

Lending Club Case Study

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Abstract

Lending club is the largest online marketplace ,facilitating personals loans,business loans etc

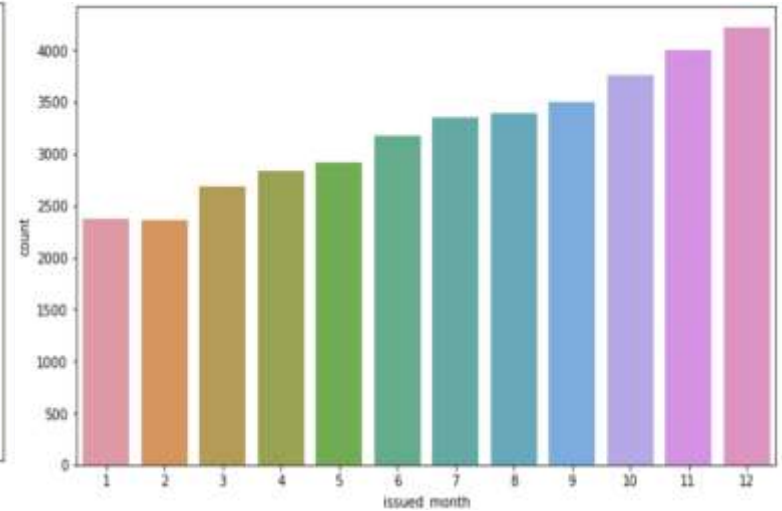
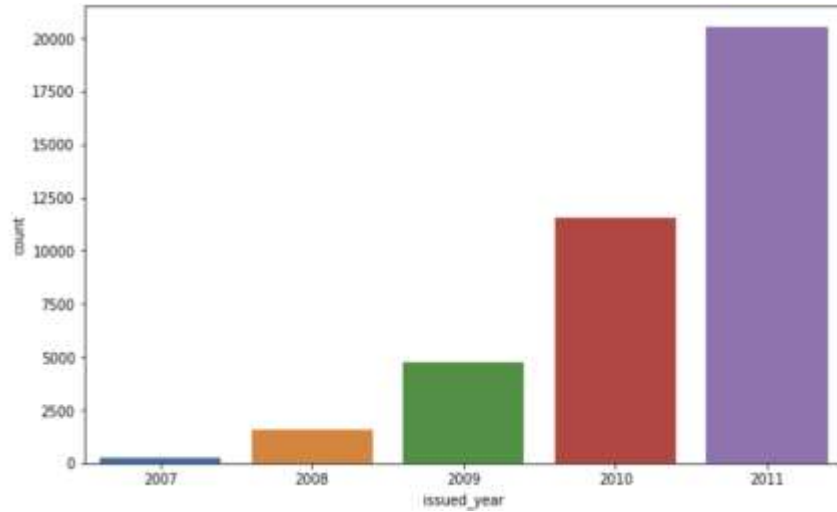
Borrowers can easily access lower interest rate loans

The objective of the analysis is to identify risky loan applicants who can default in future, then such loans can be reduced thereby cutting down the amount of credit loss.



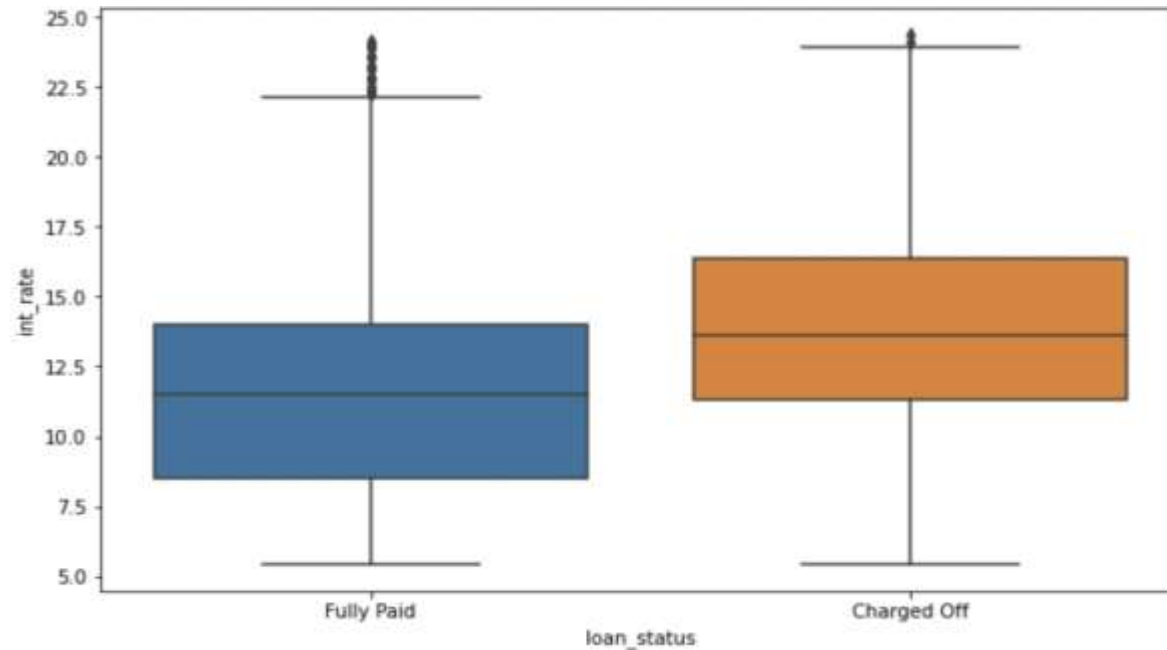
Problem Solving Methodology

- Data Cleaning
- Data Understanding
- Univariate Analysis
- Segmented Univariate Analysis
- Bivariate Analysis
- Recommendations

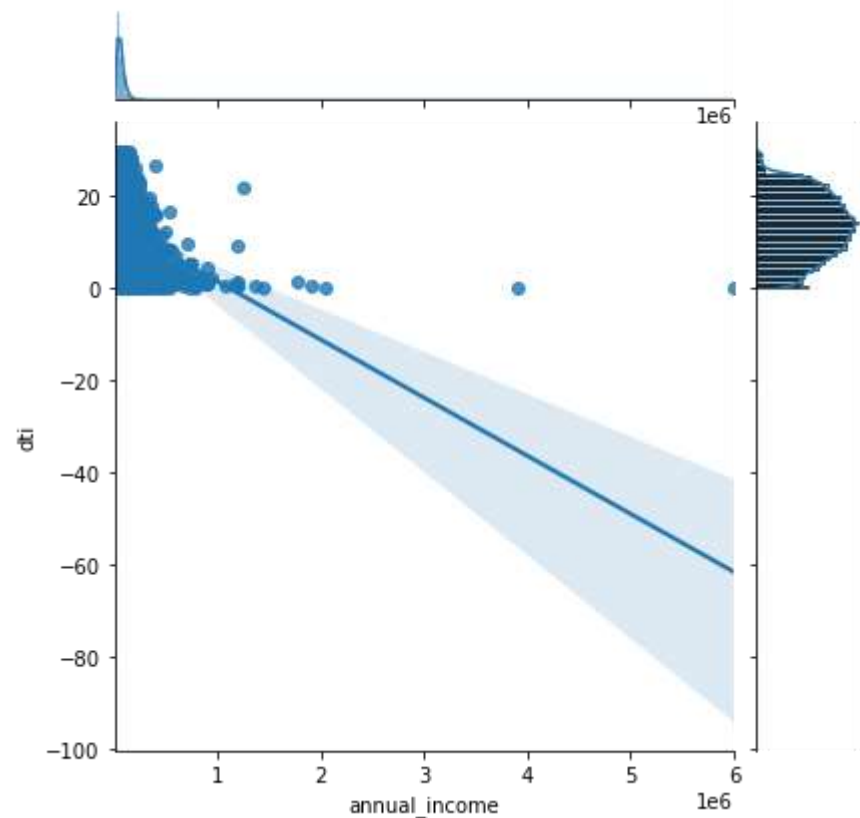
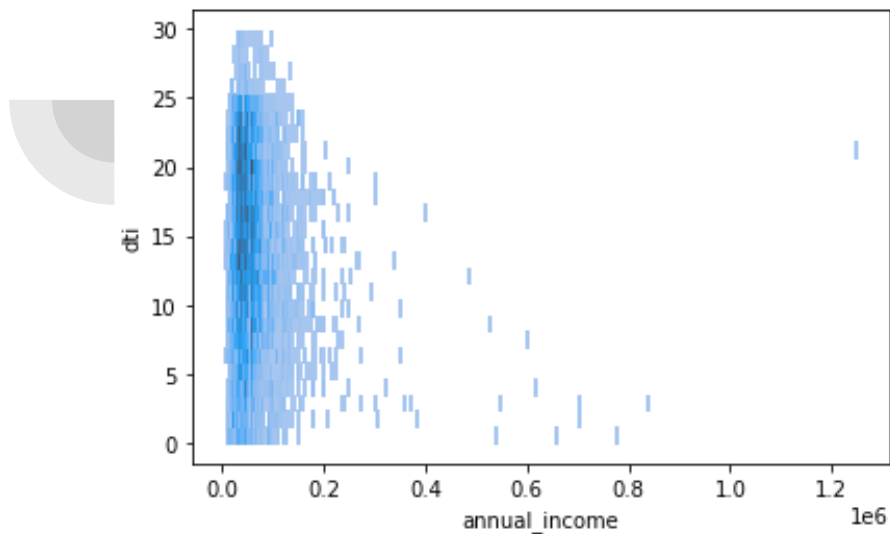


The number of loan issued almost doubled every year

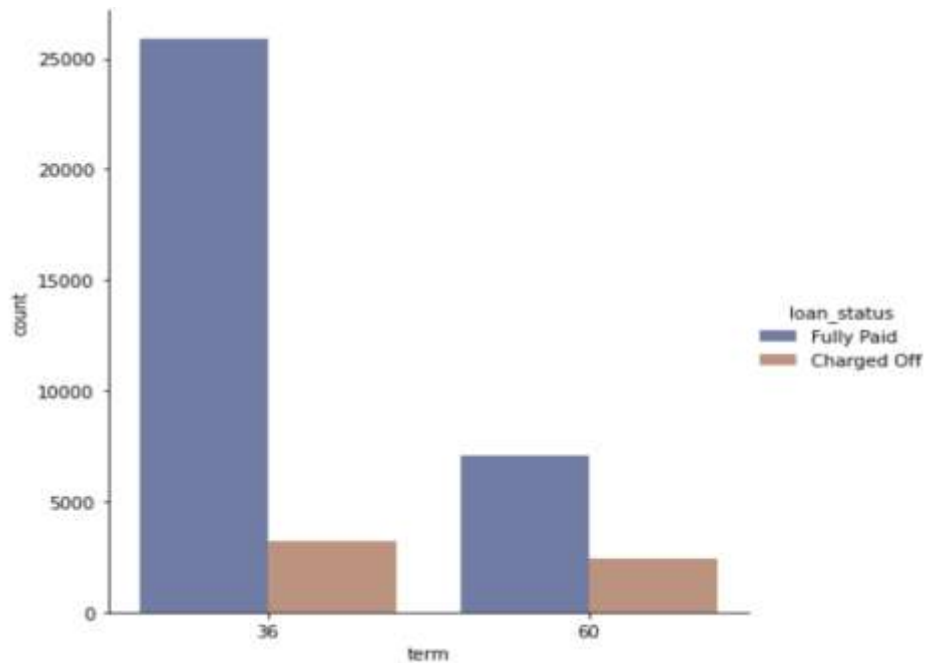
The loan issued every month had also increased from January to December . In the last quarter because of festive season more loan was sanctioned to the customers



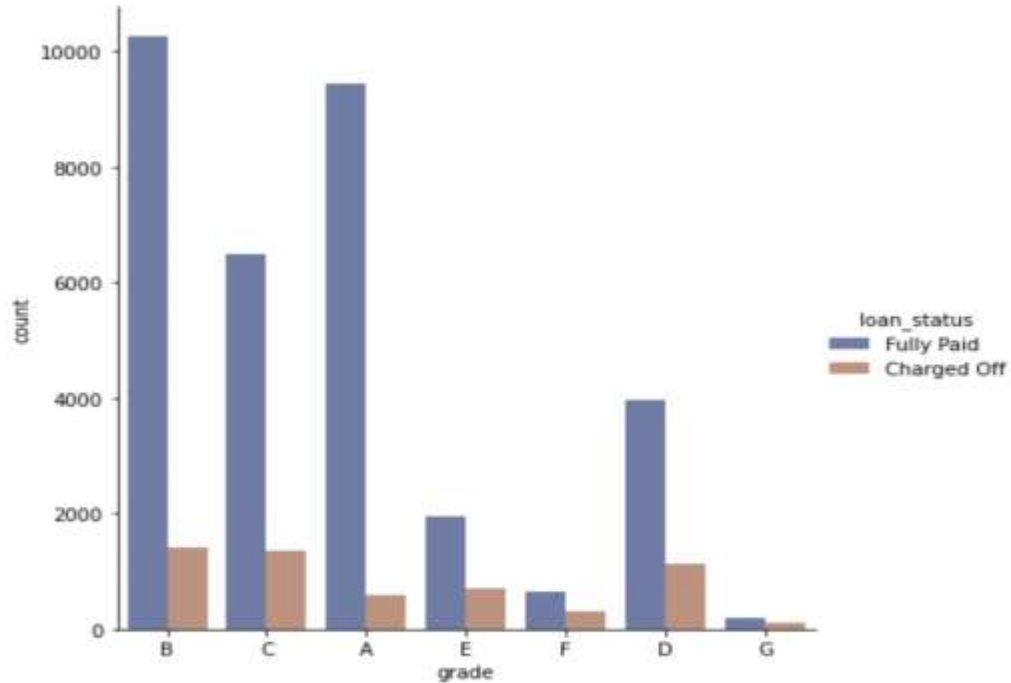
Insight : The spread of charged off customers are towards the high interest rate. the median of interest rate has a difference of around 2.5% for charged off and fully paid customers. When the loan interest rate is high there is a high chance of loan getting defaulted .



Histplot and Jointplot showing with increase in monthly income DTI is decreasing



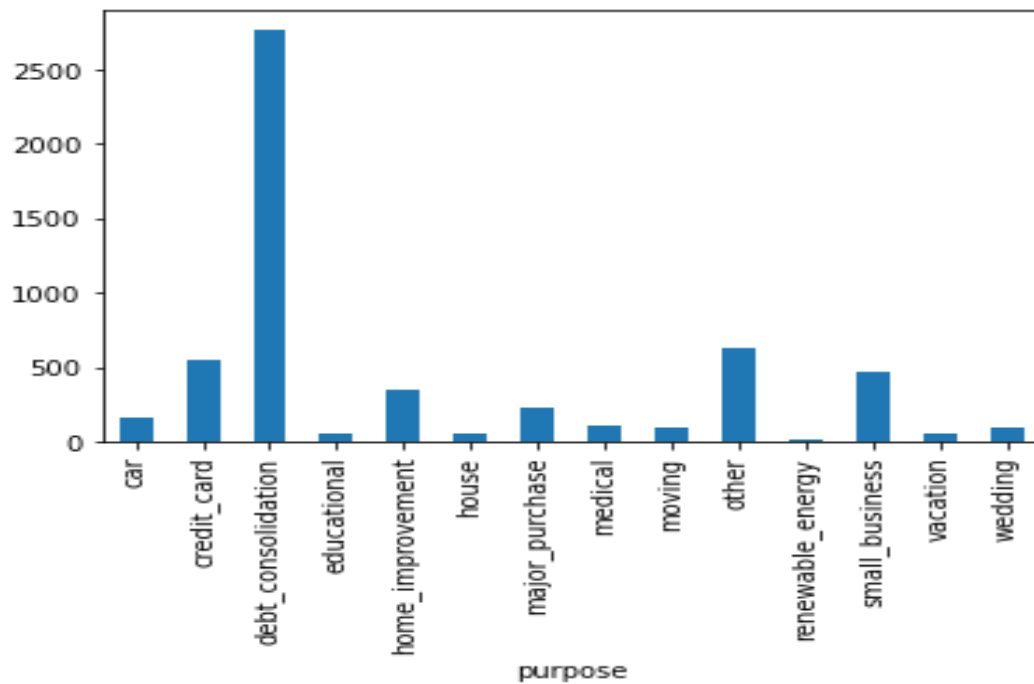
Although with tenure of 36 months there is a slight increase in charged off customers, however with 36 months tenure huge number of customers closing the loans successfully compared to 60 months tenure



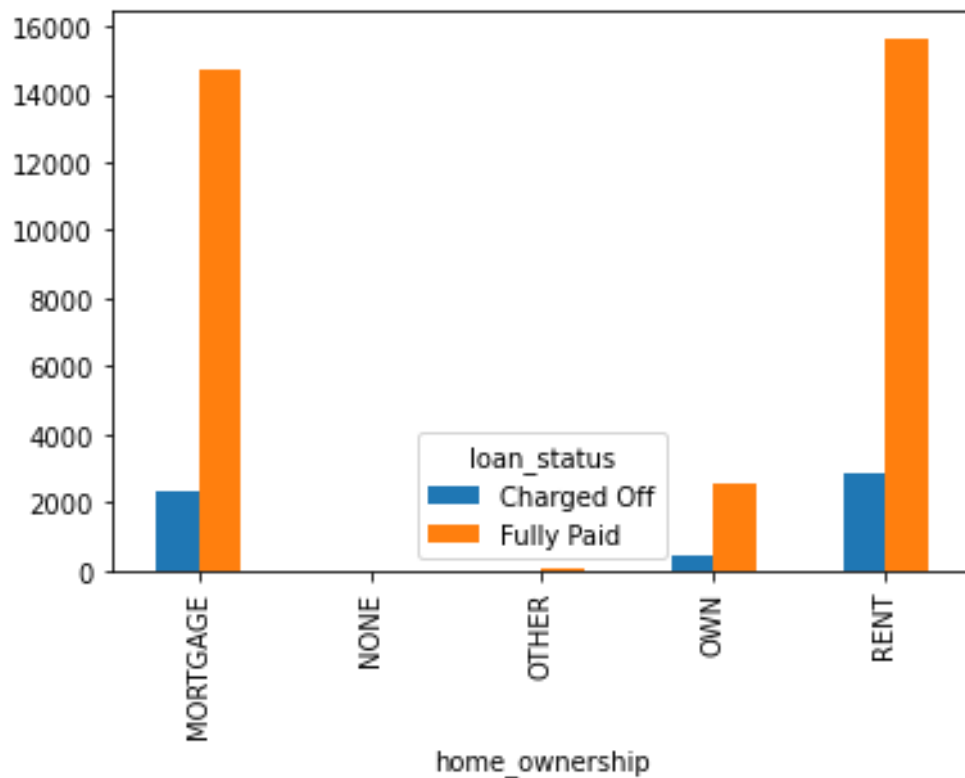
Grades are very good category to tell borrower probability of defaulting of loan

The lower grades (B,C,D) have higher chances of defaulting the loan.

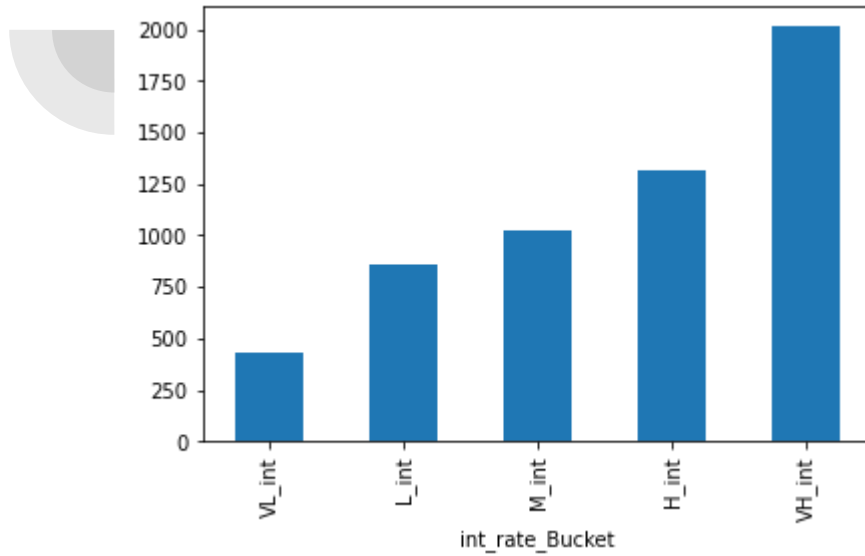
Also the lower grades are getting loans for higher rates which might be the cause of loan default



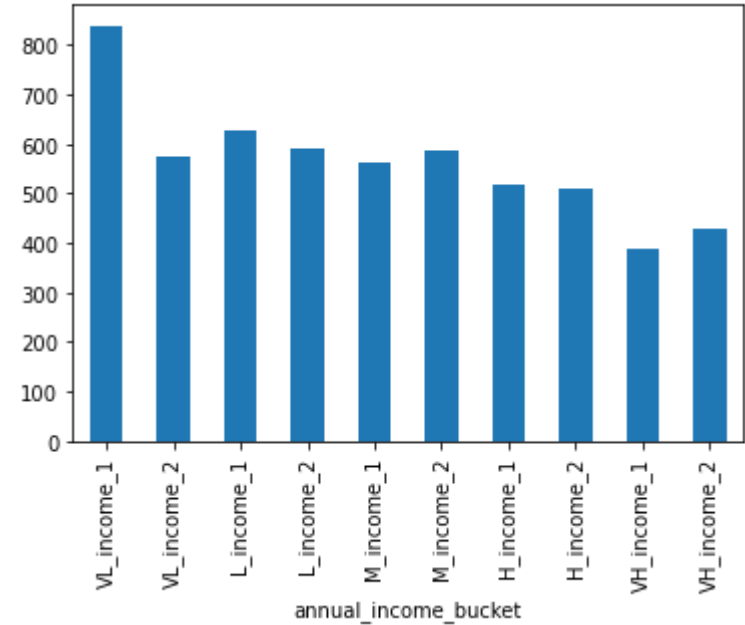
Borrower's who took loans for debt_consolidation purpose have defaulted more



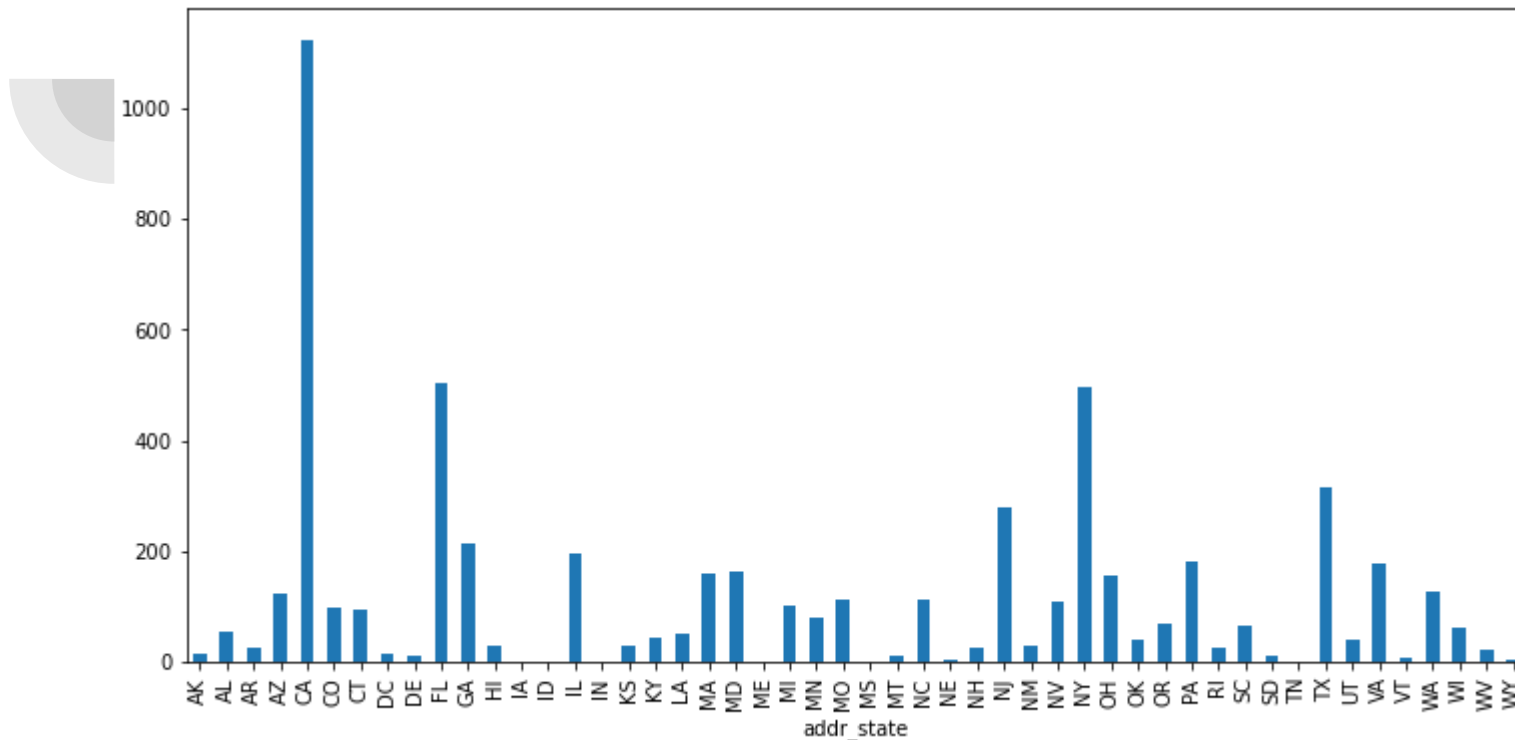
above two graph shows customer with mortgage and Rented property have high chances of defaulting



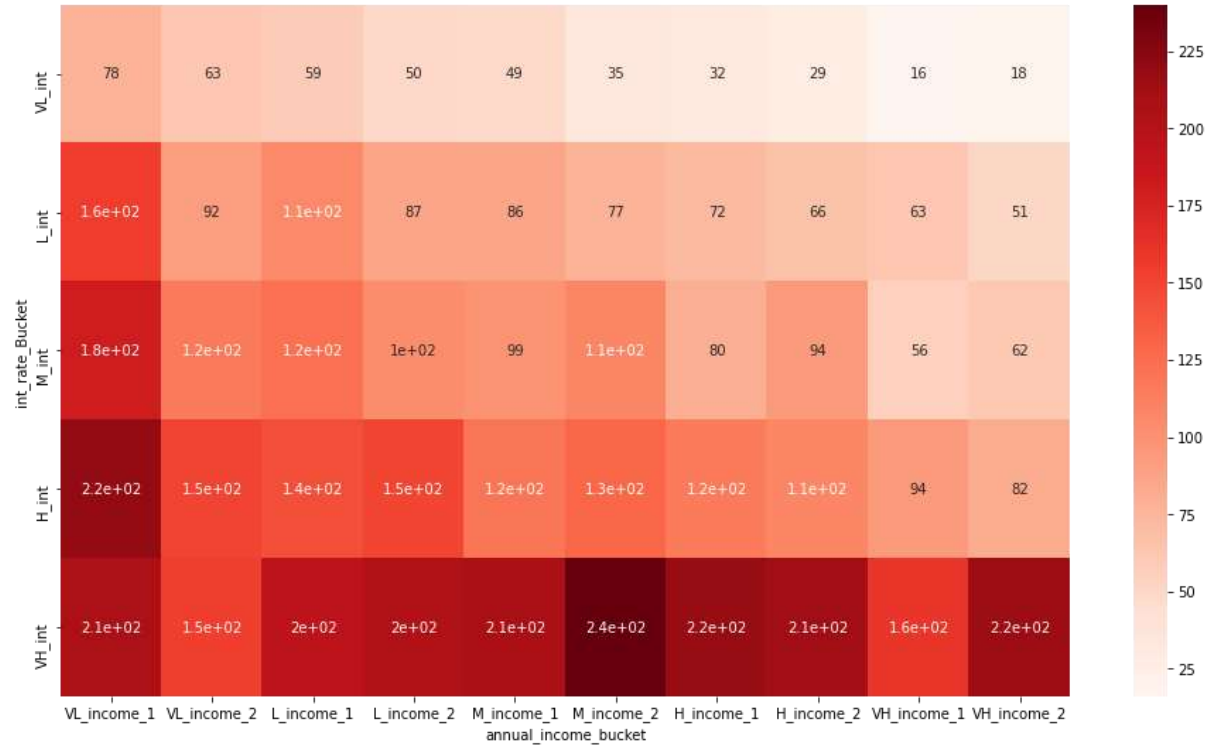
Insight : Very high and high interest customers are prone to charge off also it is noticeable that increase in interest rate increase charge off customers



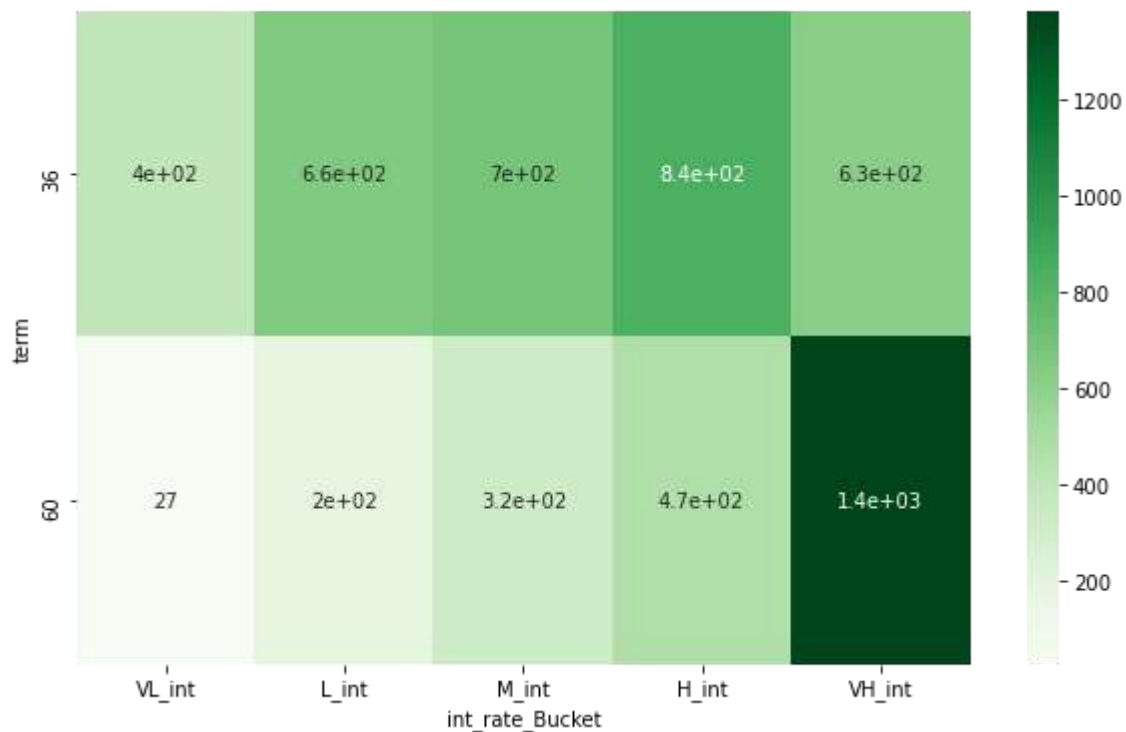
Insight: Very low income category has (less than 10000) chances of defaulting



Customers from address State CA,FL,NY has high chances of defaulting. Specially customers from CA has very high chance



Insight : with very high interest almost all category of income seems to be acting high for charge off customers. With high and very high interest and with Very low and low income range customers are failing to close loan successfully. If income decreases and interest rate rises customers will default .



Insight : This is noticeable Very high interest with 60 months tenure tends to make customers default more



Insights :

Employment less than a year is a good driving factor for charge off customer.

Debt Consolidation loans are defaulted more

Not verified and rented together is a decent driver for charge off customers.

Same goes for Mortgage owners with Verified and Not Verified as the verification status.

Very high interest and very low- or low-income categories together are also good drivers for defaulting.

Very high interest with 60 months tenure is a good driving factor for loan default.

Customers from CA state has very high chance

Increase in DTI makes an applicant prone to charge off.



Recommendations

- Funding huge amount with high interest to applicants with low income (less than 10000) will not be a good idea.
- Try to avoid customers who requires loan for debt consolidation purpose.
- If providing loan to rented applicants need to complete the verifications as a must.
- Applicants with low-income categories should not have huge interest rates if required need to reduce the funding amount.
- Grades are good metric for detecting defaulters. Lending club should examine more information from borrowers before issuing loans to low grades (G to A).
- Although with tenure of 36 months there is a slight increase in charged off customers, however with 36 months tenure huge number of customers closing the loans successfully compared to 60 months tenure. So we should be increasing the interest for 36 months tenure.
- Try to avoid customers who are from state CA. if needed decrease funding amount or do an fix Deposit at the same time for being in safe side.
- We have noticed high income makes the DTI low so , focusing on good monthly income is always a good idea.
- Providing loan to applicants whose employment is less than 2 years it's a good idea to increase interest rate if not possible provide loan with lesser funding.
- For less employment duration, lesser monthly income and low grades applicants it's a good idea to get the principal amount in the initial instalments first so we can have less chances of loss.