Lending Club Case Study

Group Members:

Rohit Chhabra

Deepthi BS

General Info

- Consumer Finance Company is the largest online loan marketplace, facilitating personal loans, business loans , and financing of medical procedure

- Borrowers can eaisly acess lower rate of interest rate loans through a fast online interface.

- The objective is to analyse how consumer attributes and loan attributes influence the tendency of default

Analysis Approach

Data Cleaning

Removing the null values columns, unnecessary variables and the rows.

Data Understanding

Working with the Data Dictionary and getting knowledge of all the columns and their domain specific uses

Univariate Analysis

Analyzing columns, plotting the distributions plot respectively.

Segmented Univariate Analysis

Analyzing the continuous data columns with respect to the categorical column
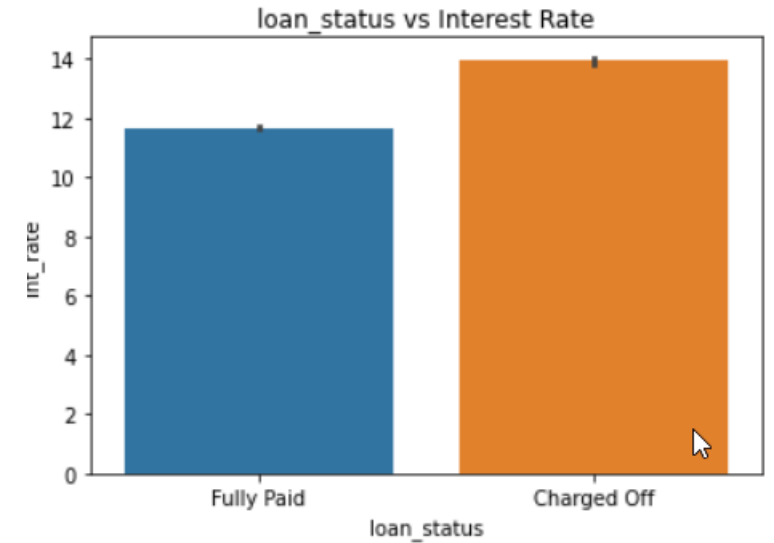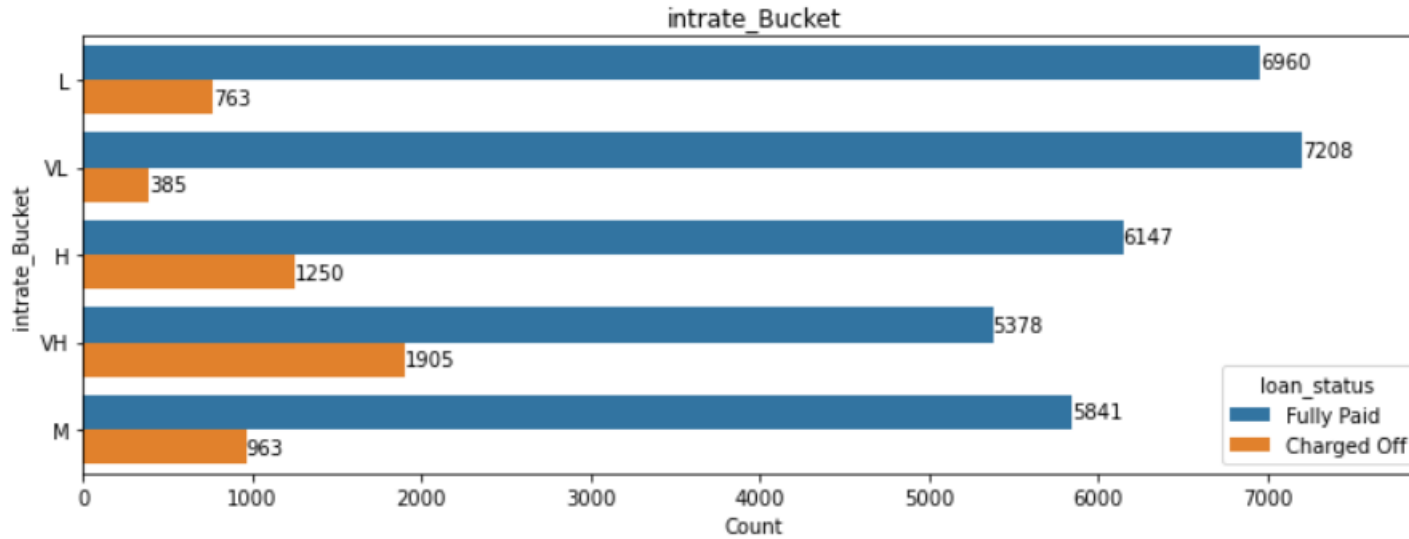
Bivariate Analysis

Analyzing the two variables behavior like term and loan status with respect to loan amount.

Conclusion

Analyzing all plots and observations for reducing the loss of business by detecting columns which contribute to loan defaulters.
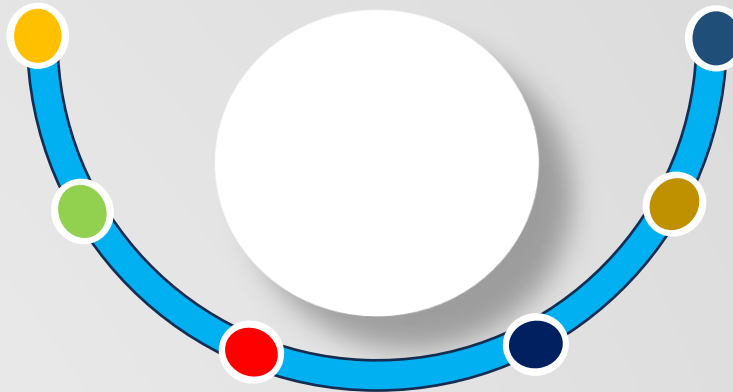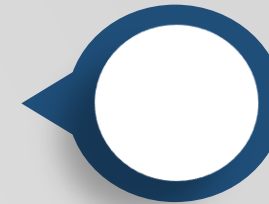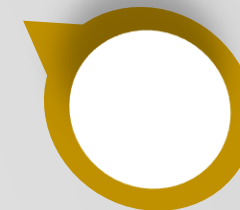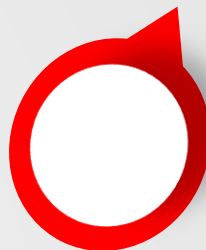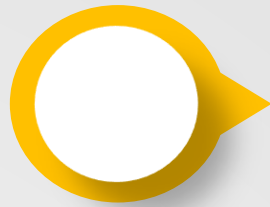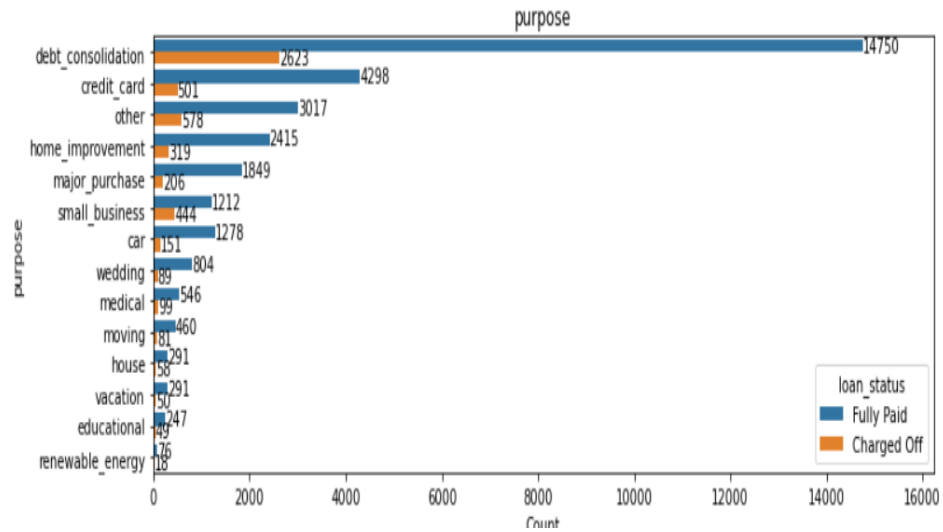
# Analysis with Interest Rate

- There is 26% chances of loan default where the interest rate is very high(VH) : Fig1
- When the loan interest rate is high there is high chance of loan getting defaulted. : Fig2

# Analysis with category provide by the borrower
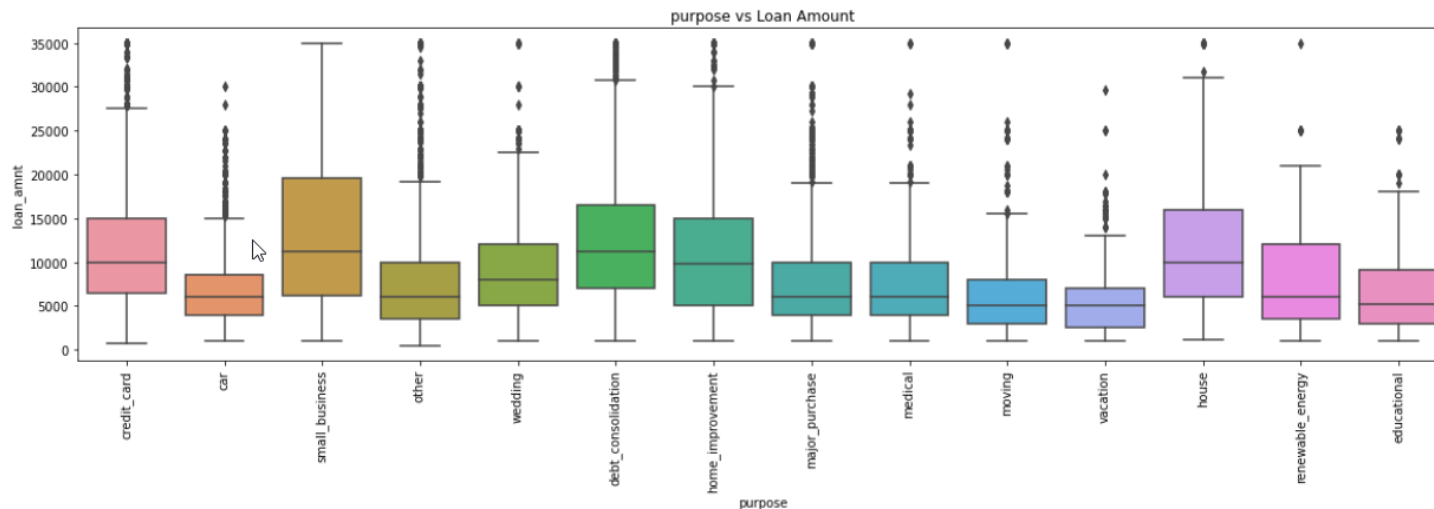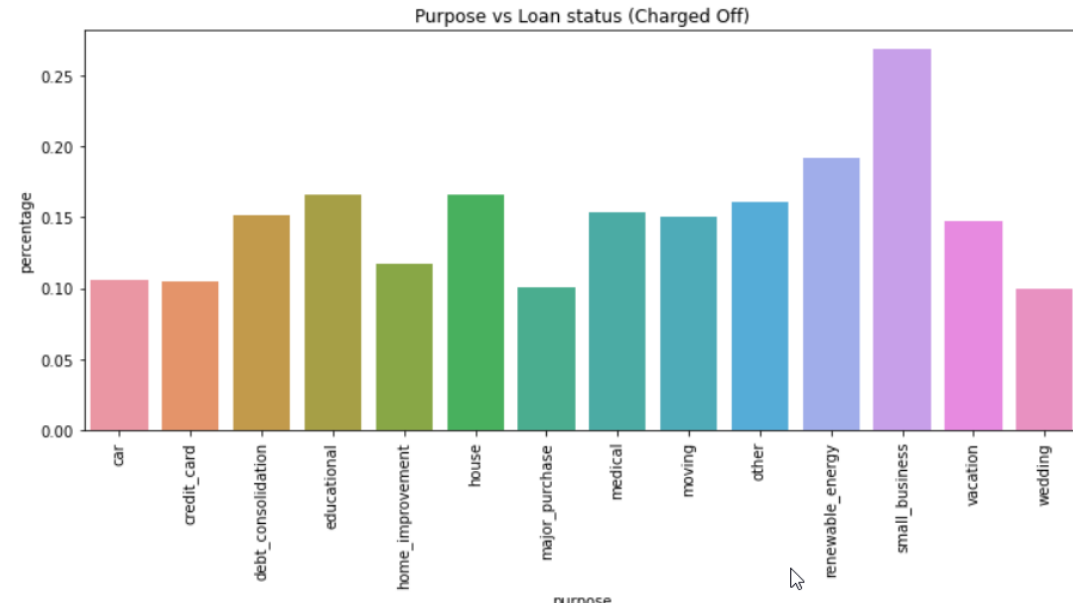
- Borrower's who took loans for small business purpose have defaulted more.
- Percentage of default case in small business case is more as 26%
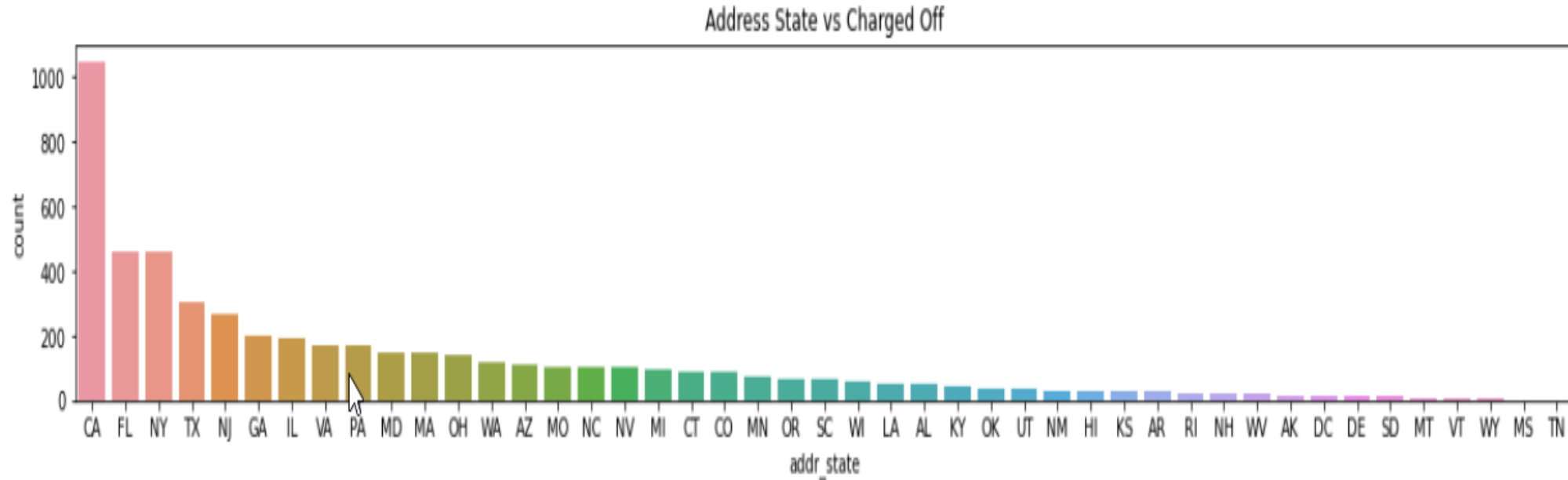
Analysis with Term
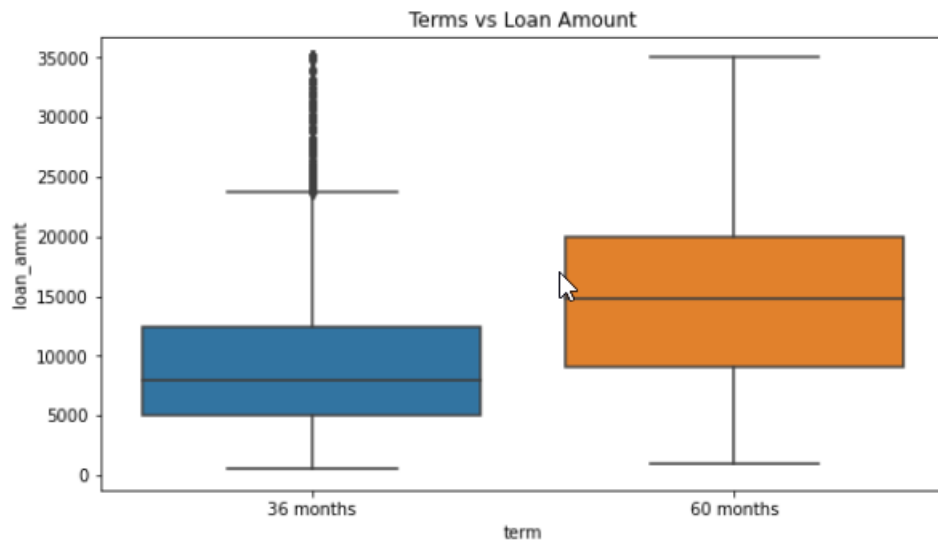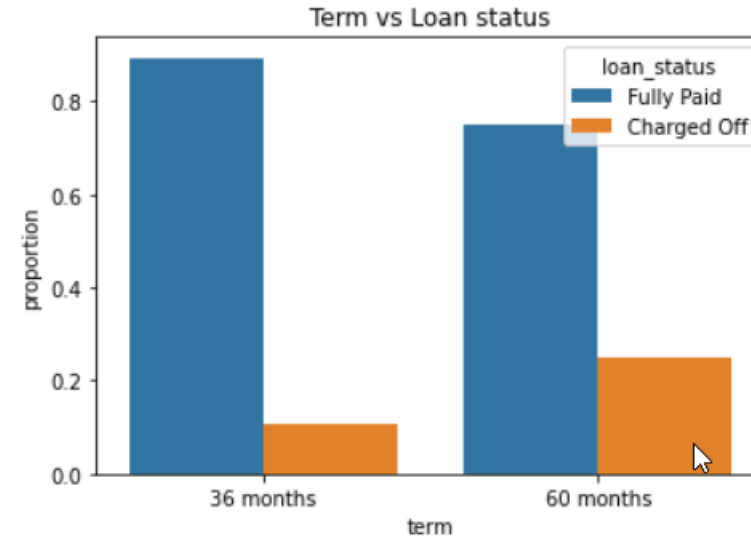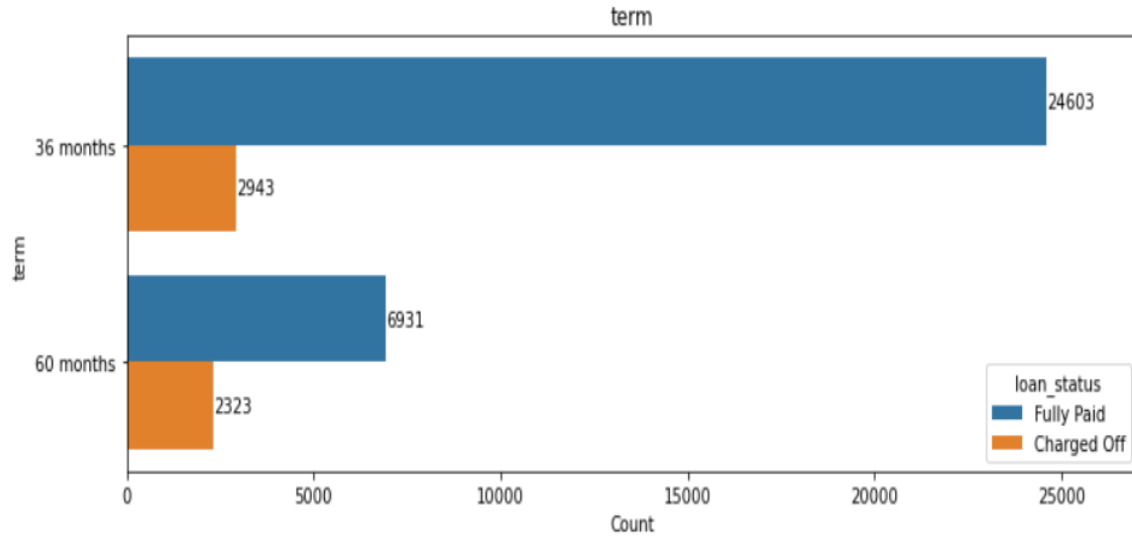
- There are only two loan terms 36 and 60 months. Around 75% borrowers took loans with 36 months term.
- The charged off borrowers are around 15% and fully paid is around 85% in the given data set.
- Basically control required on loan where the term is 60 months
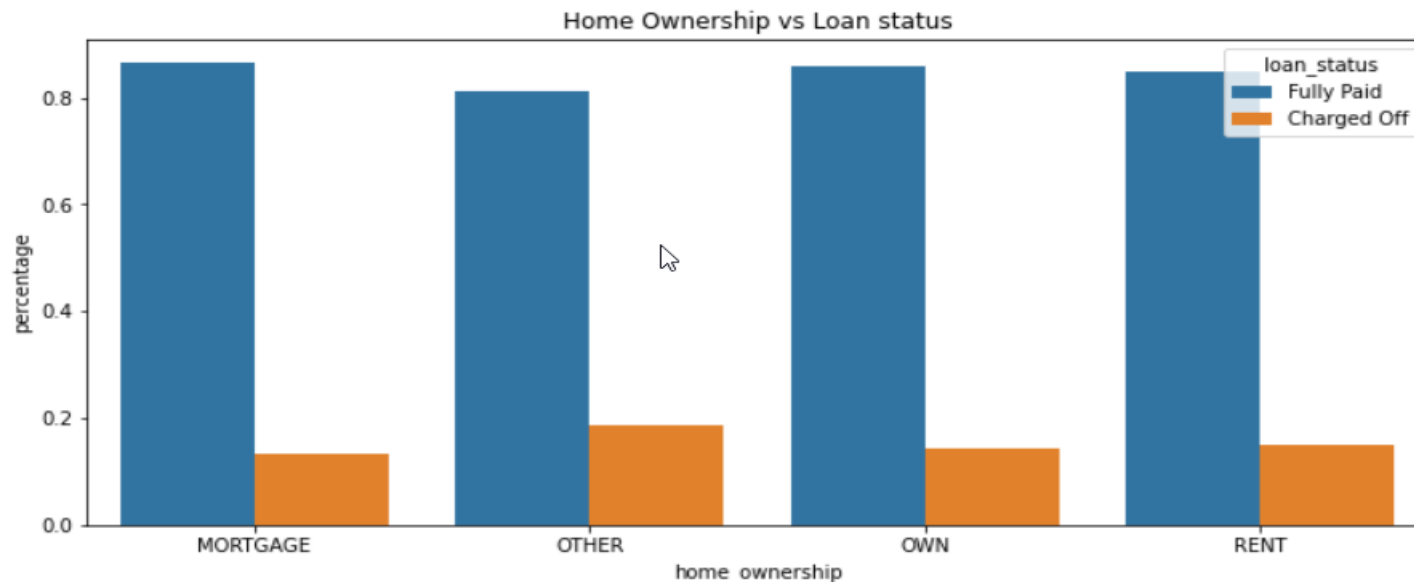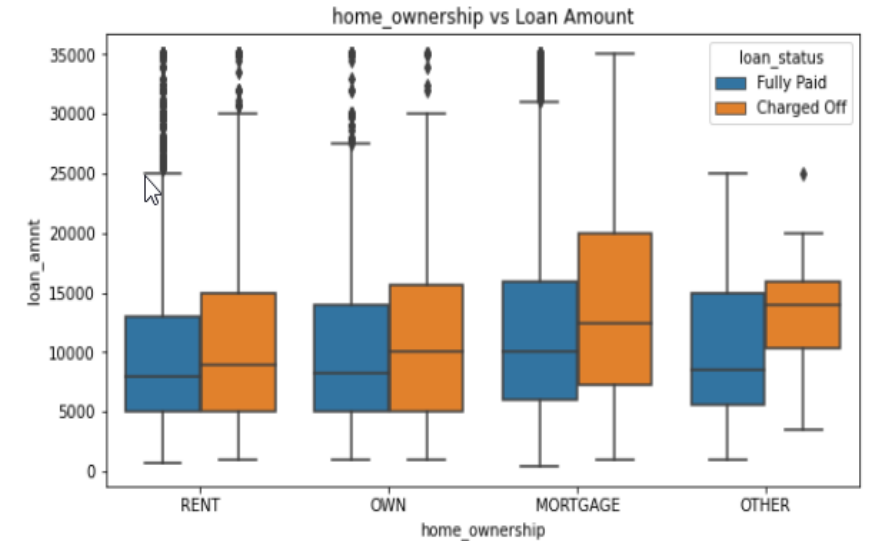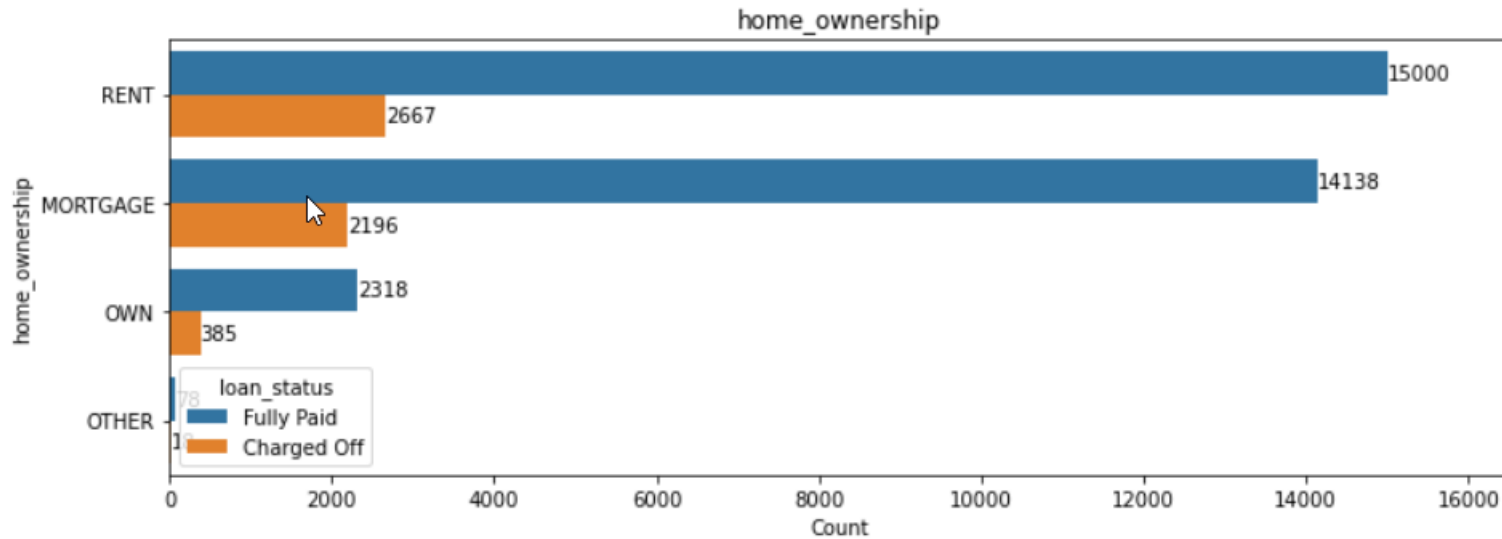
Analysis with Grades
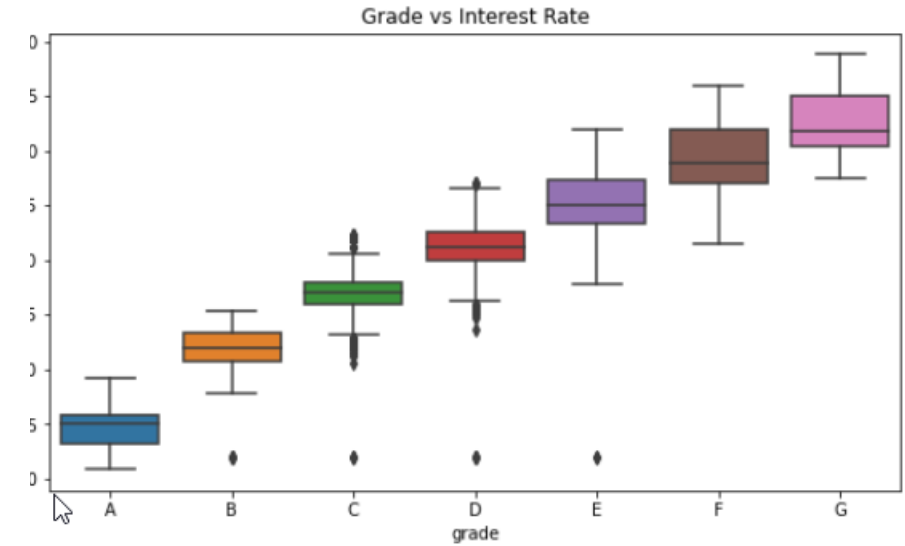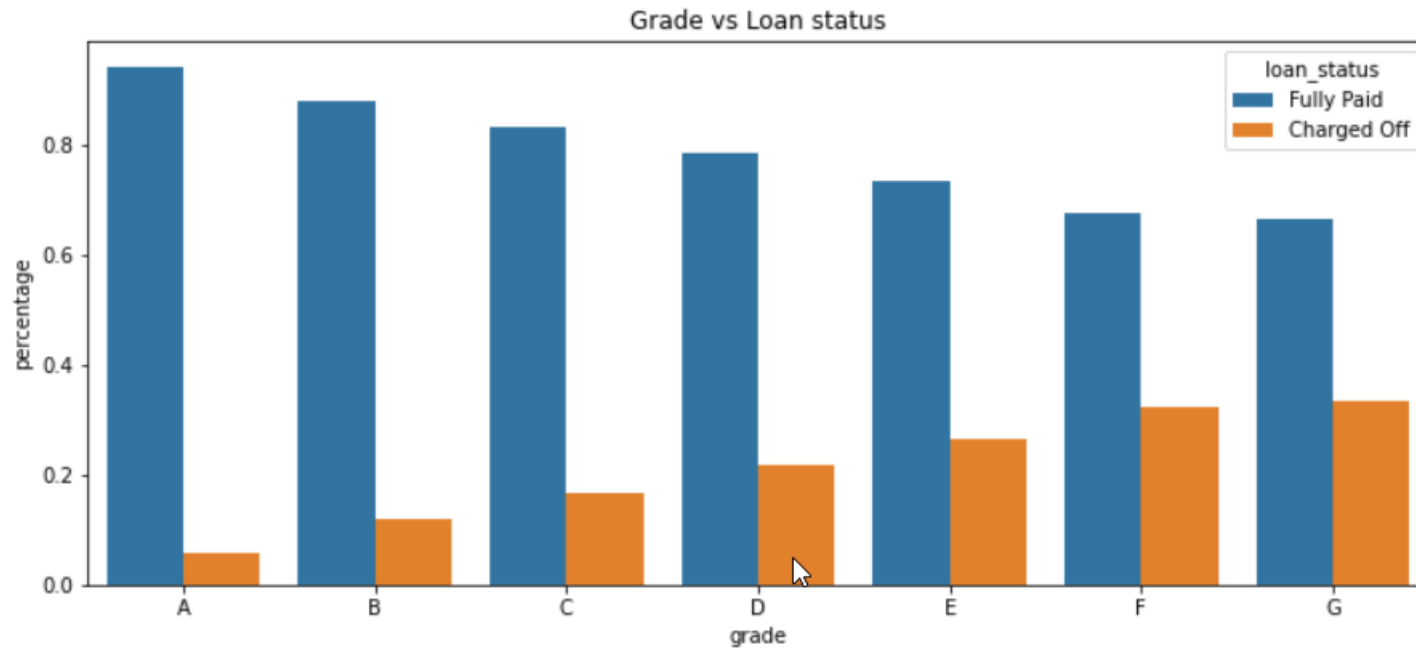
- The Lower grades(E,F,G) have higher chances of defaulting the loan than Higher ones(A,B)
- Also the Lower grades are getting loans for higher interest rates which might be the cause for loan default.

# Analysis with State

Address State vs Charged Off

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

Analysis with Home Ownership

- There is around 20% chance of loan default in each home ownership category.
- From the 2nd plot we can see the people with higher loan amounts in mortgage home ownership has high default rate than others.

Analysis with Annual income, loan amount and dti
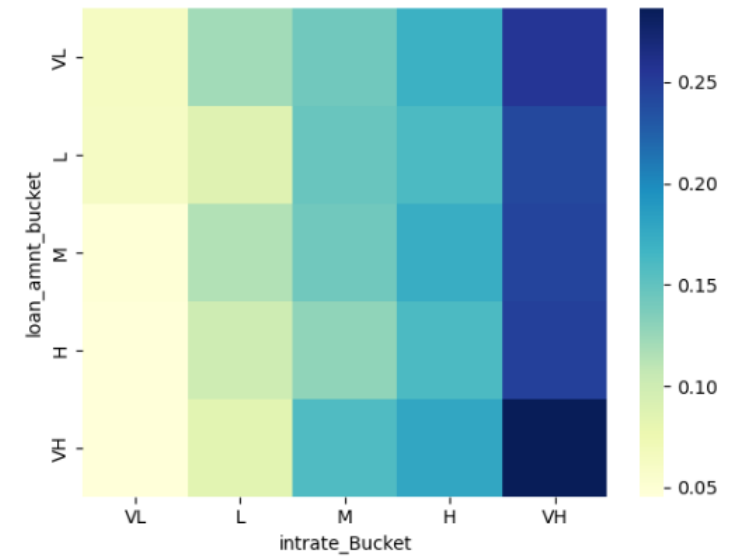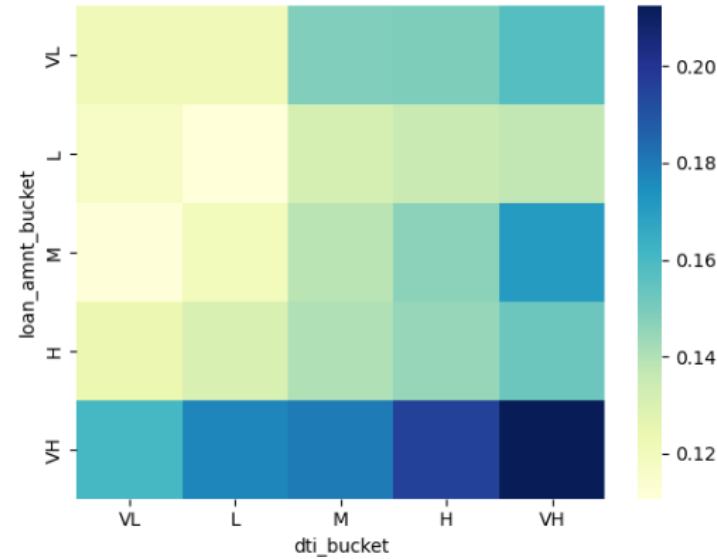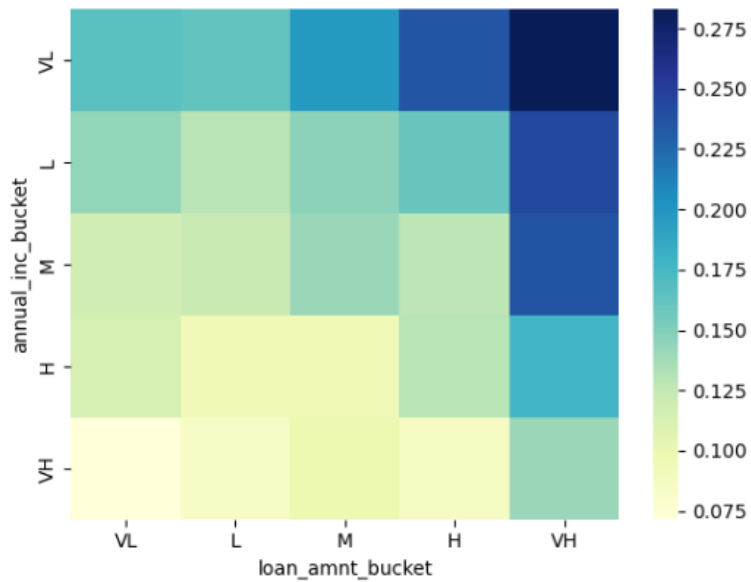
Conclusion

People with low income and high DTI has been given more loan amount.

Also Higher the loan amount the interest rate is higher.

Due to which people with low income have defaulted more.

Lending Club should provide the loan amount proportionate to their income and monthly DTI

Conclusion

❖ Consumer Finance Company should reduce the high interest loans for 60 months tenure, they are prone to loan default.

❖ Grades are good metric for detecting defaulters. Consumer Finance Company should examine more information from borrowers before issuing loans to Low grade (G to A).

❖ Consumer Finance Company should control their number of loan issues to borrowers who are from CA, FL and NY to make profits.

❖ Small business loans are defaulted more. Consumer Finance Company should stop/reduce issuing the loans to them.

❖ Borrowers with mortgage home ownership are taking higher loans and defaulting the approved loans. Consumer Finance Company should stop giving loans to this category when loan amount requested is more.