Up grad Assignment- Lending Club Case Study

Group Facilitator: Mohak Purushottam Pingle

Group Member : Pooja U

Problem statement

- A consumer finance company which carries out various types of lending activities in urban customers. There are various risks associated with lending activities, and in order to secure the company's business as well as to find prospectus customers a quite diligent analysis is to be undergone with the data's available from past loan approvals which may have been defaulted and non-defaulted.

- A data analysis on what a consumer finance company should look forward in the application of advances to reduce the chances of defaulters.

Analysis overview

- The data provided consist of entries of 39717 loan issued in the time period 2007 to 2011 by a consumer finance company

- Initial analysis on all the null values have been carried out and removing the irrelevant datapoints from the dataset is done.

- Analysis on different parameters that are given in the data set is analyzed to find out the relevant parameters that can be used to identify the defaulter risk.

- Removal of unwanted columns as a part of data cleaning is done to make the dataset more perceivable for different analysis.

# Employment length of the customer for charged off loans

It seems like 10+ years of employment length has higher percentage (23.9%) in charged off loans, followed by < 1 years of employment length (11.3%)

Emp length for Charged Off loans
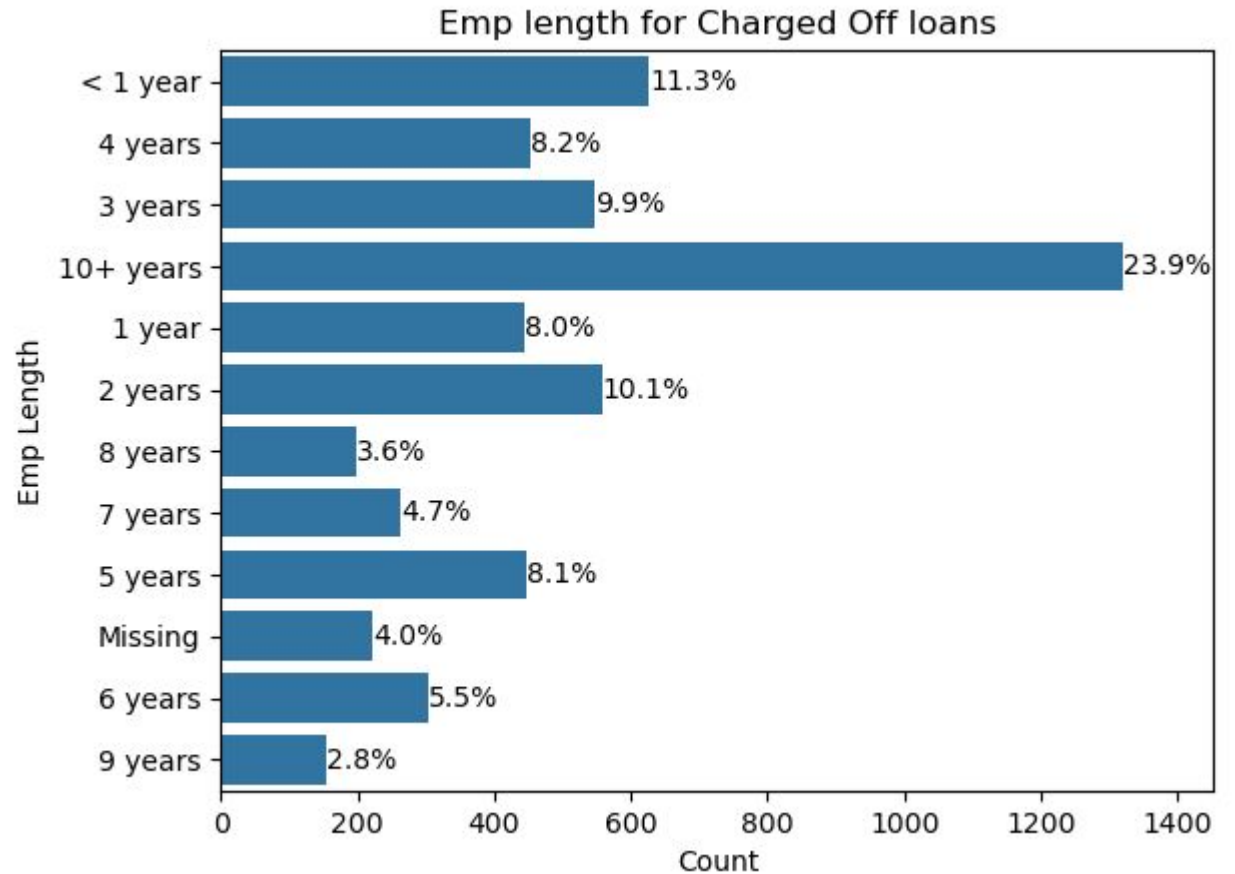
# Grade of the customer for charged off loans

It is observed that the customers who have been graded B,C,D are more of a defaulters when compared to other graded people.

With respect to grades ,customers who are graded F and G are least risk prone customers for loan defaulters.
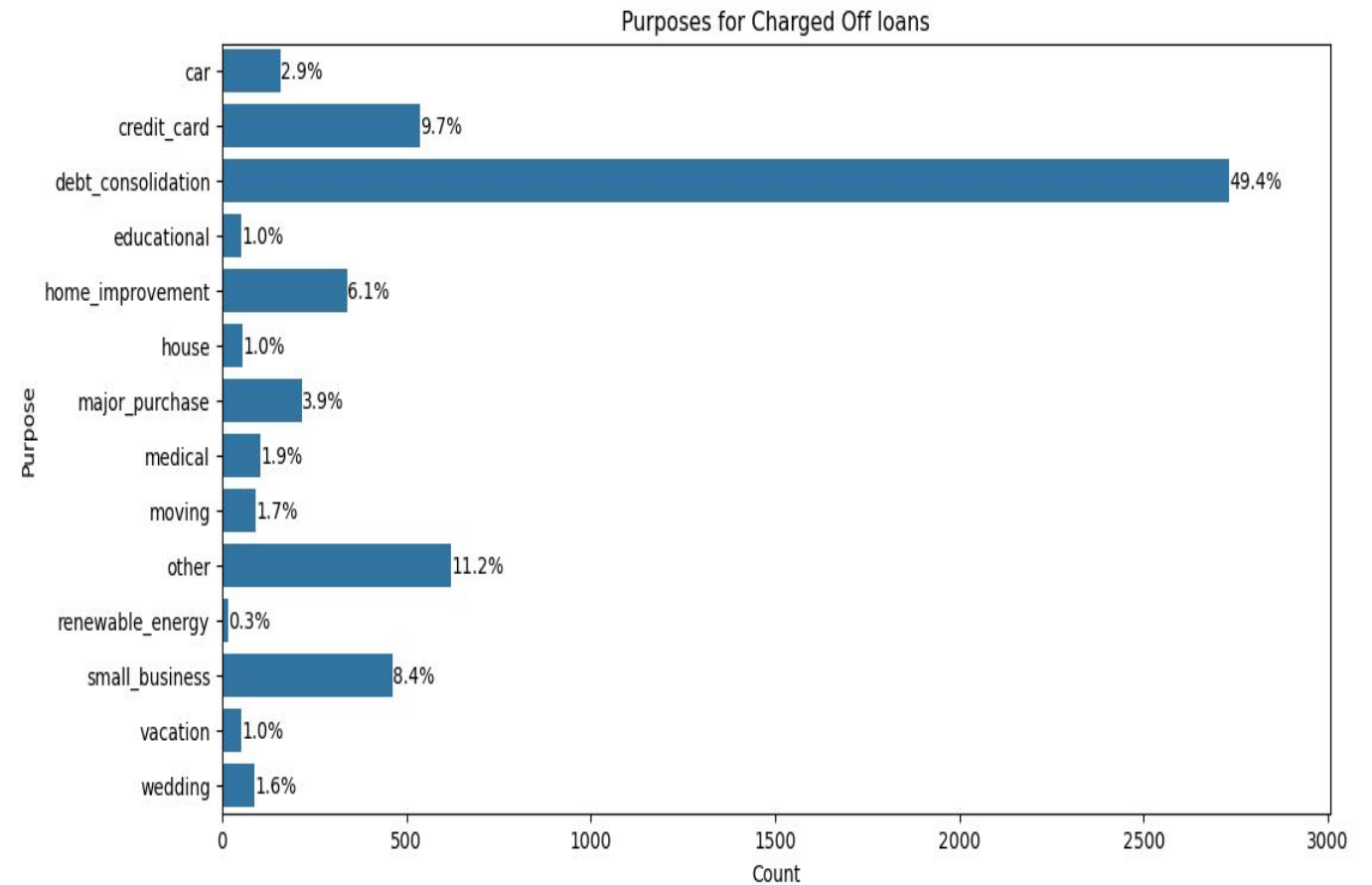

Grades for Charged Off loans
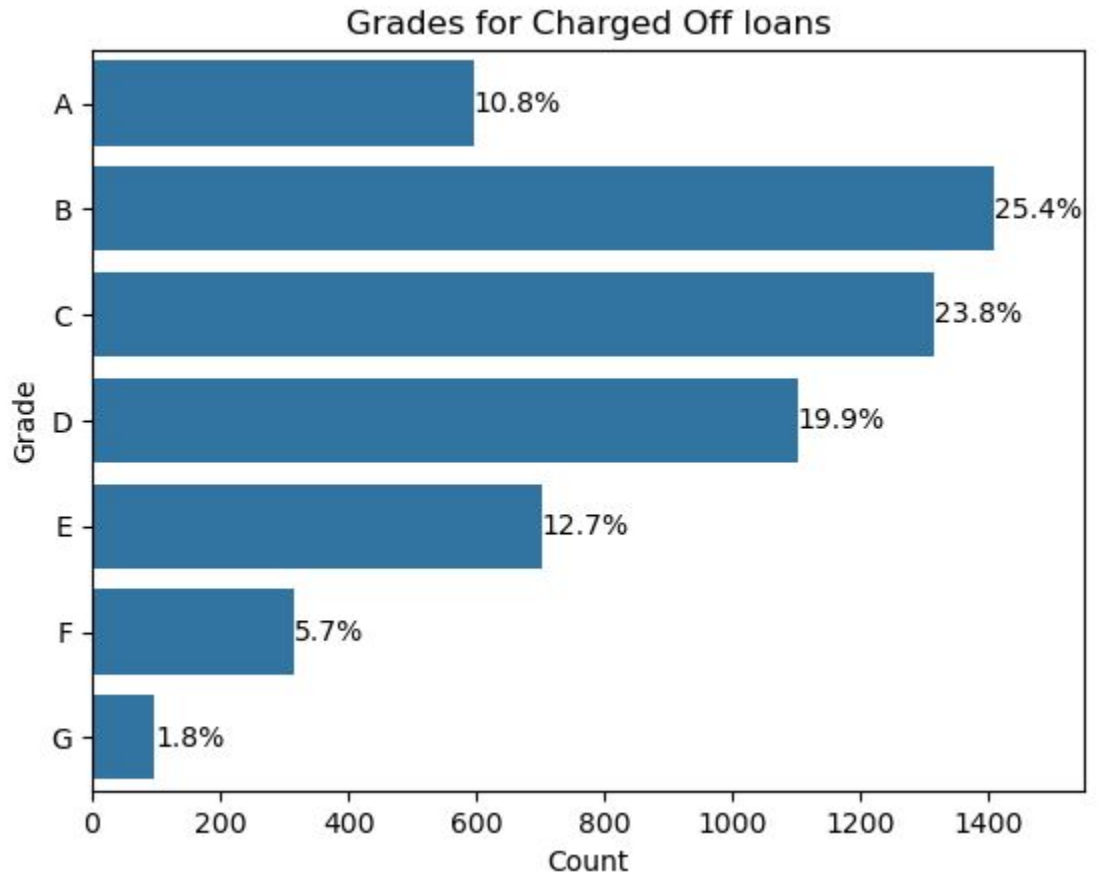
Home Ownership of customer for charged off loans

The individuals who rent their house (50.2%) or have mortgage (41.6%) have higher probability of defaulting.
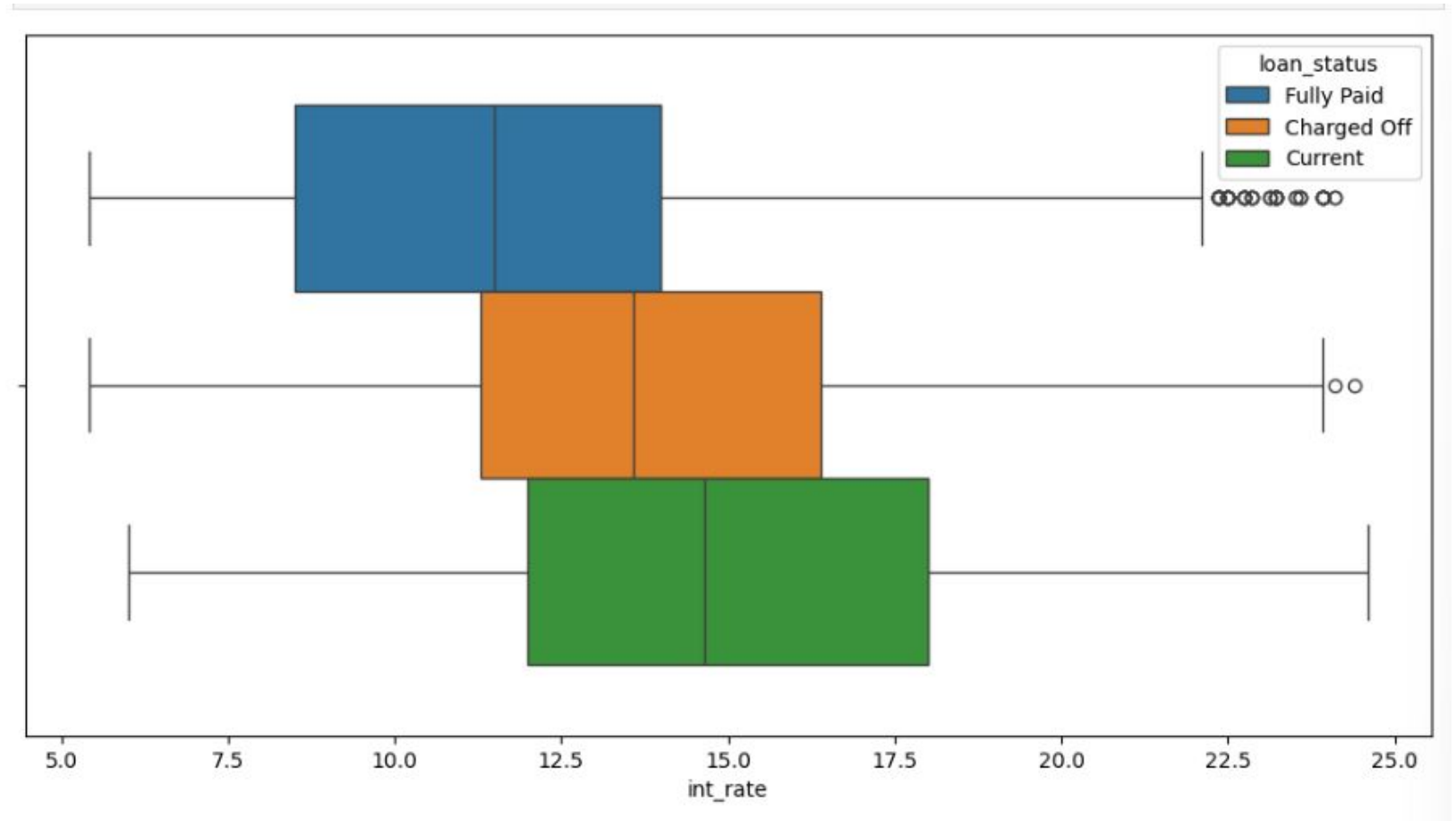

Home Ownerships for Charged Off loans
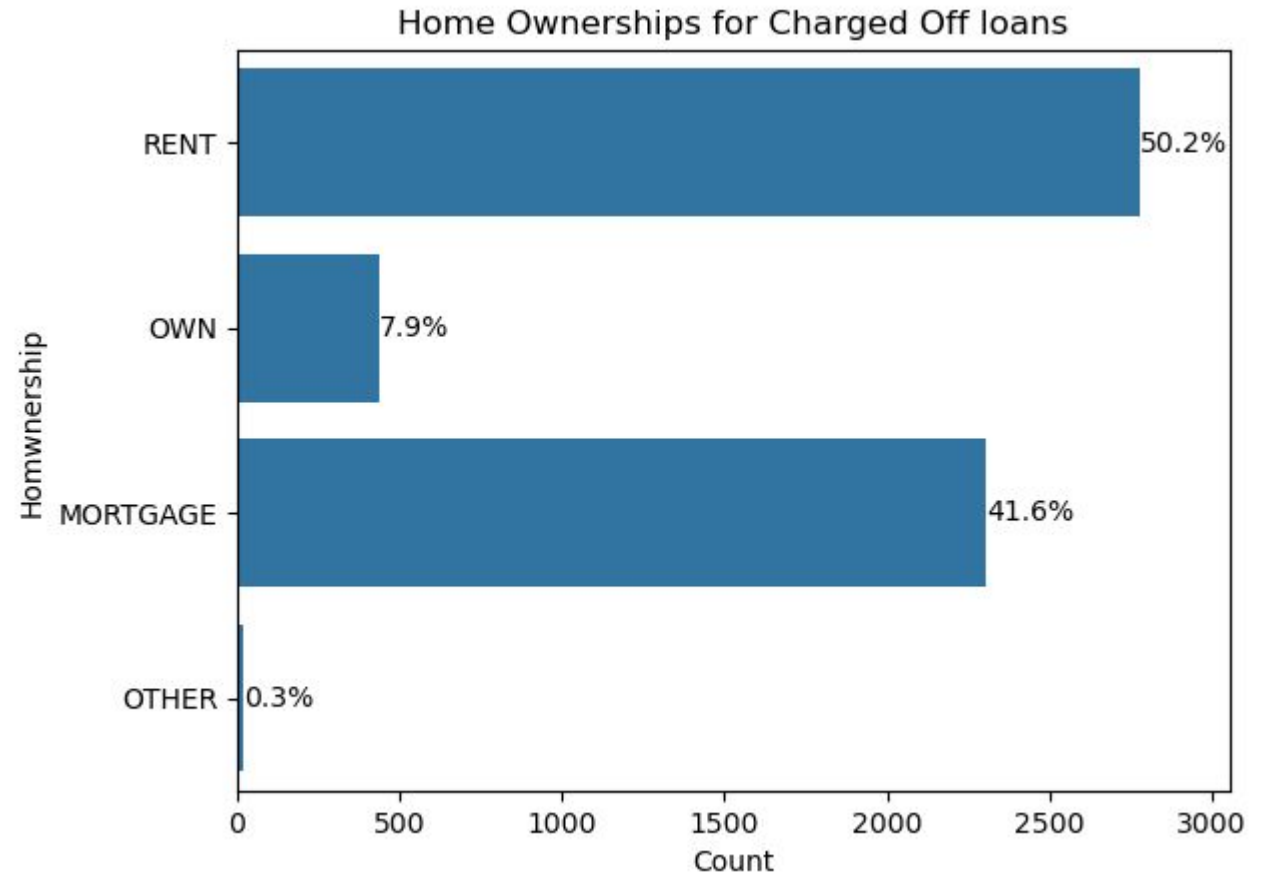
Purpose for charged off loans

debt consolidation constitutes
49.4% of the overall purpose for
charged off loans.
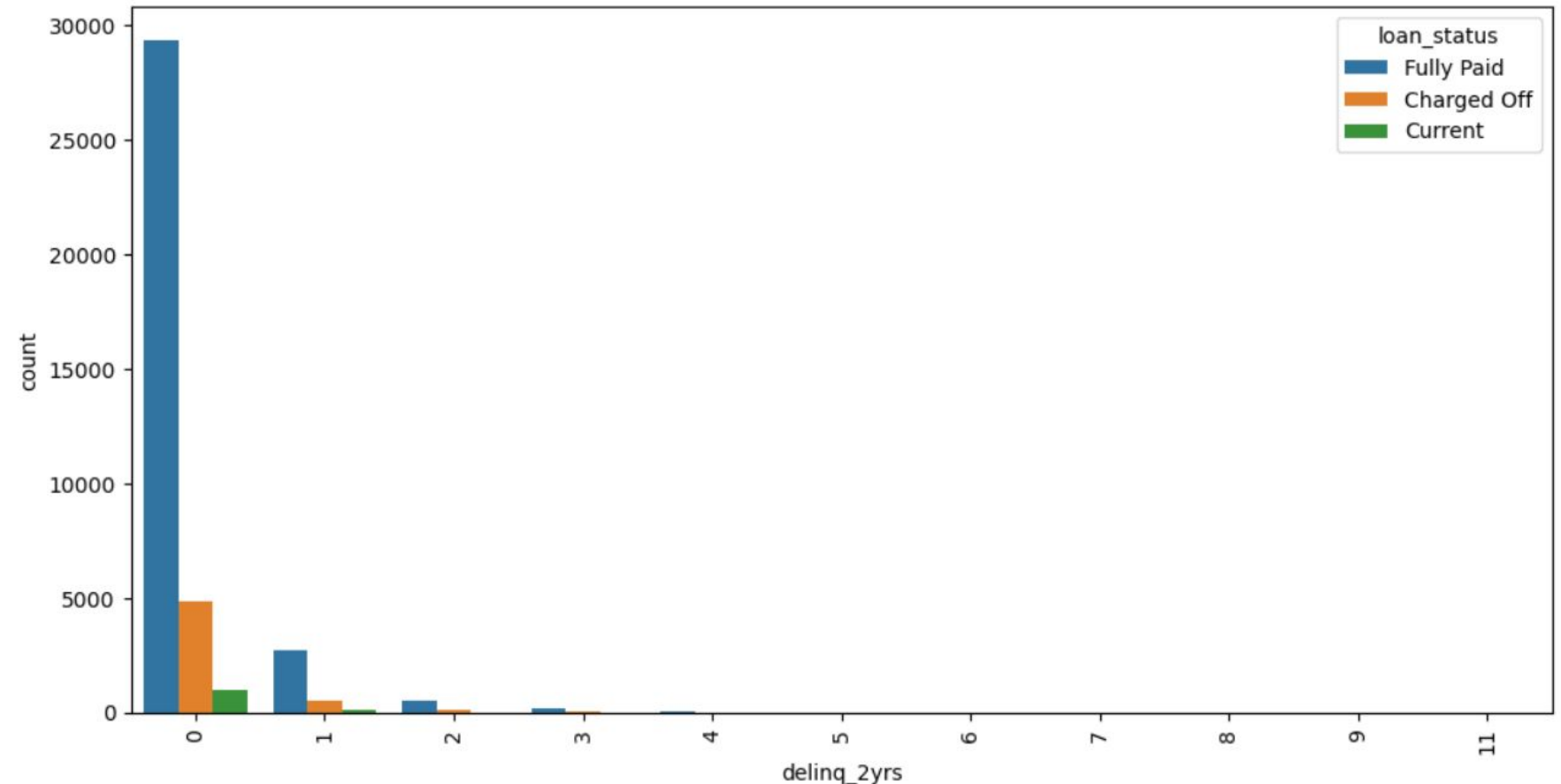

Purposes for Charged Off loans

Comparison of Interest rate on all loan status

It is observed that for the charged off loan the rate of interest is more on comparison to the fully paid loan.

The dependance of the delinquency in borrowers credit file for the past 2 years with respect to the loan status
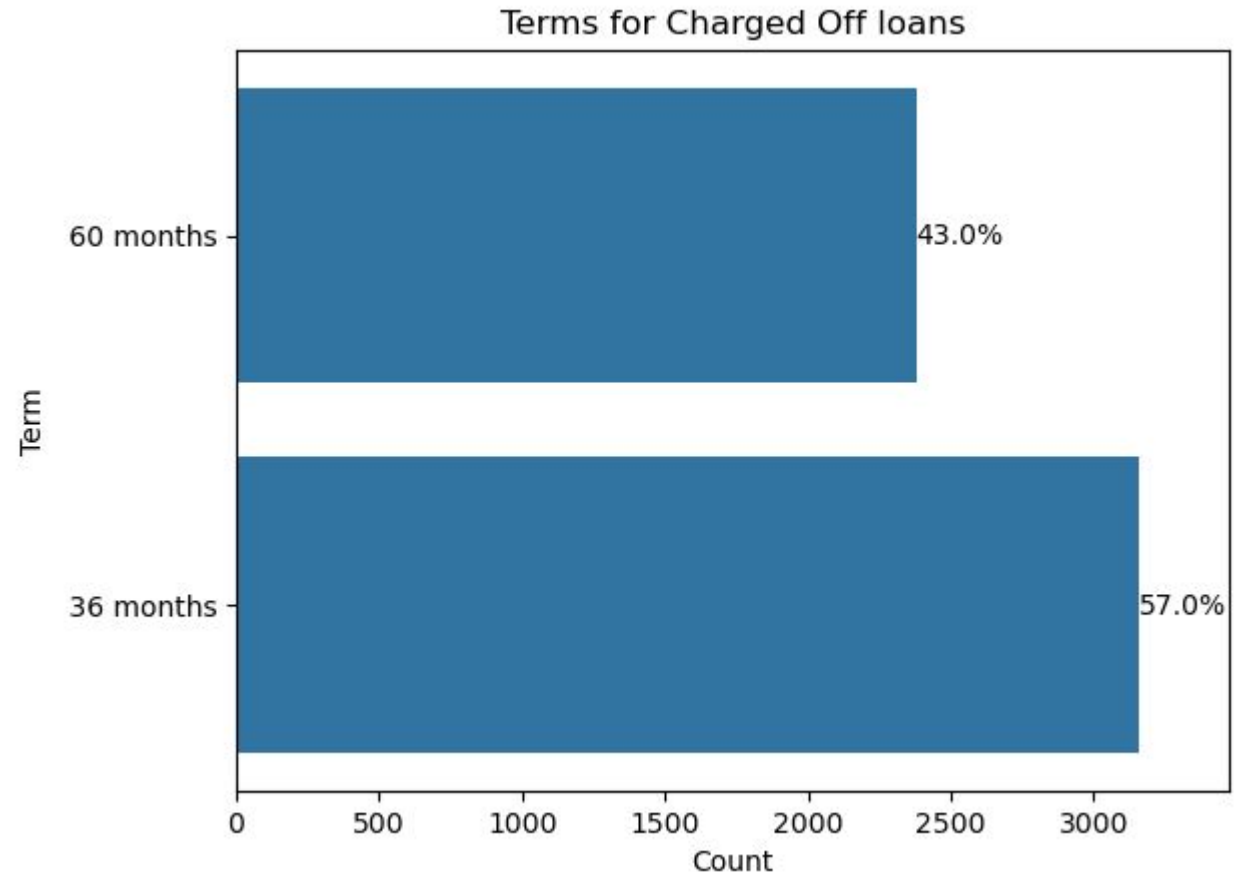
The more the delinquency and borrowers credit file the less defaulting is observed.
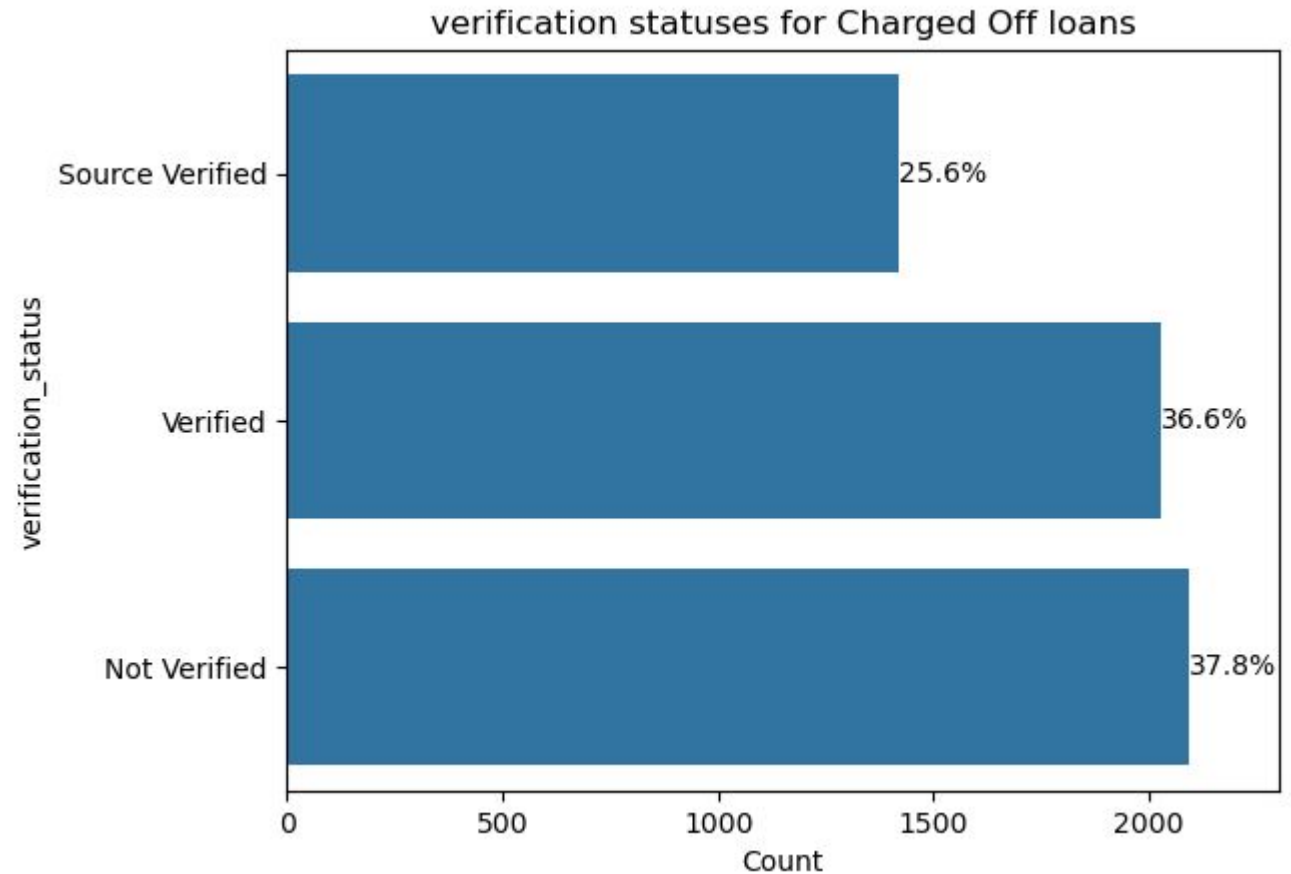
Terms for Charged Off loans

36 Months term loans are more likely to be charged off as compared to 60 months term loans.
The percentage of 36 Months is 57% versus 43% of 60 Months term.


Terms for Charged Off loans

Verification Status for Charged Off loans

Not verified loans are the most charged off loans (37.8%) followed by Verified loans (36.6%) and Source Verified loans (25.6%).

The number of inquiries in past 6 months for Charged Off loans

The inquires in the last 6 months for charged off loans are mostly 0. This means that the borrowers who have 0 inquires in the last 6 months are more likely to default on their loans.

Inq Last 6 Months for Charged Off loans
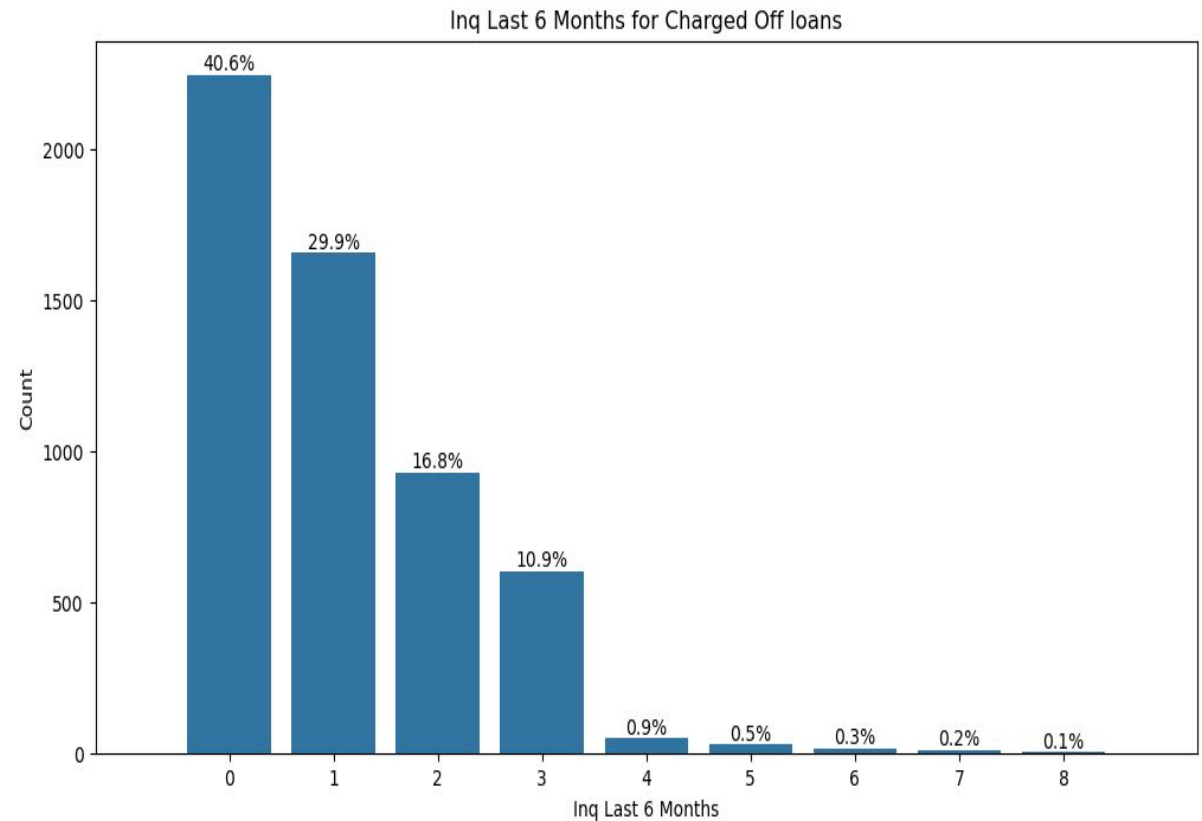
Conclusion

Based on the analysis, several key insights have emerged.

1. The individuals having employment tenure greater than 10 years have high risk of defaulting
2. It is observed that the customers who have been graded B,C,D are more of a defaulters when compared to other graded people.
3. The individuals who rented or have a mortgage have higher probability of defaulting.
4. The loans with purpose of debt consolidation has a highest risk of default.
5. The loans with short tenures have higher risk of default.
6. Not verified loans are more likely to be charged off.
7. It is observed that for the charged off loan the rate of interest is more on comparison to the fully paid loan.