LENDING CLUB CASE STUDY ANALYSIS

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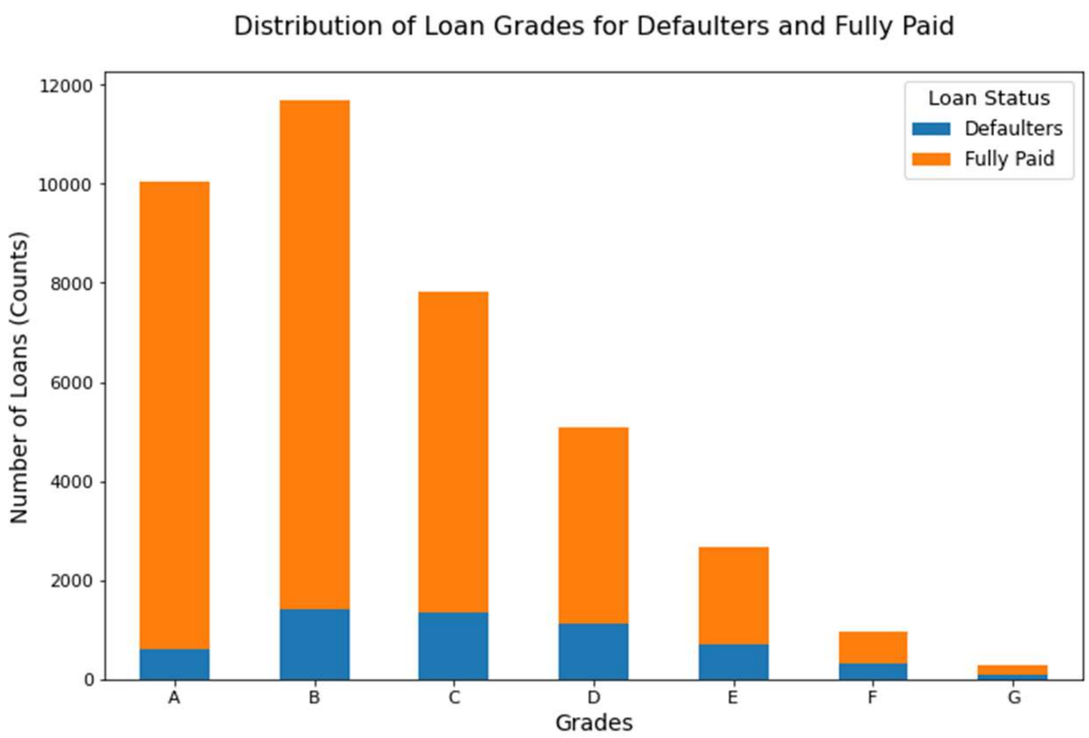
LOAN COUNT VS LOAN GRADE

OBSERVATION:

Loan Grade ‘B’ seems to be the most popular category, where maximum number of loans are disbursed.
This is the category where most loans are FULLY-PAID back.

PROPOSAL:

LC management must focus more on ‘B’, ‘C’ grades as the customers seem to be interested in them than other grades.



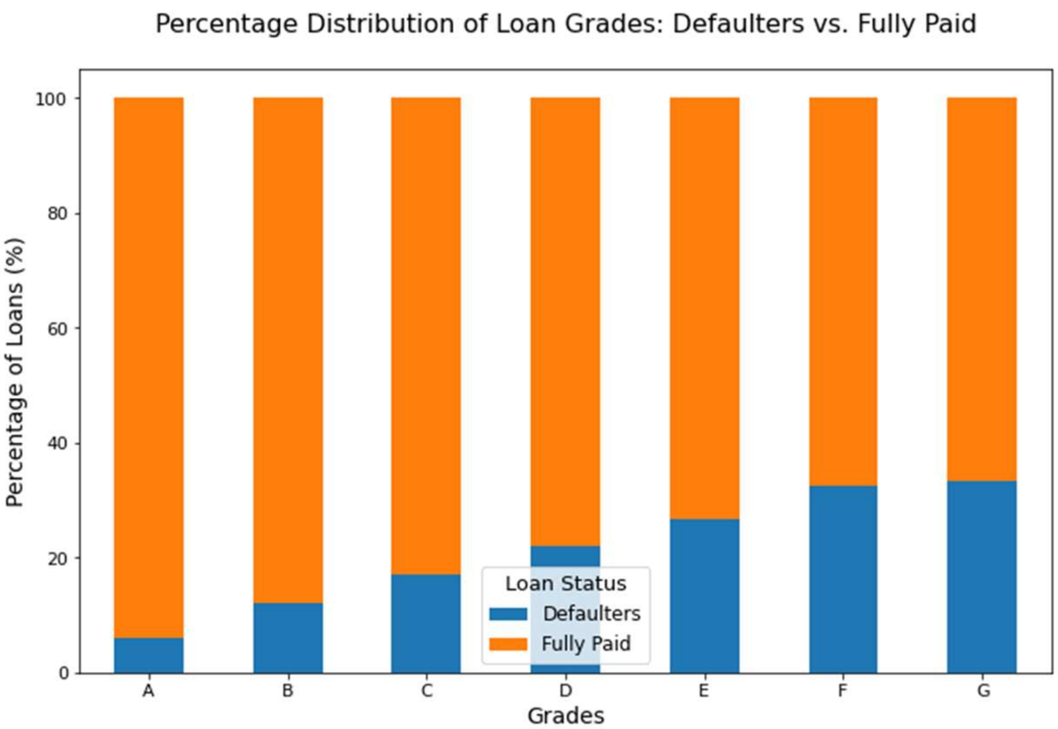
PERCENTAGE OF LOANS VS LOAN GRADE

OBSERVATION:

DEFAULTERS percentage seem to increase from Grade A to G.

PROPOSAL:

LC management must analyze why this trend is observed and take measures to minimize defaulters in each of the grades. LC have to check why there are more FULLY-PAID loans in Grades ‘A’, ‘B’ and ‘C’ when compared to other grades.



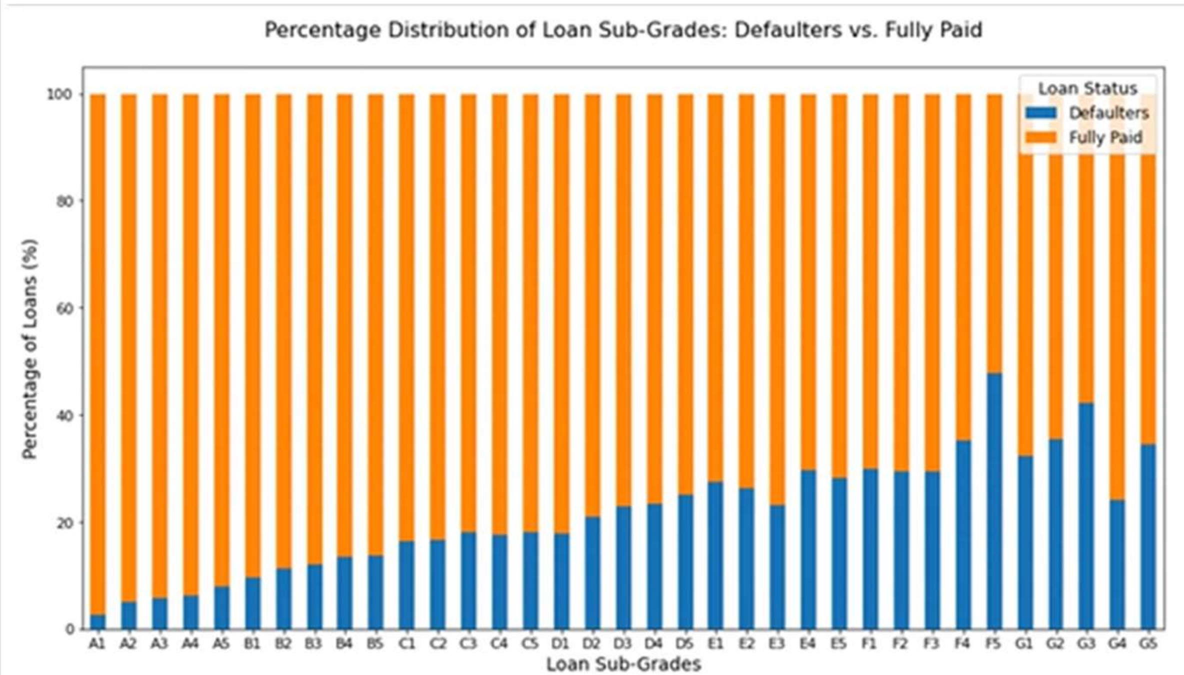
LOAN COUNT PERCENTAGE VS LOAN SUB-GRADE

OBSERVATION:

There is a trend in DEFAULTED loan-percentages which are increasing within each subsequent sub-grade. F5-sub-grade seems to have the highest percentage of Defaulted-loans. A1-sub-grade seems to have the maximum FULLY-PAID loan-percetages.

PROPOSAL :

LC management must review their policies on why F5-sub-grade has the highest percentage of Defaulted-loans. Also, LC have to review all their sub-grades overall to minimize the defaulted-loan-percentages. LC can promote A1-sub-grade loan.



INSTALLMENT AMOUNT (<900) VS LOAN STATUS

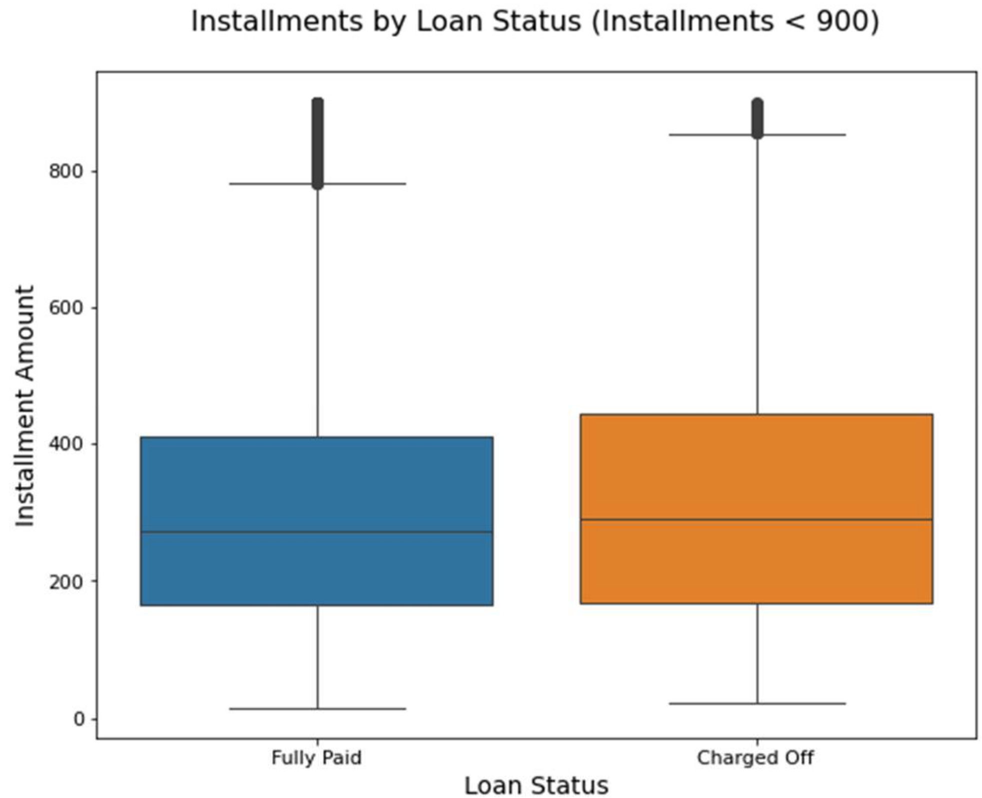
OBSERVATION:

DEFAULTED loans show higher variability of Installment-Amount when compared to the FULLY-PAID loans.

Also, the maximum Installment-Amount is higher in DEFAULTED loans than in the FULLY-PAID one.

PROPOSAL :

LC management must verify the financial and vocation credentials of borrowers, especially where higher Installment-Amounts are involved, the feasibility of repayment of installments consistently.



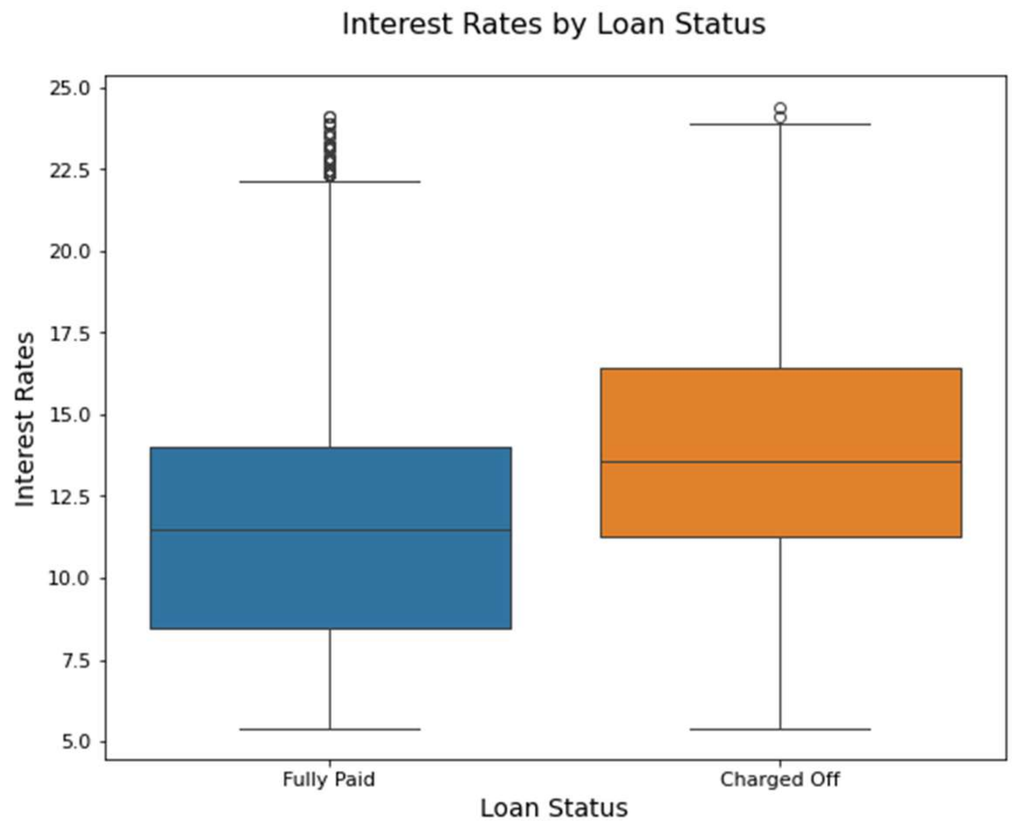
INTEREST RATES VS LOAN STATUS

OBSERVATION:

The Median-value of Interest-Rates for the DEFAULTER loans is significantly higher than that of the FULLY-PAID loans.

PROPOSAL :

LC management must verify the financial and vocation credentials of borrowers, especially where higher Interest-Rates are involved, the feasibility of repayment of installments.



NUMBER OF LOANS VS INTEREST RATE CATEGORY

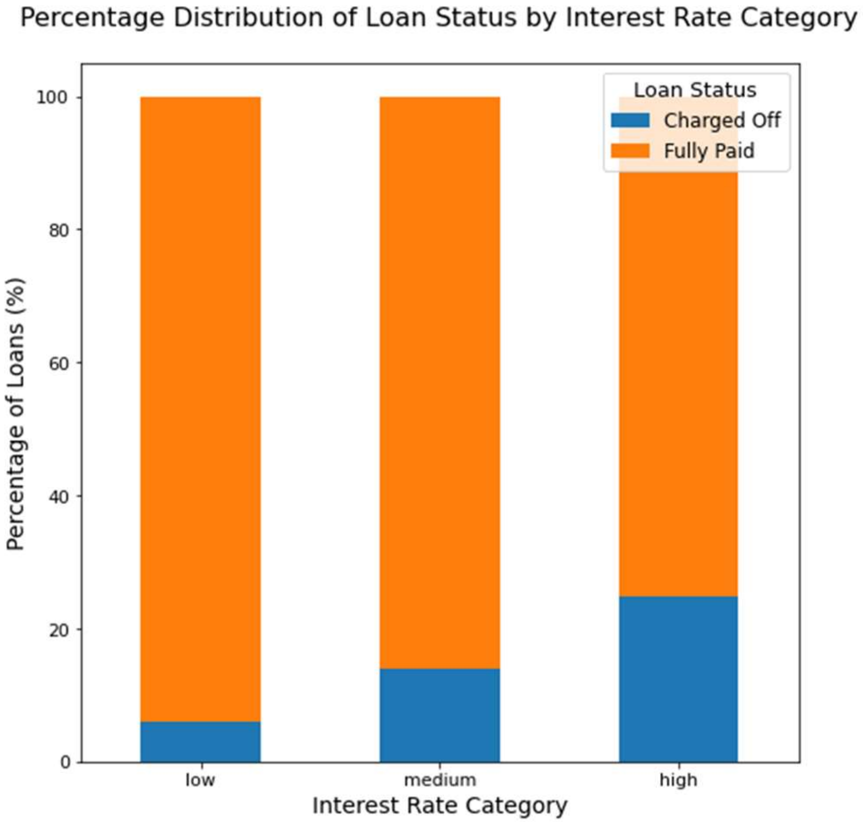
OBSERVATION:

The loans in medium-interest-rates are more popular than the low or high interest-rate loans.

Loans which are FULLY-PAID mostly are the ones with low-interest-rates. Most DEFAULTED-loans are in the high-interest-rate category.

PROPOSAL :

LC management can offer more loans in low-interest-rate category due to better repayment-rate resulting in profits to LC.



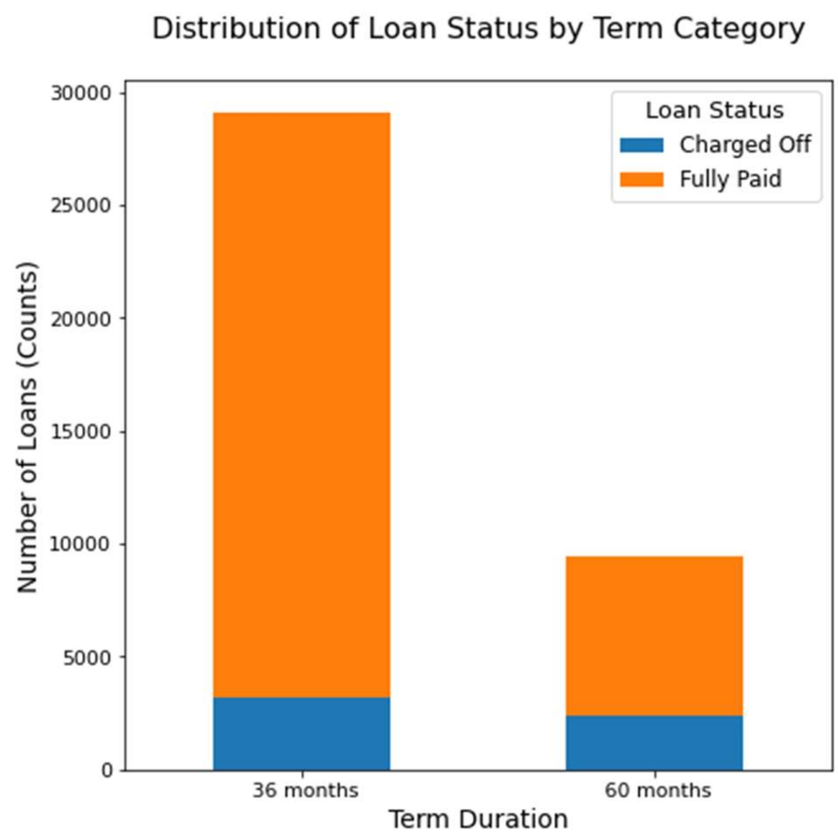
NUMBER OF LOANS VS LOAN-DURATION

OBSERVATION:

The loans of 36-month period are more popular and are also more probable to be FULLY-PAID, than the one with 60-month period.

PROPOSAL :

LC management can offer more variety of loans of 36-month period due to higher closure-rate and popularity. This will help increase the profits of LC.



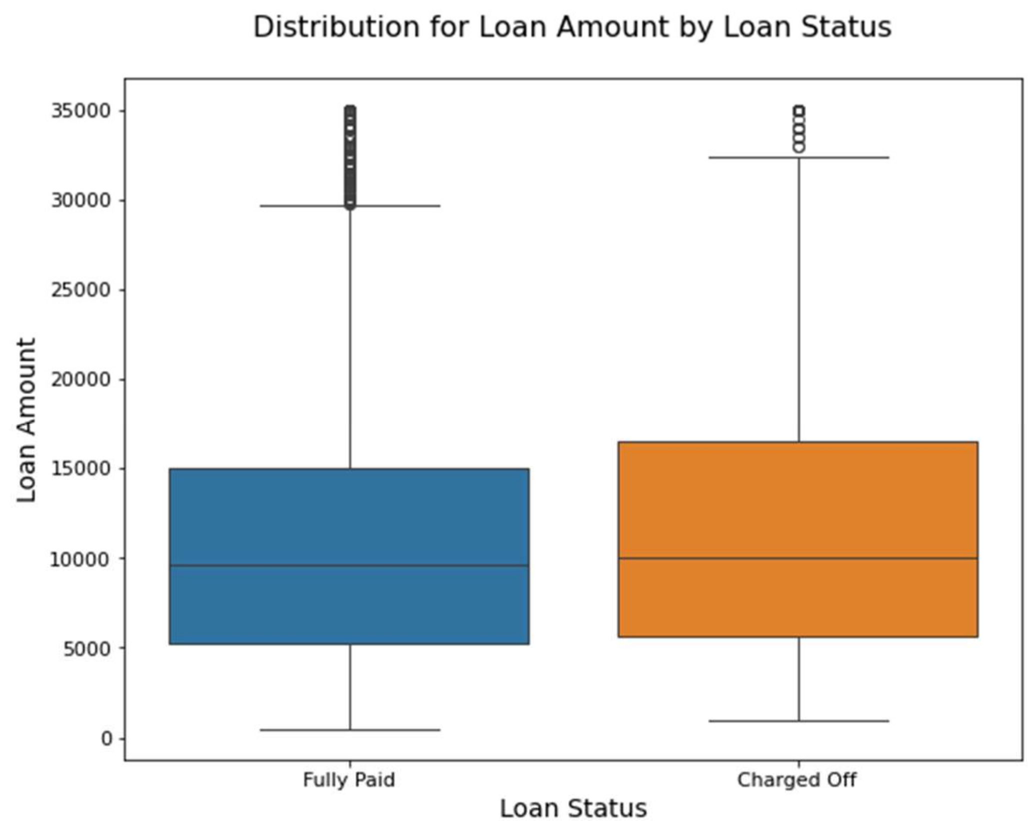
LOAN AMOUNT VS LOAN STATUS

OBSERVATION:

The Loan-Amounts exceeding 30000 are more likely to be DEFAULTED.

PROPOSAL :

LC management can limit the Loan-Amount values to increase the possibility of FULLY-PAID category. This will help the LC minimize their losses.



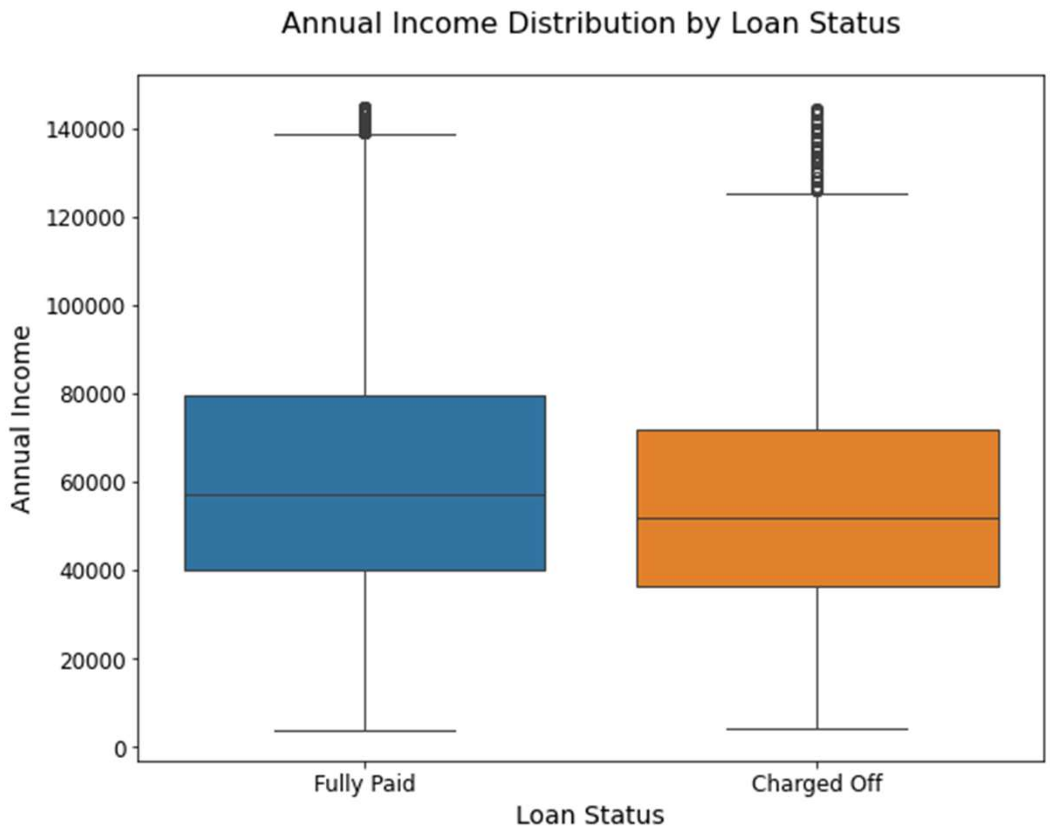
ANNUAL INCOME VS LOAN STATUS

OBSERVATION:

Loans disbursed to borrowers whose Annual-Income is higher than 80000 are more likely to be FULLY-PAID.

PROPOSAL :

LC management must ensure that due-diligence on the borrowers are done based on their Annual-Income to minimize defaults.



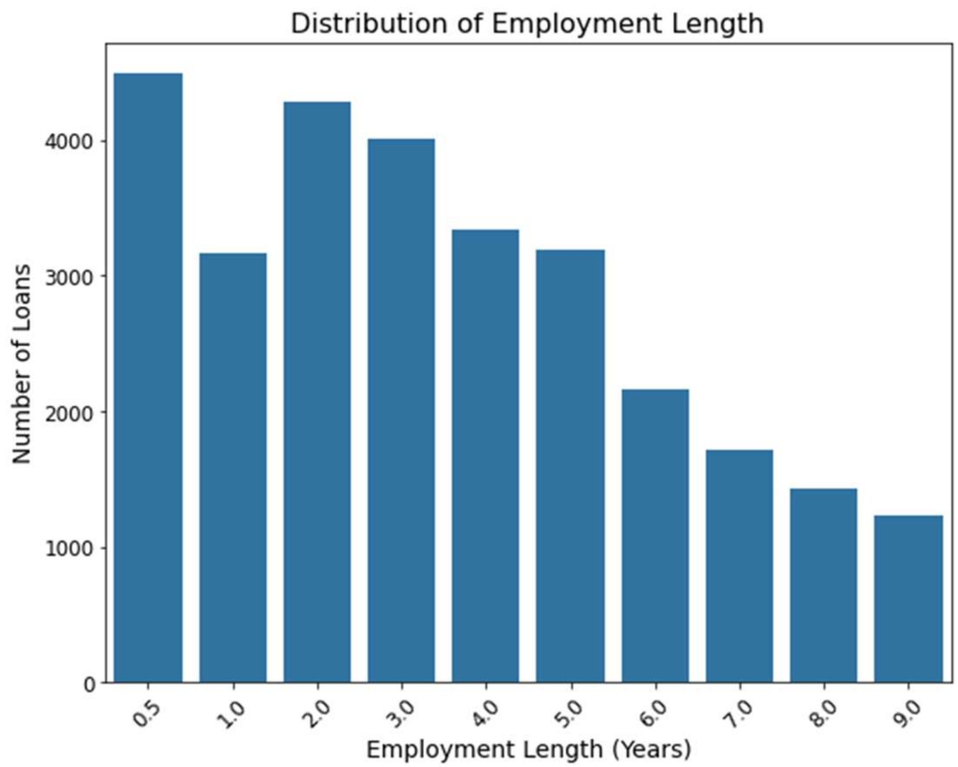
NUMBER OF LOANS DISBURSED VS EMPLOYMENT DURATION OF BORROWERS

OBSERVATION:

Maximum number of loans are disbursed to borrowers with less-than 1-year of employment/work-experience. The tendency to take loans reduces when number of years in employment increases.

PROPOSAL :

LC management could focus on borrowers who are in their first job and make it attractive for them to take loans. This helps LC increase their lending.



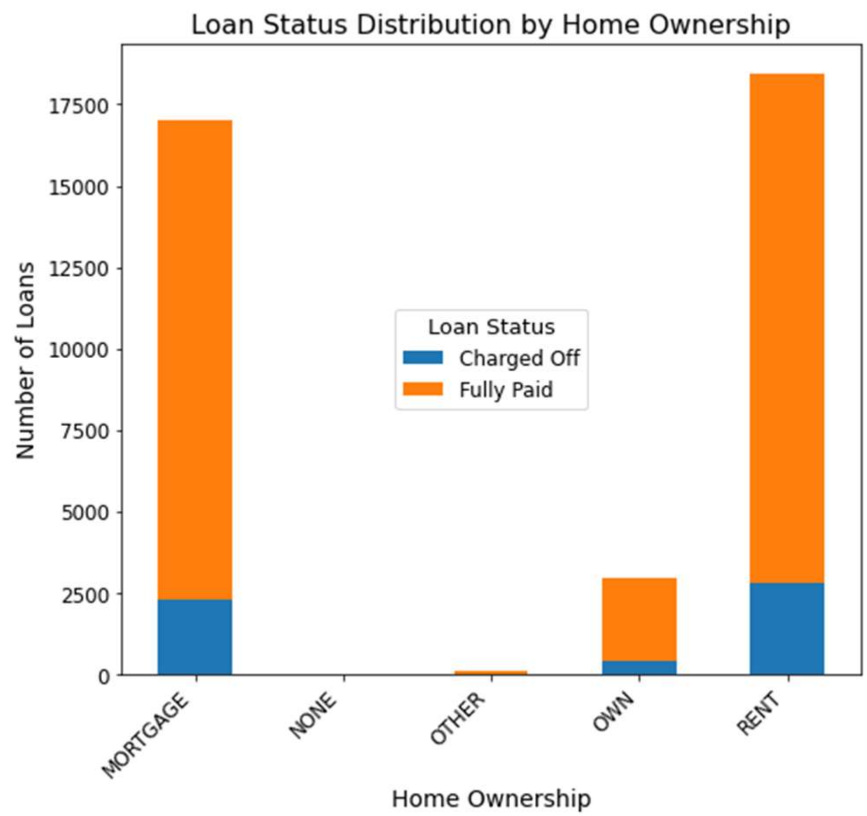
NUMBER OF LOANS DISBURSED VS HOME OWNERSHIP

OBSERVATION:

Maximum number of loans are disbursed to borrowers who are on rent or have mortgage. Very low number of borrowers own their home.
Within these two categories most loans get FULLY-PAID.

PROPOSAL :

LC management could focus on borrowers who are renting and/or have mortgage and make their loan packages fine-tuned for such borrowers.



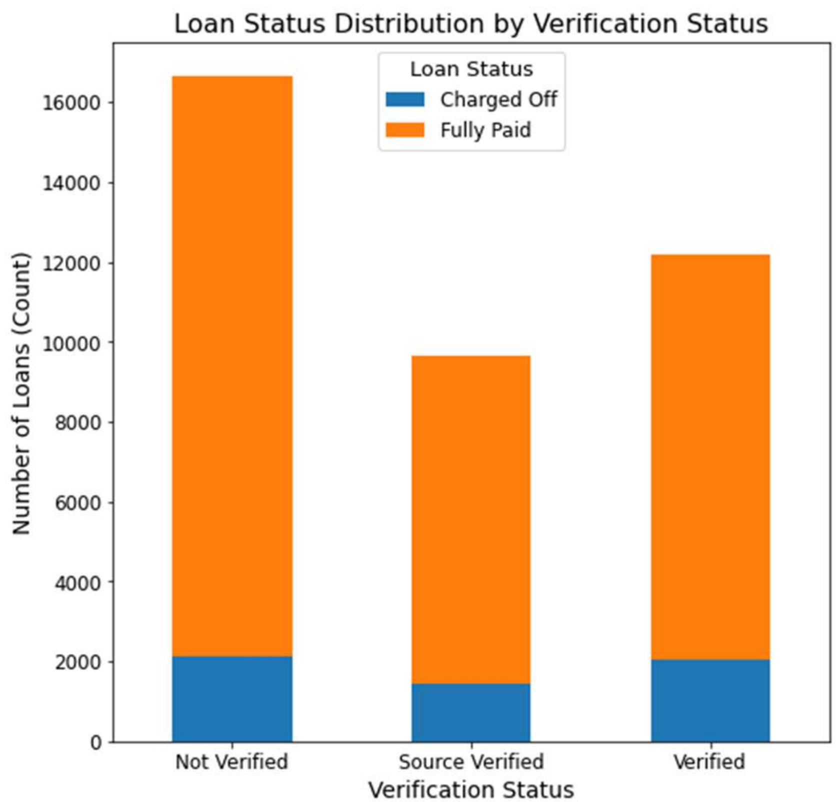
NUMBER OF LOANS DISBURSED VS VERIFICATION STATUS

OBSERVATION:

Maximum number of loans are disbursed to borrowers whose credentials have not been verified.

PROPOSAL :

LC management must improve their due-diligence processes before disbursing loans to borrowers. LC have to verify the credentials of borrowers <u>to reduce the risk of Defaulters.</u>



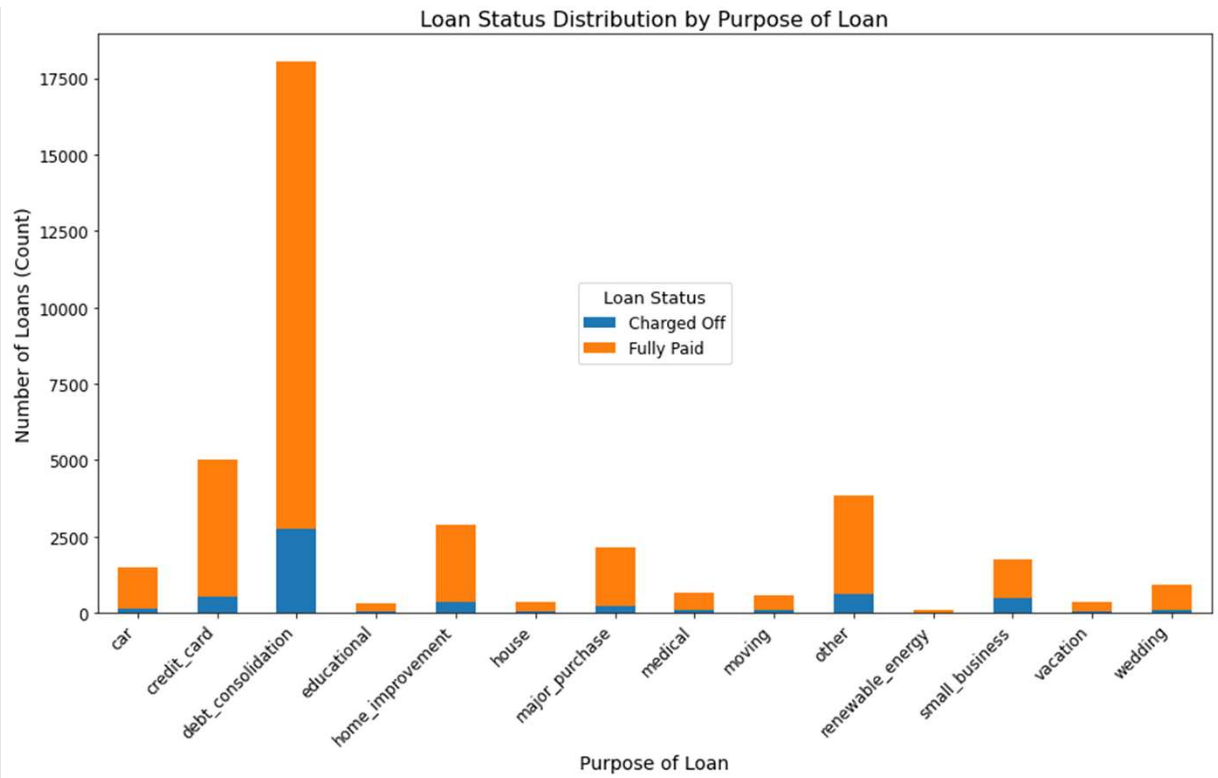
NUMBER OF LOANS DISBURSED VS PURPOSE OF LOAN

OBSERVATION:

Maximum number of loans are disbursed to borrowers who were in the need for debt-consolidation.

PROPOSAL :

LC management must be careful to evaluate if the borrowers are doing debt-consolidation for multiple-loans taken within LC. If so, then those cases must be flagged and resolutions planned. If this is not taken care of then such cases could increase risk for LC.



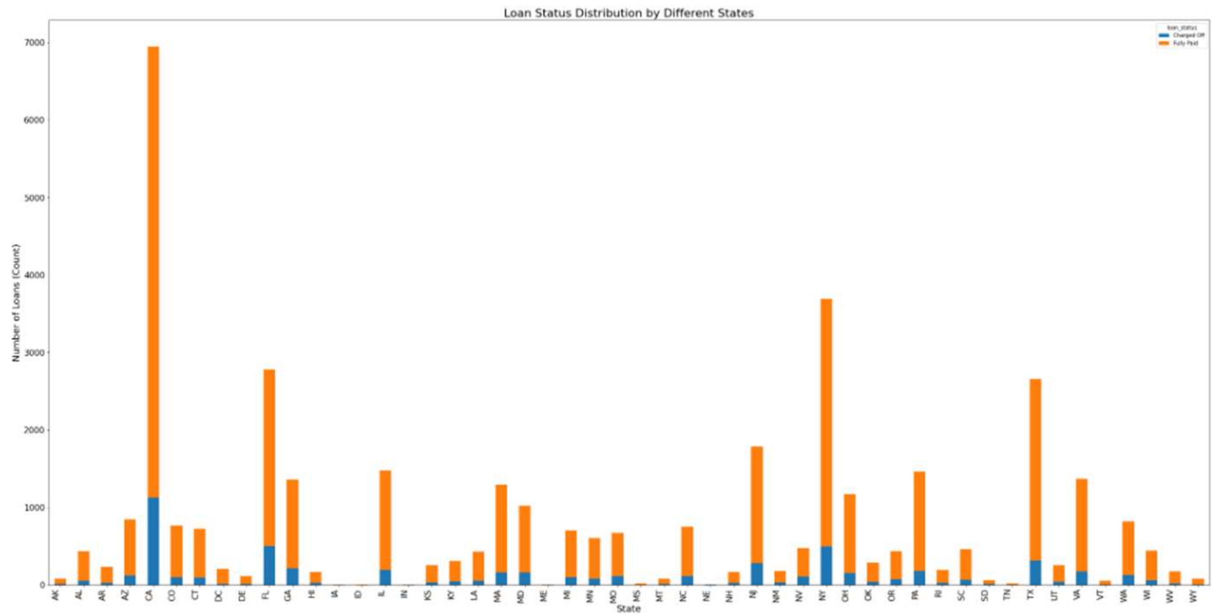
NUMBER OF LOANS DISBURSED VS STATE(REGION)

OBSERVATION:

Maximum number of loans are disbursed to in CA state. Also, it seems to account for very high FULLY-PAID loans.

PROPOSAL :

LC management must focus more on CA-state/region to find their borrowers. This could mean more advertising and increasing their reach in CA-state by expanding their branches. Also, they can consolidate other region/state-branches where there is primary business of lending is low for LC.



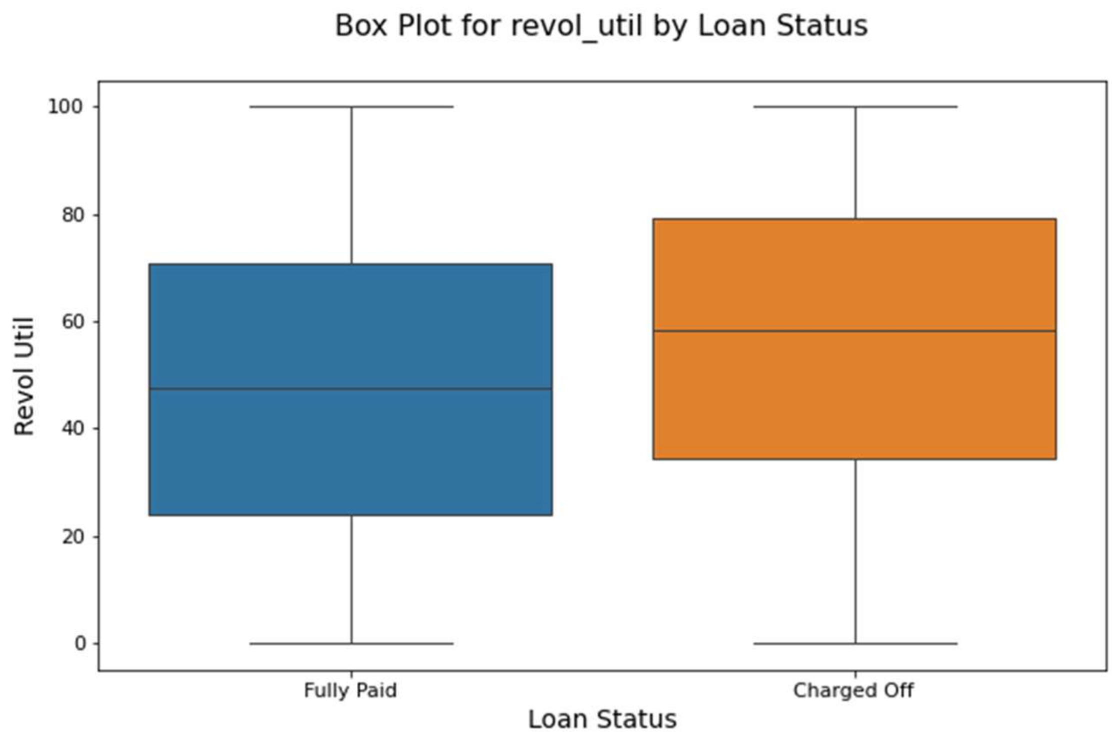
REVOLVING-LINE-UTILIZATION-RATE VS LOAN STATUS

OBSERVATION:

DEFAULTED loans tend to have much higher Revolving-Line-Utilization-Rate then the loans which were FULLY-PAID.

PROPOSAL :

LC management must keep track of the Revolving-Line-Utilization-Rate and raise a flag in their systems for any loan having the Revolving-Line-Utilization-Rate close to 70%. That should be the threshold. This will help LC management to take proactive measures to avoid such loans getting Charged-Off.



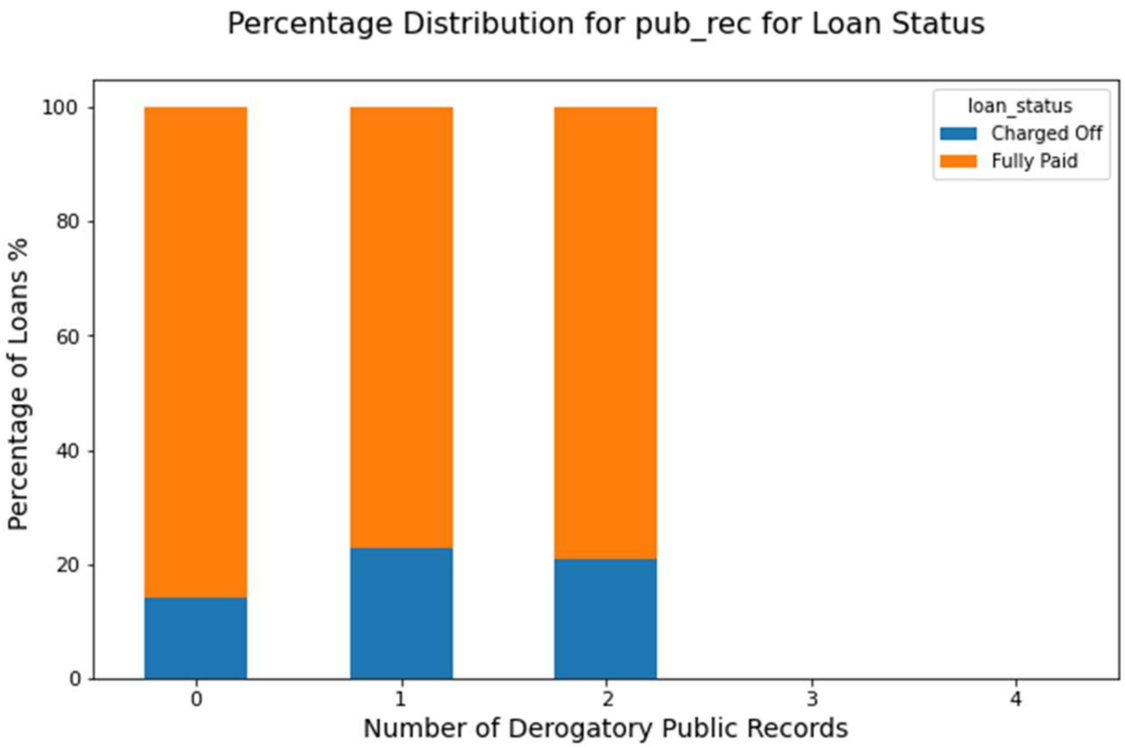
PERCENTAGE OF LOANS DISBURSED VS NUMBER OF DEROGATORY PUBLIC RECORDS

OBSERVATION:

There is a high-percentage of loans that were disbursed to borrowers with at least one derogatory public record. The possibility of Defaulted-loans are higher in such cases when compared to borrowers with clean public records.

PROPOSAL :

LC management must improve their due-diligence by verifying the borrower’s public records and find if they have any derogatory records. This will help LC management scrutinize the borrower’s profile and minimize the risk of Defaulted-loans.



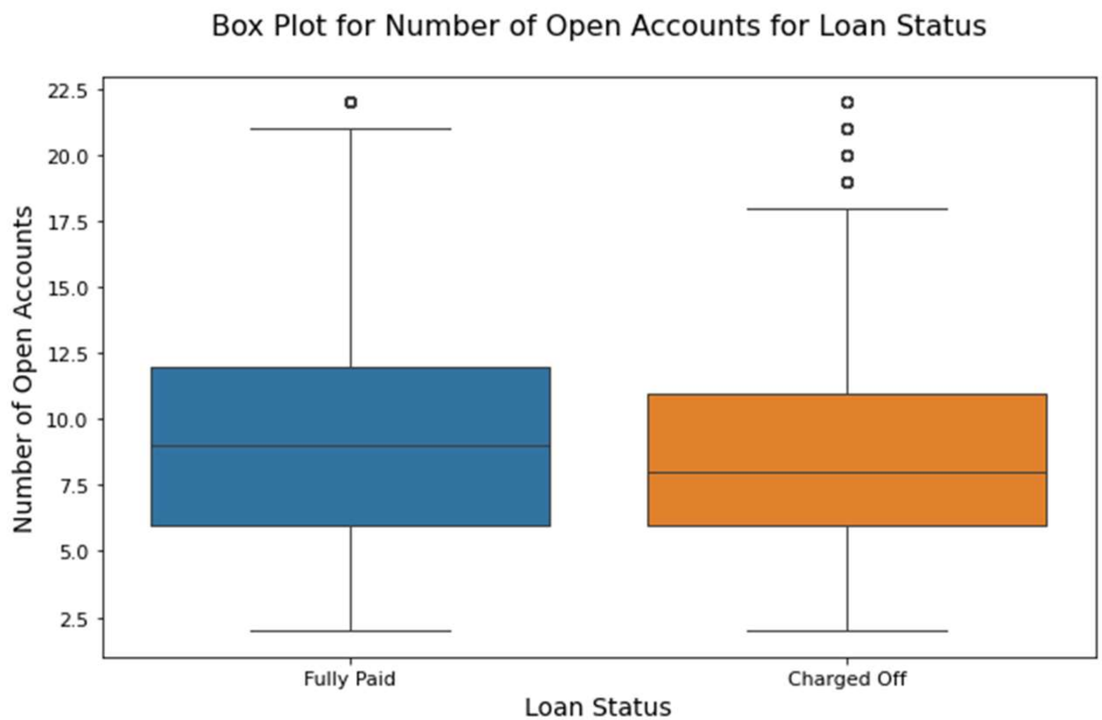
NUMBER OF OPEN ACCOUNTS VS LOAN STATUS

OBSERVATION:

The Median-value of number of open-accounts associated with the FULLY-PAID loans was higher than that of the loans that were CHARGED-OFF/DEFAULTED.

PROPOSAL :

LC management could keep track of the number of open-accounts maintained by the borrowers. Loans which are associated with more than 11 open accounts seem to get FULLY-PAID than those with relatively lesser open-accounts.



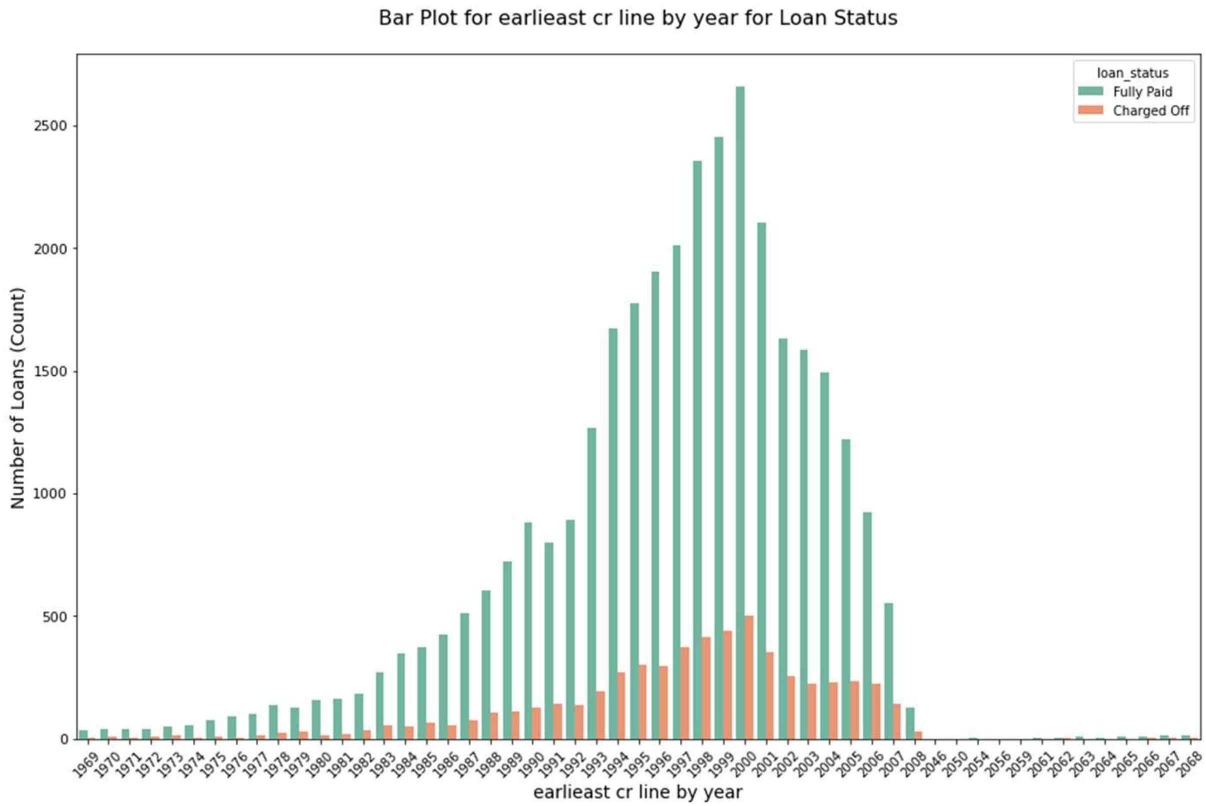
NUMBER OF LOANS DISBURSED VS YEAR OF OPENING EARLIEST CREDIT-LINE

OBSERVATION:

Maximum credit lines of FULLY-PAID loans were opened in the year 2000. There has been a gradual decrease in the number of loans since the year 2000.

PROPOSAL :

LC management need to target new-age borrowers for being competitive in the lending business. This is important since there seems to be a downward-trend in the number of first-time borrowers in the market.



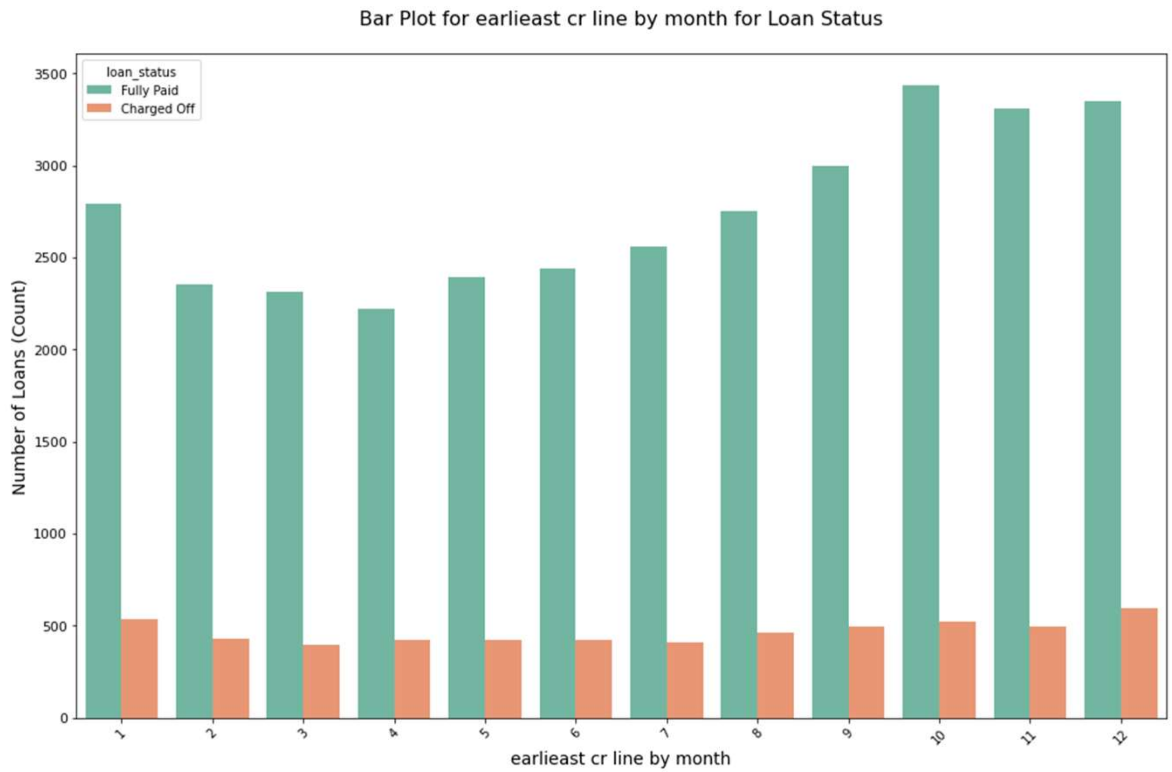
NUMBER OF LOANS DISBURSED VS MONTH OF OPENING EARLIEST CREDIT-LINE

OBSERVATION:

Maximum credit lines of FULLY-PAID loans seem to get opened in the "winter-months" towards the end of the year.

PROPOSAL :

LC management can increase their marketing-teams' and sales-teams' spend during the months of October, November and December. This could help them be more competitive in their business.



CORRELATION PLOT – HEAT MAP

OBSERVATION:

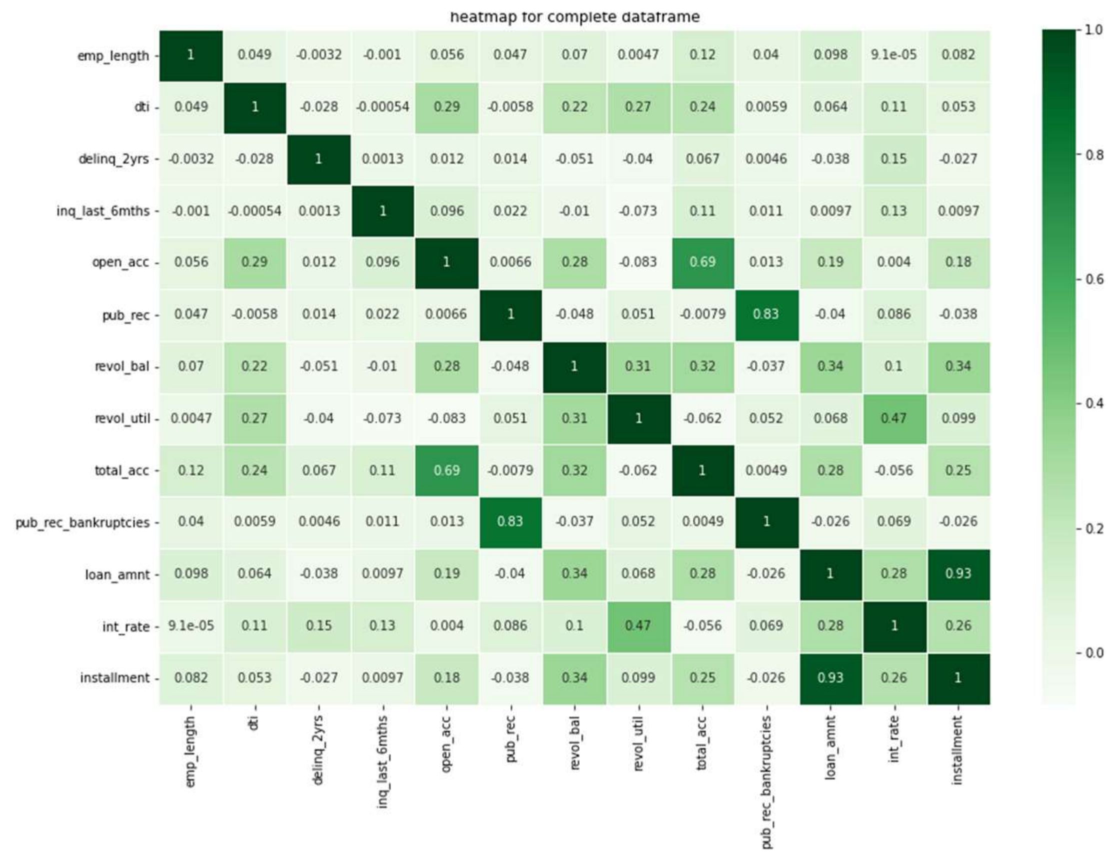
The heat map shows that there is very poor correlation between most of the features.

The features which are relatively having higher correlation between them are these pairs: [loan-amount, installment-amount], [public-record, public-record-bankruptcies]

<Further analysis in next slide>

PROPOSAL :

<Proposals in next slide>



CORRELATION PLOT – HEAT MAP (contd..)

- ✓ **Loan Amount vs Revolving Balance (0.34):** There is a moderate positive correlation between loan_amnt and revol_bal. It suggests that borrowers with larger loans also tend to carry higher revolving balances.
- ✓ **Public Records vs Bankruptcies (0.83):** There is a very strong correlation between pub_rec (number of derogatory public records) and pub_rec_bankruptcies. This implies that the majority of derogatory public records might be due to bankruptcies.
- ✓ **Debt-to-Income (DTI) vs Revolving Utilization (0.27):** DTI has a moderate positive correlation with revol_util, indicating that people with higher debt-to-income ratios also tend to have higher revolving credit utilization.
- ✓ **Debt-to-Income (DTI) vs Revolving Balance (0.22):** There's a positive correlation between DTI and revolving balance, suggesting that higher debt loads might also be linked to higher credit balances.

CORRELATION PLOT – HEAT MAP (contd..)

- ✓ **Revolving Balance vs Revolving Utilization (0.31):** There is a positive correlation between revol_bal and revol_util, showing that a higher revolving balance is linked to higher credit utilization.
- ✓ **Interest Rate vs Revolving Utilization (0.47):** There is a moderate positive correlation between int_rate and revol_util, meaning higher revolving utilization is associated with higher interest rates, likely due to the increased risk of borrowers with high credit utilization.

PROPOSALS ---- FROM HEAT MAP ANALYSIS (contd..)

- ✓ The strong correlation between pub_rec and pub_rec_bankruptcies implies that bankruptcy is a significant factor in public records. More attention should be given to customers with a history of public records or bankruptcies when evaluating loan risk.
- ✓ Moderate correlations between DTI, revolving balances, and revolving utilization suggest borrowers should manage their overall debt load and credit utilization better to avoid high-interest rates.
- ✓ Higher revolving balances increase revolving utilization, which can affect the borrower's credit score and loan approval chances. LC could offer proactive tools like alerts for high revolving balances or recommend setting up automatic payments to maintain utilization below 30% for optimal credit health.
- ✓ Borrowers with high credit utilization tend to face higher interest rates. LC could encourage these borrowers to lower their utilization by offering credit line reductions, balance transfer options, or lower interest rates for accounts with reduced utilization, helping reduce the overall risk.

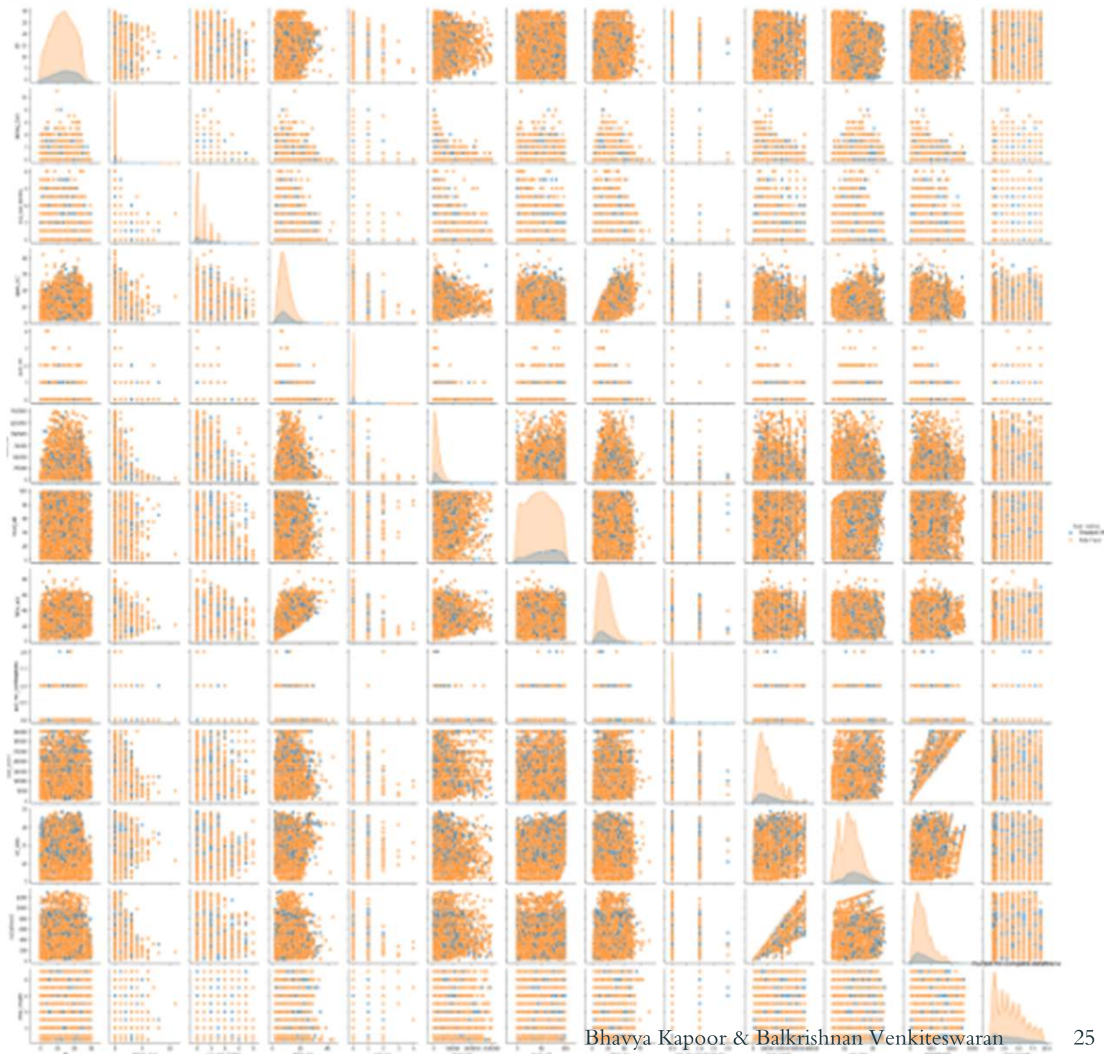
OBSERVATION:

Loan Amount vs Installment (0.93): There is a very strong positive correlation between loan-amount and installment. This makes sense, as higher loan amounts are likely to have larger monthly installments.

PROPOSAL :

Since loan-amount and installment are highly correlated, it is crucial to assess a borrower's ability to pay larger installments before approving large loan amounts. Offering loan products with flexible installment plans or capped installments for large loans could help reduce the risk of defaults.

PAIR PLOT



THANK YOU