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# Lenders Club Case Study

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# Problem Statement

The Lenders Club is the largest online marketplace, facilitating personal loans, business loans and financing of medical procedures.

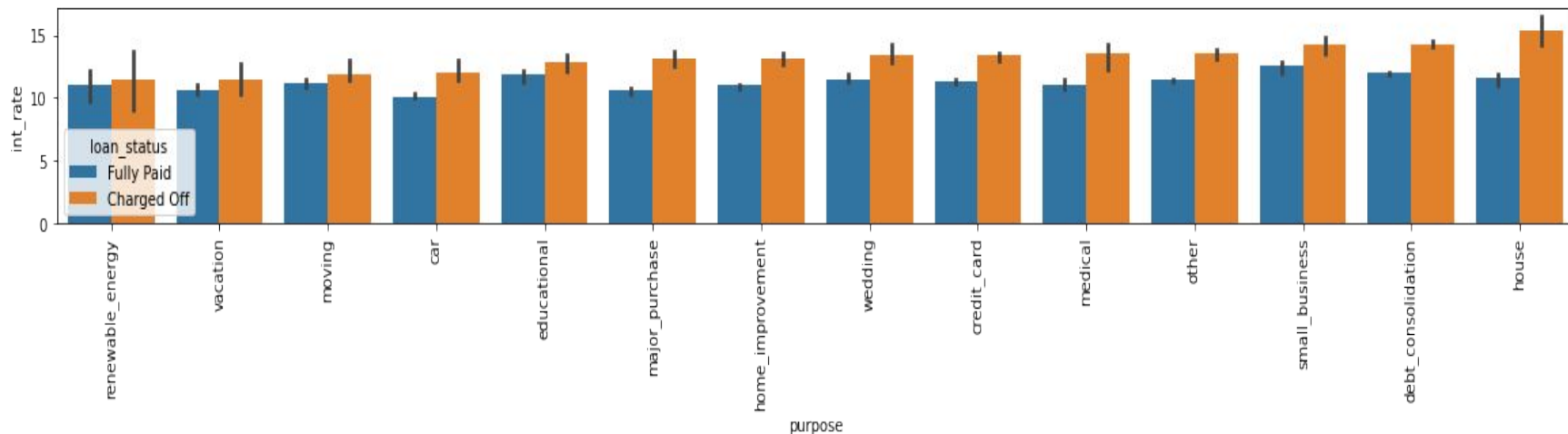
The largest financial loss comes from borrowers who default their loans.

The aim here is to find and report the driving factors behind loan default, which can be used by the company to identify risky applicants

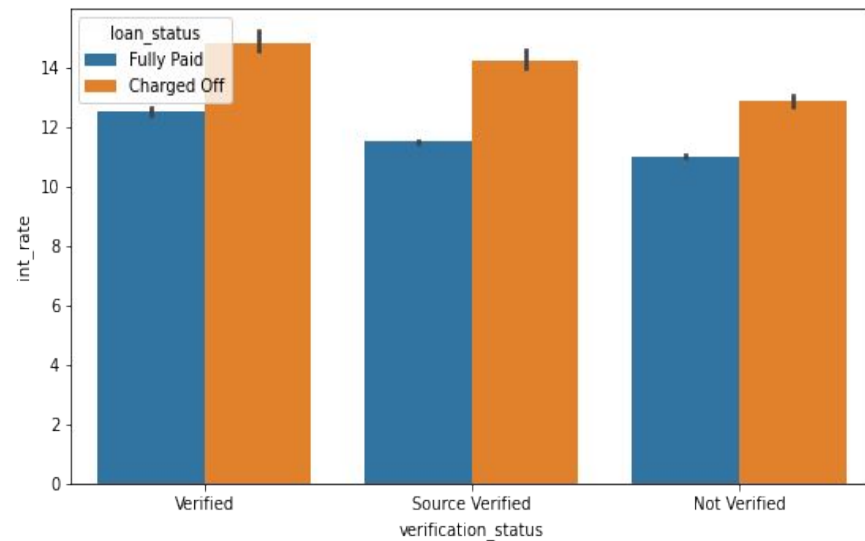
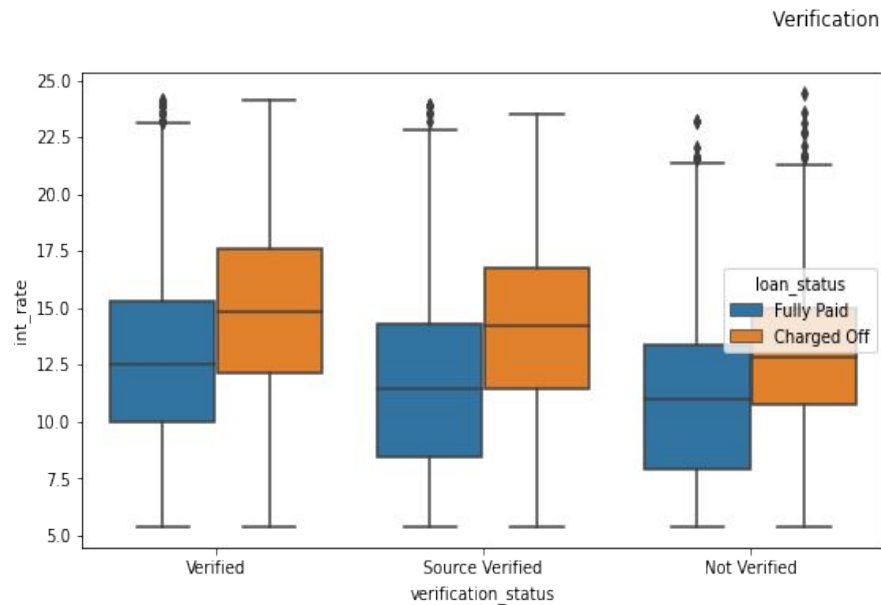
# Recommended variables

## 1. Interest Rate

- Home loans with high interest rates are mostly defaulted. Even small business and debt consolidation has similar observation.
- Irrespective of Home ownership, when the interest rate is high the default rate also high.

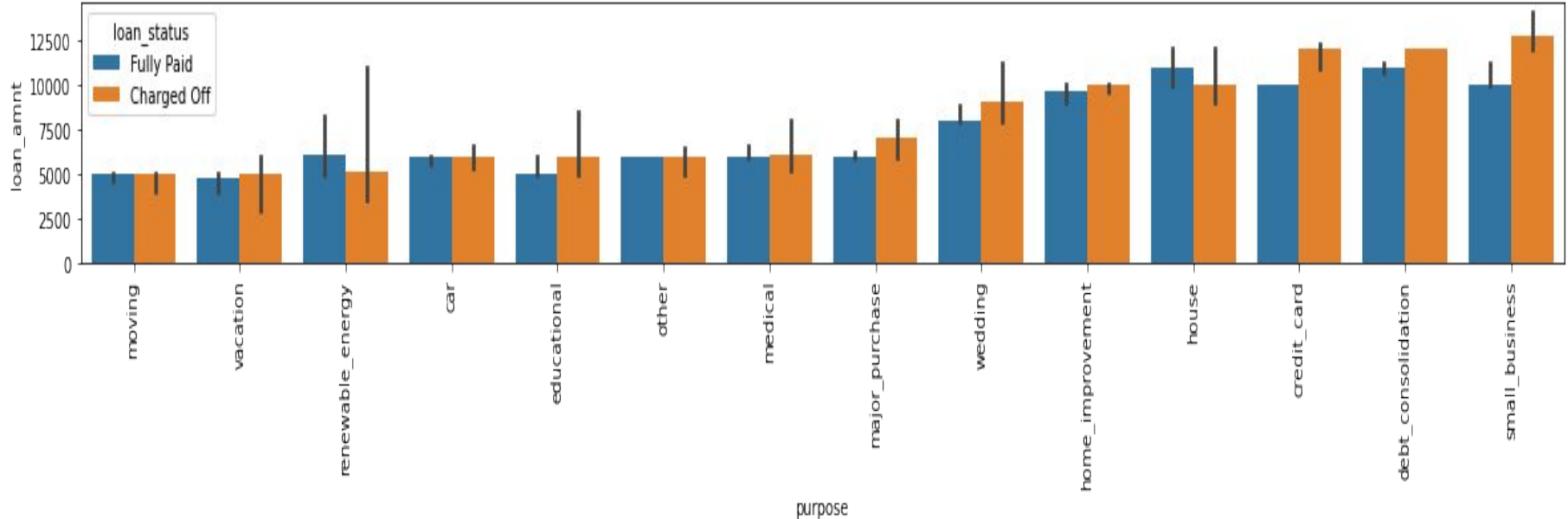


- Irrespective of verification status higher interest rates are incurring default of loan.



## 2. Purpose

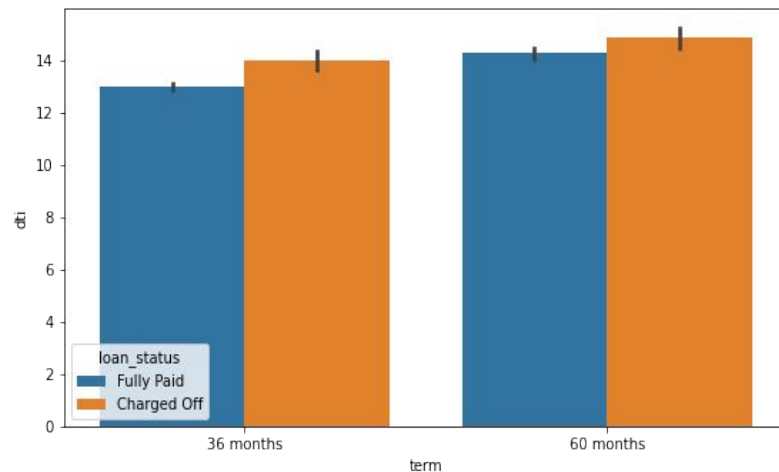
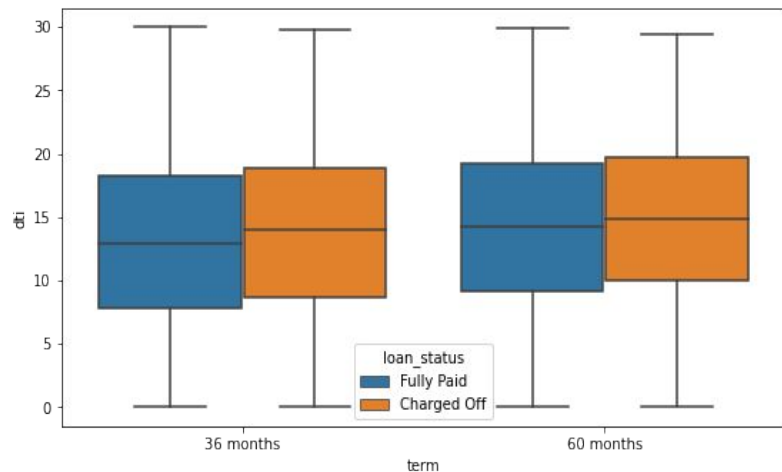
- Small Business has more defaults when the loan amount is also high.
- House and renewable energy loans are the safest to sanction as the number of Charged off loans are lesser than Fully paid.



### 3. Depth To Income Ratio

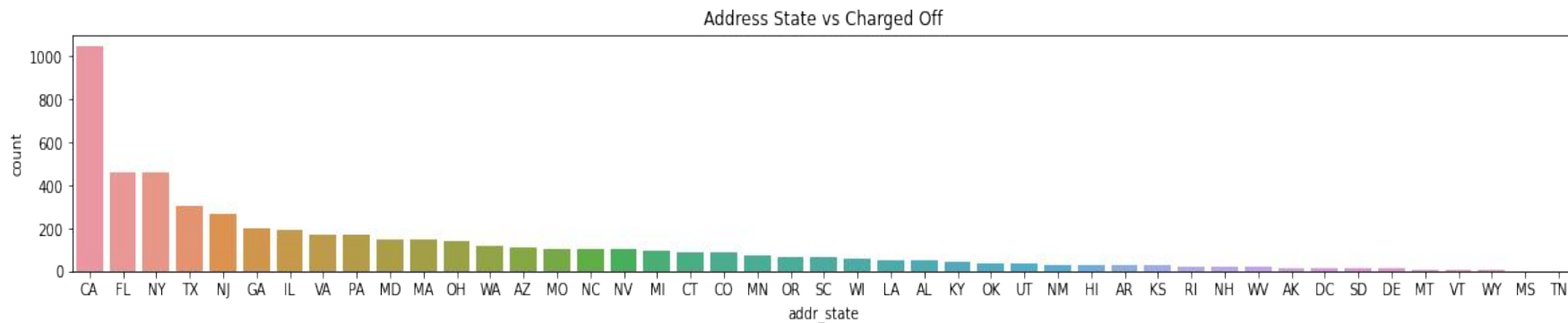
- For 36 month term DTI of above 13 results in a charge off
- For 60 month term, DTI of above 14 results in a charge off

Term vs DTI



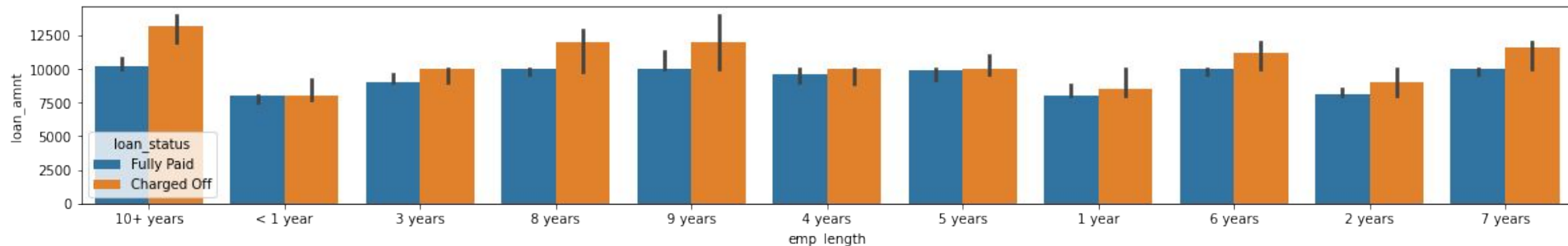
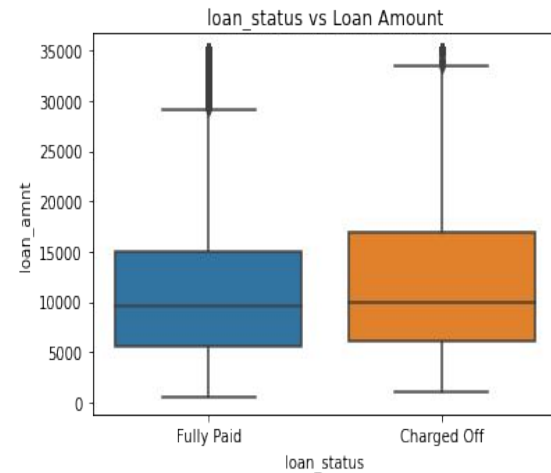
## 4. State Address

- More number of borrowers defaulted in CA , FL and NY states.



## 5. Loan Amount

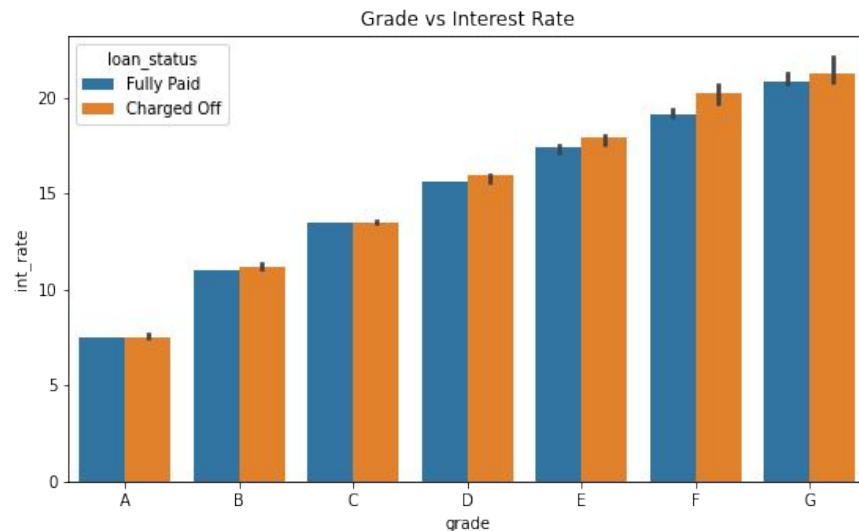
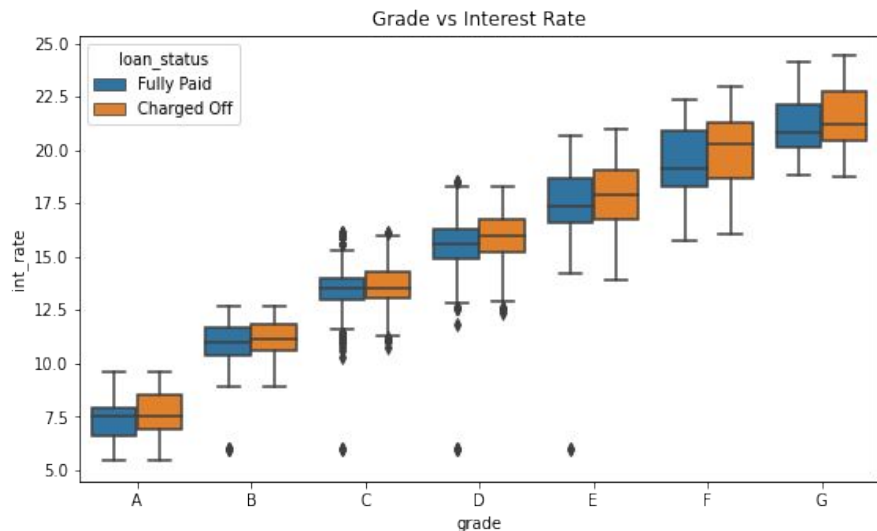
- Borrowers who took higher loan amounts defaulted more than others.
- Borrowers with more than 5 years employment are given larger loans and we can see that the largest amounts loaned to these borrowers are often charged off



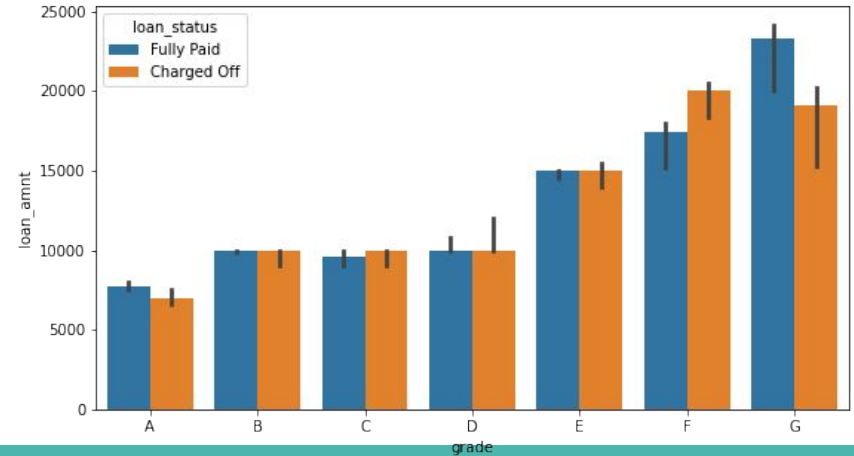
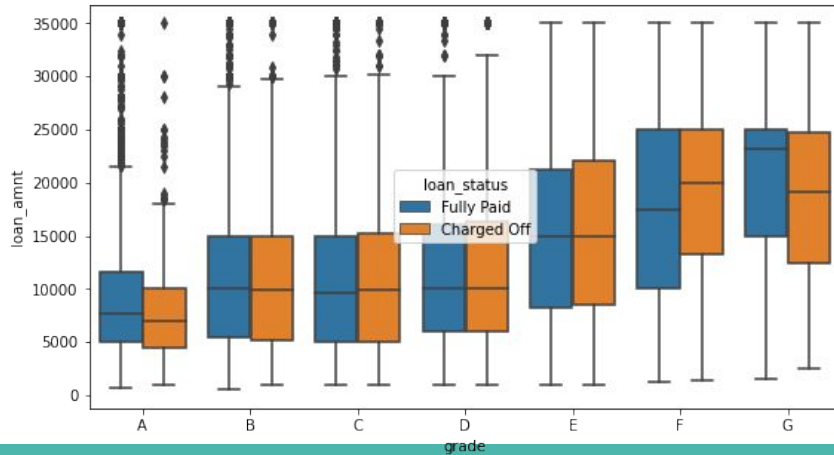
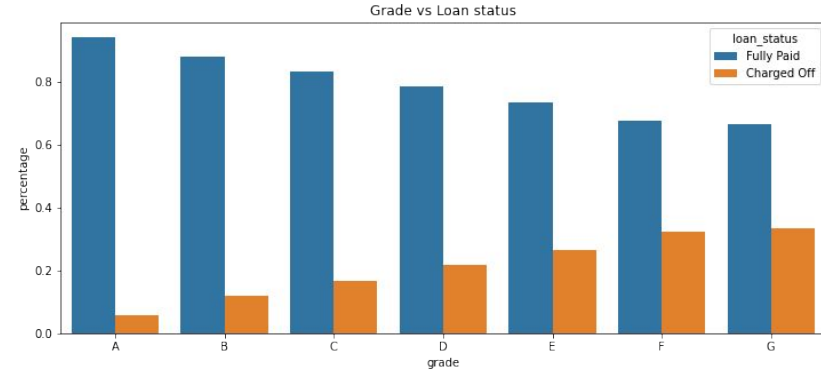


## 6. Grades

- As grade rank decreases the interest rate gradually increases, there is a trend for charged off loans to increase with this.

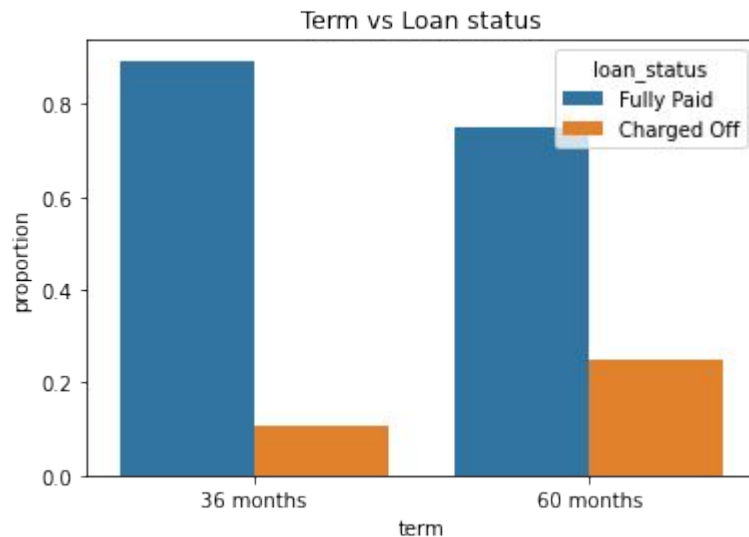


- Looking at grade 'F', it is evident that large loans offered are being charged off.
- There is a clear trend that Charged off loans increase as grades decrease.



## 7. Term

- There are almost double proportion of borrowers defaulted in 60 months term than 36 months. Also the Fully Paid rate is higher in 36 months tenure.



# Conclusion

- If rate of interest is high, the borrower is more likely to default the loan
- If purpose of loan is not 'home' or 'renewable energy', extra caution must be taken as borrower could default.
- If loan applied for 36 month term, with DTI of above 13 then there's high chance of default
- If loan applied for 60 month term, with DTI of above 14 then there's high chance of default
- If borrower is from CA, FL or NY state, there is a higher chance of default
- The maximum loan sanctioned based on employment duration must be reduced as the current cap results in default
- Borrowers belonging to grade lower than E, are more likely to default
- Borrowers opting for 60 month term are more likely to default than 30 month