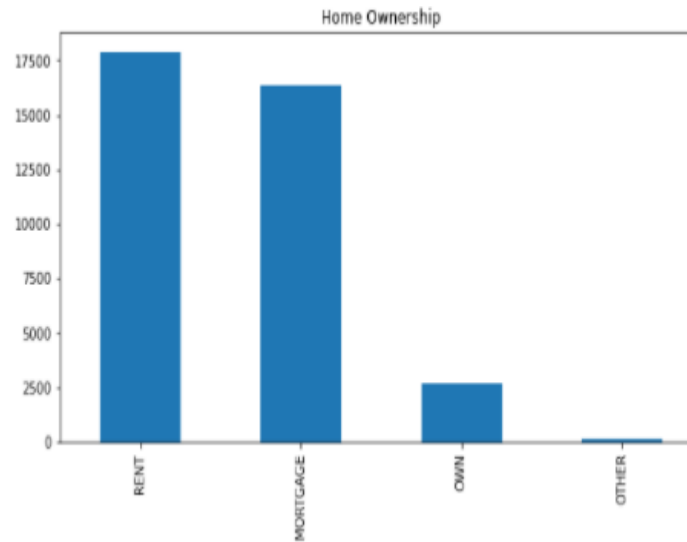
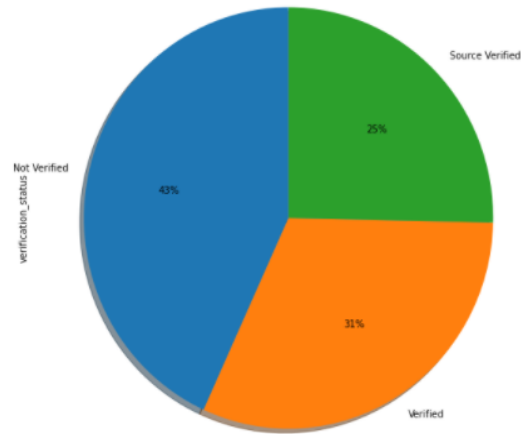
UNIVARIATE ANALYSIS



- Majority of users have paid off which is a good sign and 14% are defaulters
- Only 25% of users are having 60 Months Loan Period
- Grade A and B has received the most of the loan
- 10 plus year Employee length loan has been distributed the most
- 2011 most of the loans were being distributed as the Global and US economy was blooming
Dec, Nov Most of the loans have been distributed as its holiday season and users require money



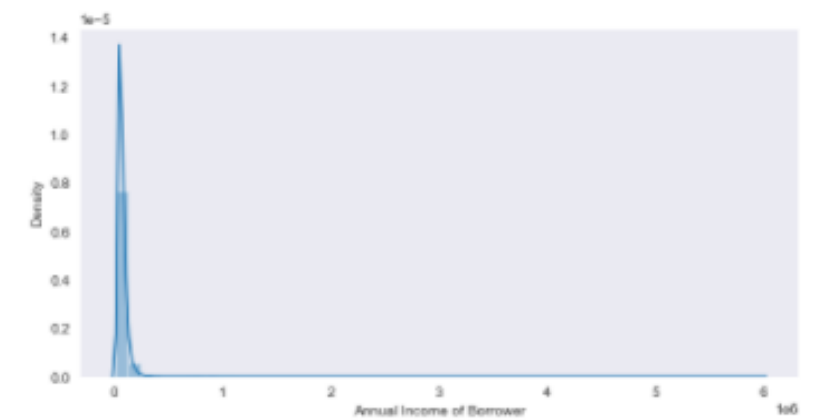
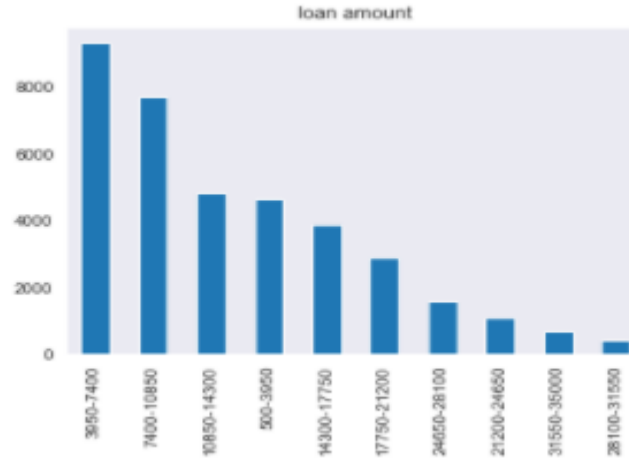
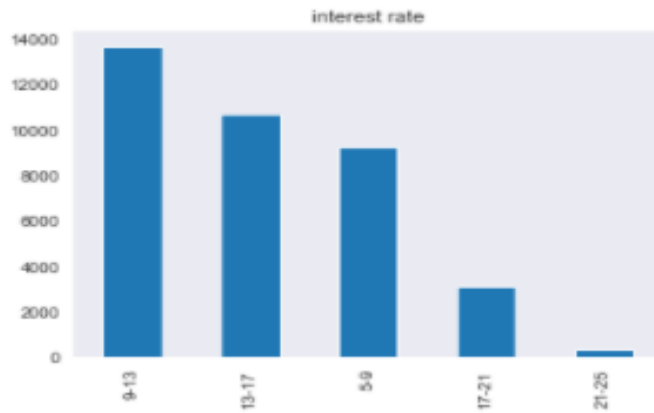
UNIVARIATE ANALYSIS



- 43 % of users are Non Verified
- Majority of users are either Staying in Rented property or Mortgage
- Majority of Loan distributed to users request for purpose of Debt Consolidation
- Company has taken proper care by considering Public bankruptcies records as majority of loan has been provided to users with no bankruptcies records



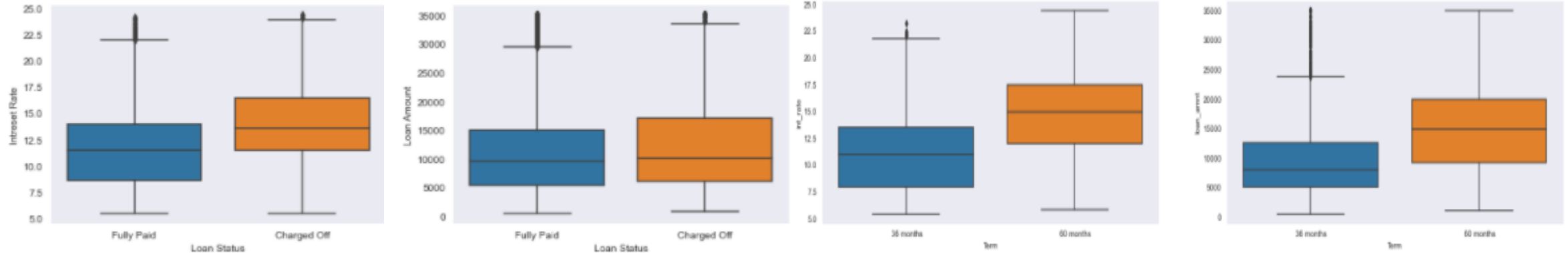
UNIVARIATE ANALYSIS



- Majority of users are having interest Rate between 9%-13% and very few have High Interest Rate
- Majority of users are having Loan Amount between 3050-7400.
- Lot of users are within 150000. During Segmented analysis we can remove the outliers and analyse the data



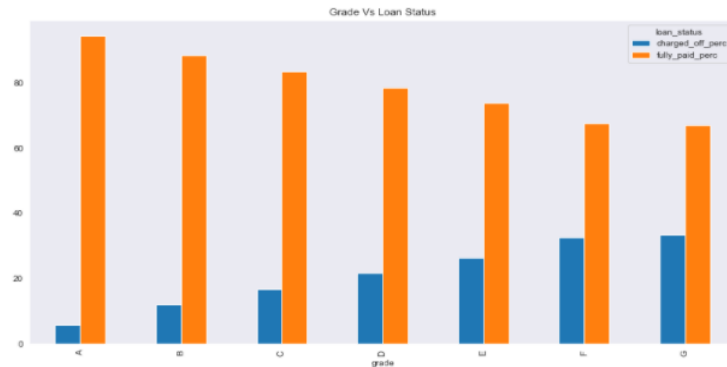
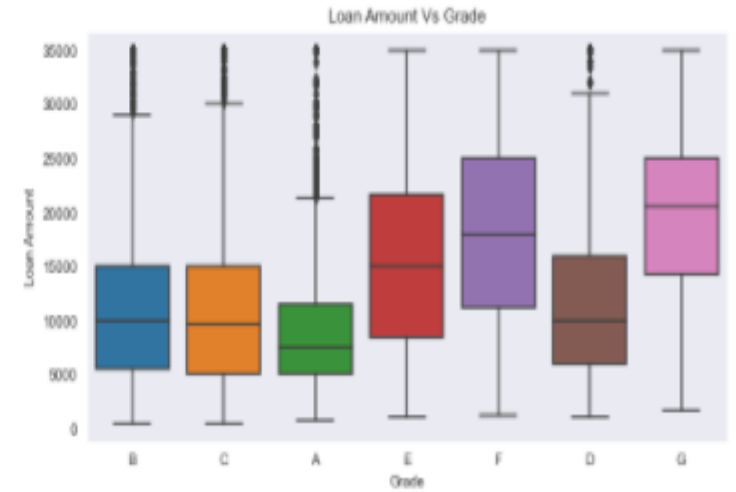
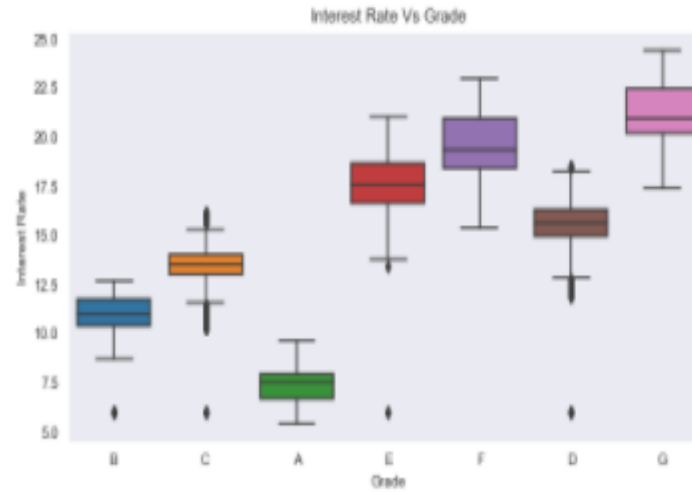
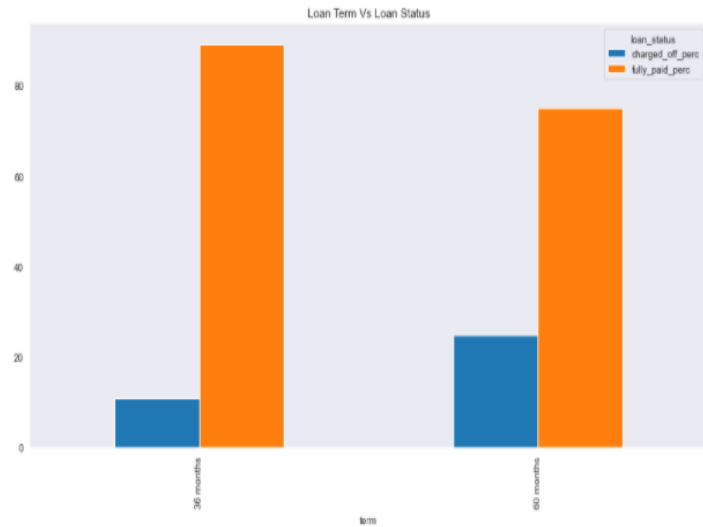
BIVARIATE ANALYSIS



- 25th percentile of Charged Off Interest Rate is higher than 50th percentile of Fully Paid. It is one of the driving factors of Charged off
- 75th percentile of Charged Off Loan Amount is higher than 75th percentile of Fully Paid.
- As expected 60 Months term are for mostly for High Loan Amount and also with High Interest Rate



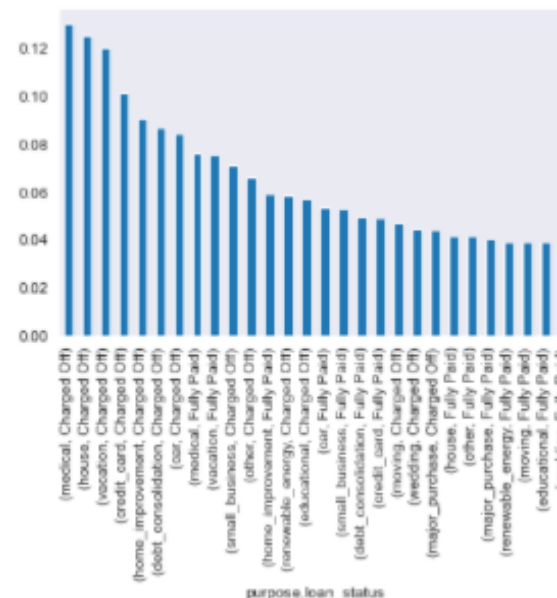
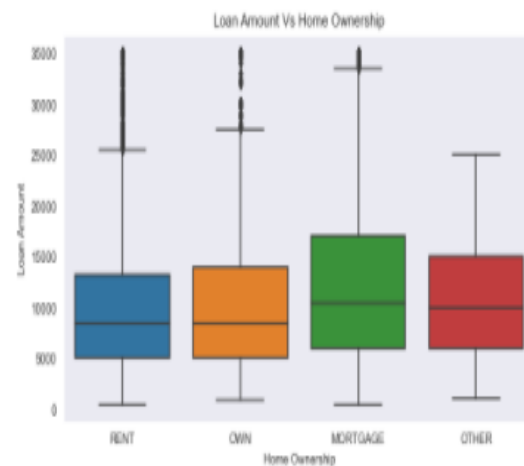
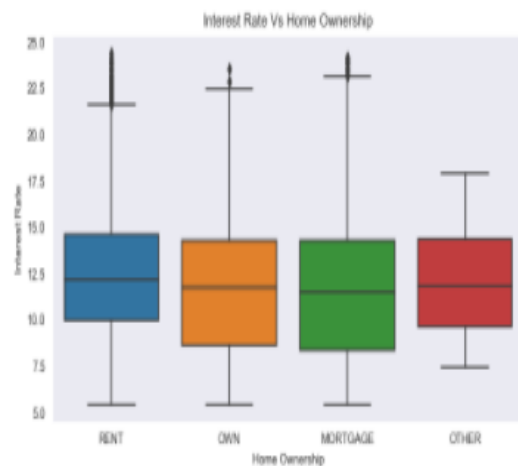
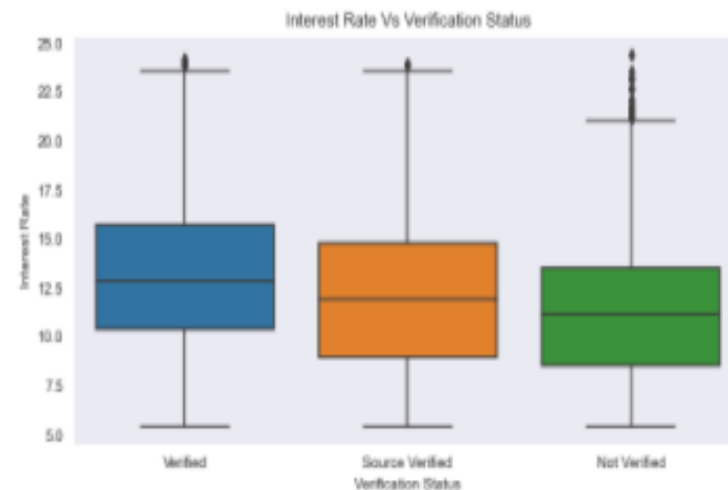
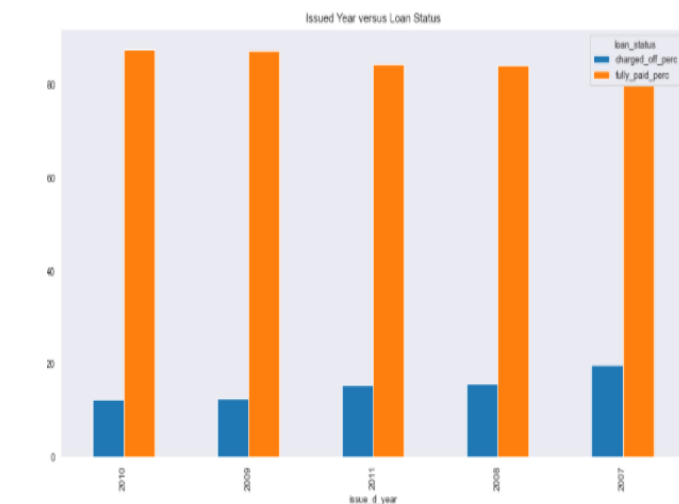
BIVARIATE ANALYSIS



- Even though Majority of Loan Term is 36 months , but the Charged off users are mainly from 60 months Loan Term . Which can be a driving factor as the Loan amount is huge which leads to High Interest Rate
- Looks like Grade D - G have High Interest Rate and there is hugh variation in loan amount for Grade D – G
- Looks like Grade D to G have more Charged Off users due to high Interest Rate and Loan Amount
Lower grade loans results in higher charge offs.
We can see as grades gets lower, charge off rate increases proportionately



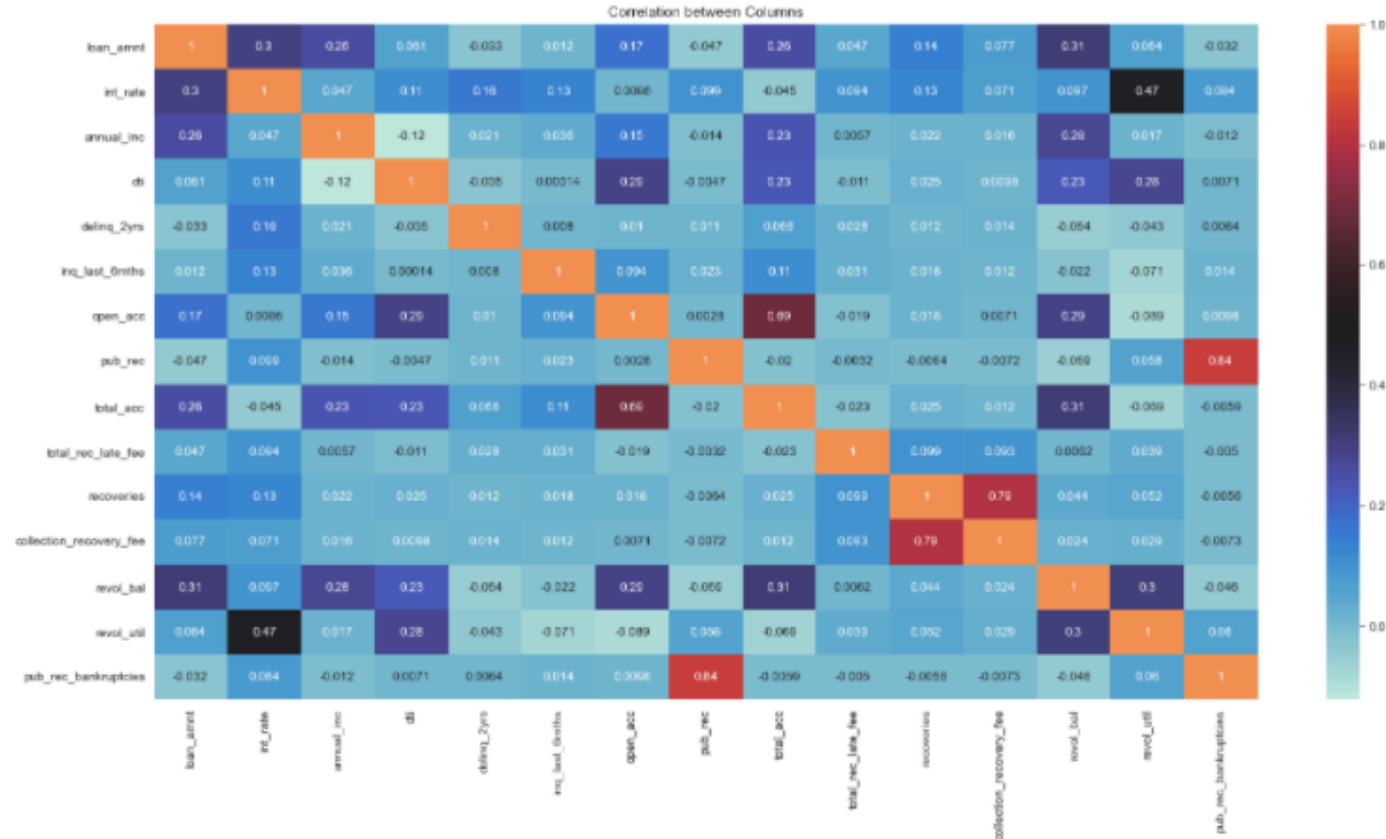
BIVARIATE ANALYSIS



- 2007 has more percentage of defaulters and one of the reason be due to recession
- Company is doing good in leanding less loan amount to Not Verified users , but there is high Loan amount providoined to Not Verified users which is High Risk
- Generally, we see higher loan amount – high interest rate , but regarding Mortgage Owners the Interest rate drops , it can be considering the Mortgage. Also 75th percentile of Mortgage loan amount is high
- Company has provided loans to Vacation and House purpose for users having high average for Public Record . As Medical Loans are urgent and required for emergency purpose, company should try to provide low loan rates so users can return it .



MUTIVARIATE ANALYSIS



loan_amnt revol_bal are correlated with r factor .31 - This is not good as it suggests that higher loan amount is being approved to riskier borrowers



CONCLUSIONS & RECOMMENDATIONS

- NV and AK states have high percentage of defaulters . Company needs to take extra caution while providing loan.
- Majority of the people have took the 36 months tenure period
- Regarding Mortgage customers company is loaning higher amount for purpose not associated to House , company needs to take extra caution as they do already need to pay Mortgage amount along with other credit accounts
- Majority of the people who applied for the loan are living on rent or mortgage
- People having less income are more likely to default.
- As the loan amount is high for Small Business and Housing , lot of defaulters are under it hence company need to produce new strategy to tackle these customers by taking more stake regarding their business or house.
- As the grades gets lower, charge off rate increases proportionately.
- Higher the dti, more likely the charge off
- As number of bankruptcies increases the charge off rate also increases
- We see a greater number of Not Verified defaulters requested loan for Medical purpose as it can't be denied , company should think to lower the interest rate for these loans so small instalments can easily be paid .
- The interest rate in charged off were higher than that of fully paid which may infer that higher interest rate could result in higher charge offs
- Company should not be providing Higher Loan amount for Not Verified customers except for Medical purpose.
- Company needs to ramp up Verification status as 43% of customers are not verified and it's a risk in lending loans without performing proper background verifications

