



Lending Club Case Study

Prepared by:
Shaju V J

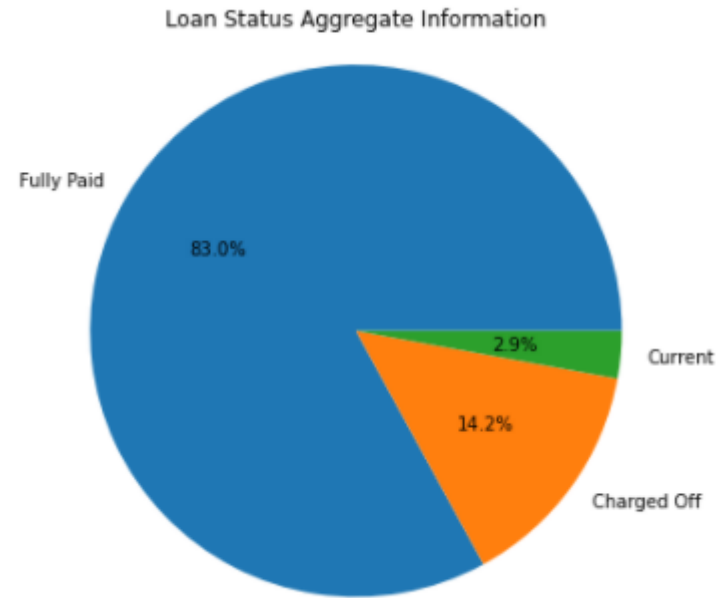
Abstract

- Lending club is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures.
- Borrowers can easily access lower interest rate loans through a fast online interface.
- The objective of analysis is to use the information about past loan applicants and find whether they 'defaulted' or not

Analysis approach



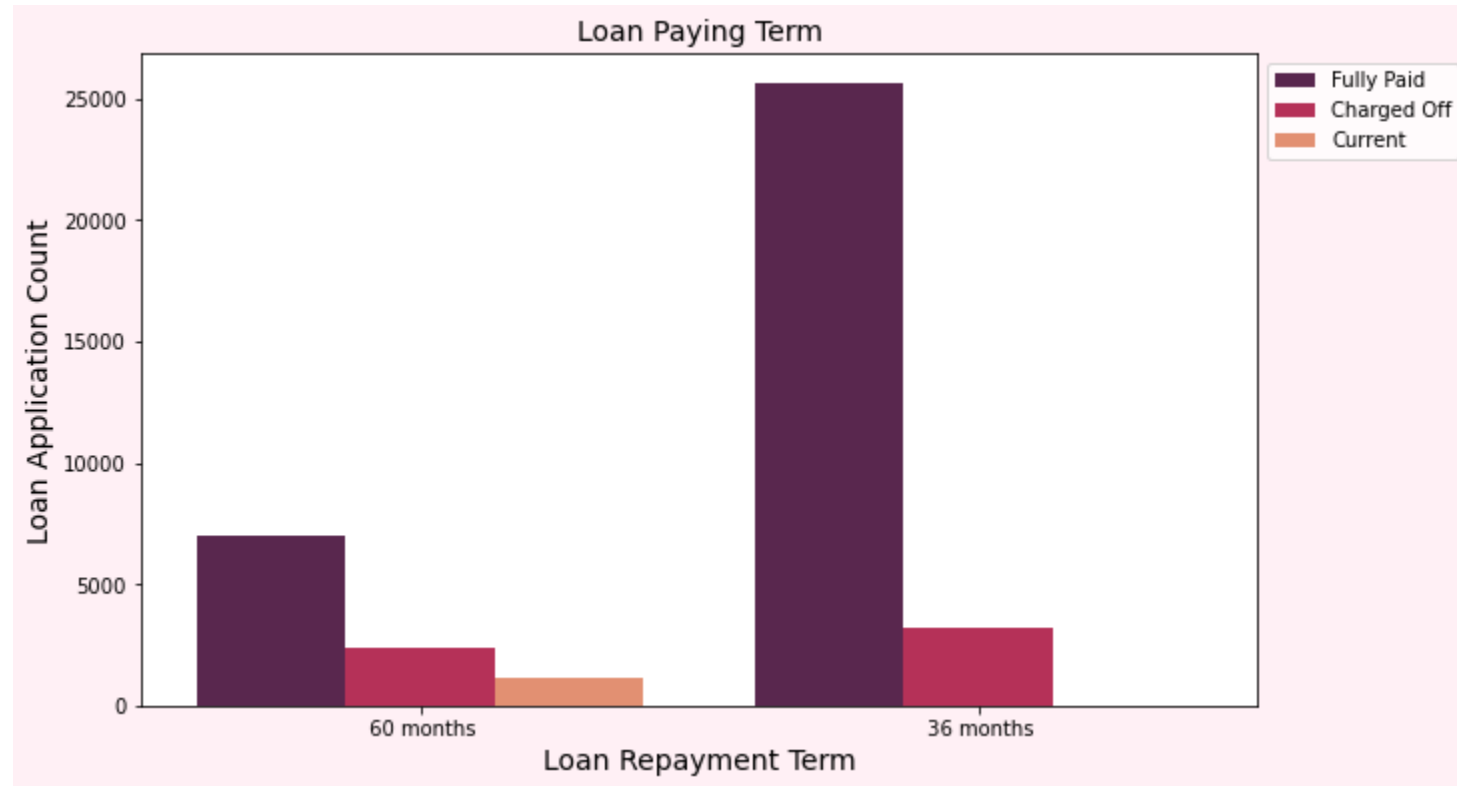
Loan Status Aggregate Information



Observations

82.9 percent loans were fully paid. 14.2 % loans were charged off

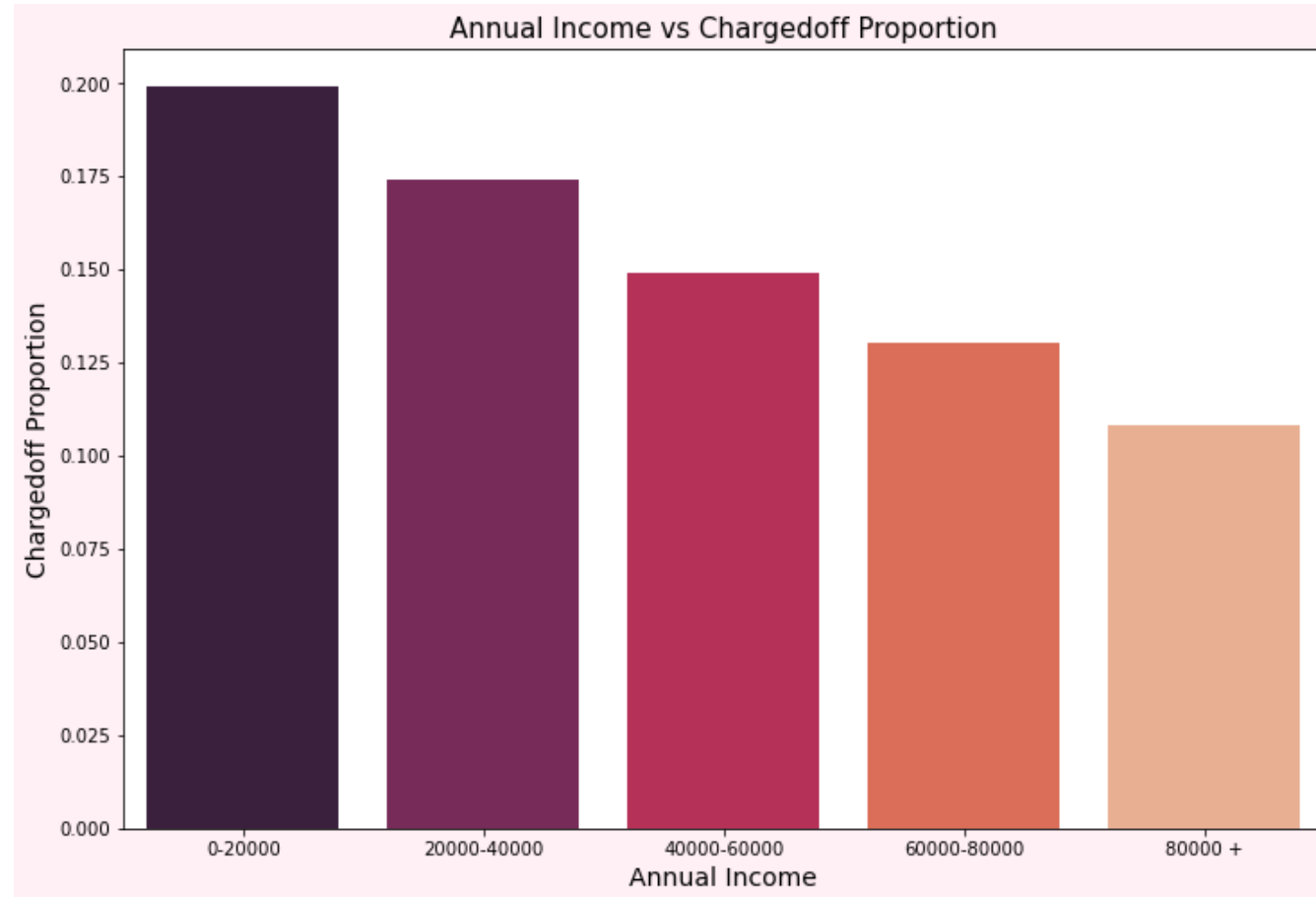
Loan Paying Term



Observations

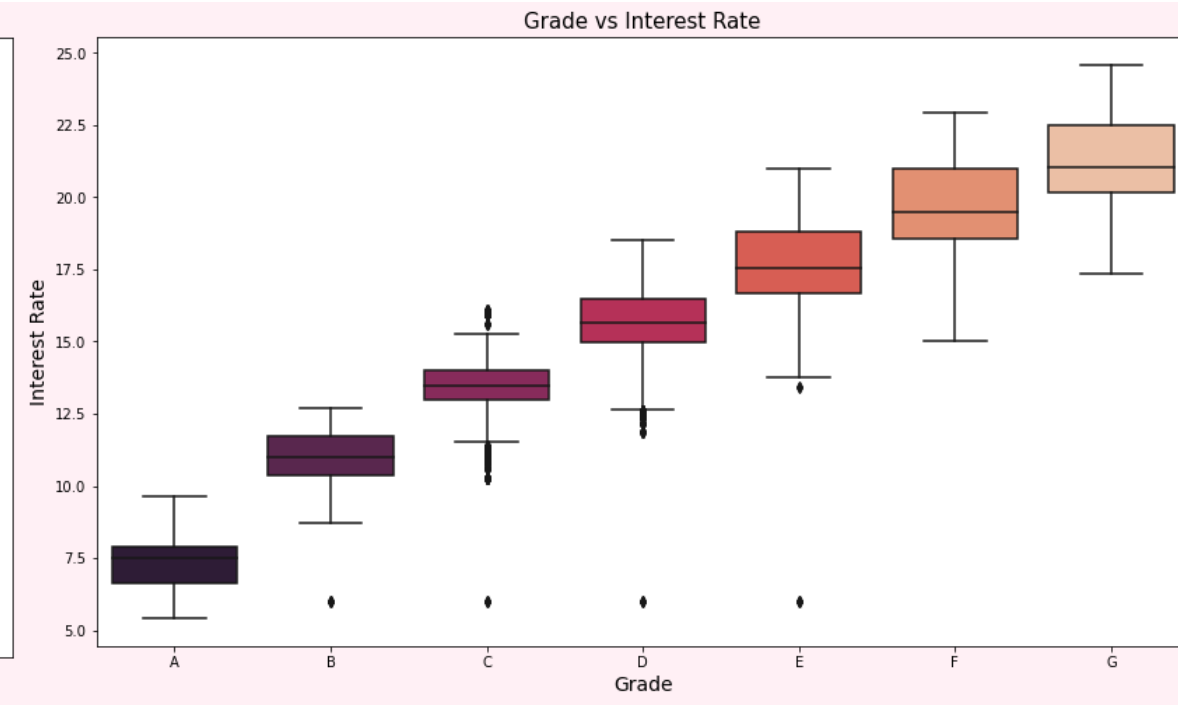
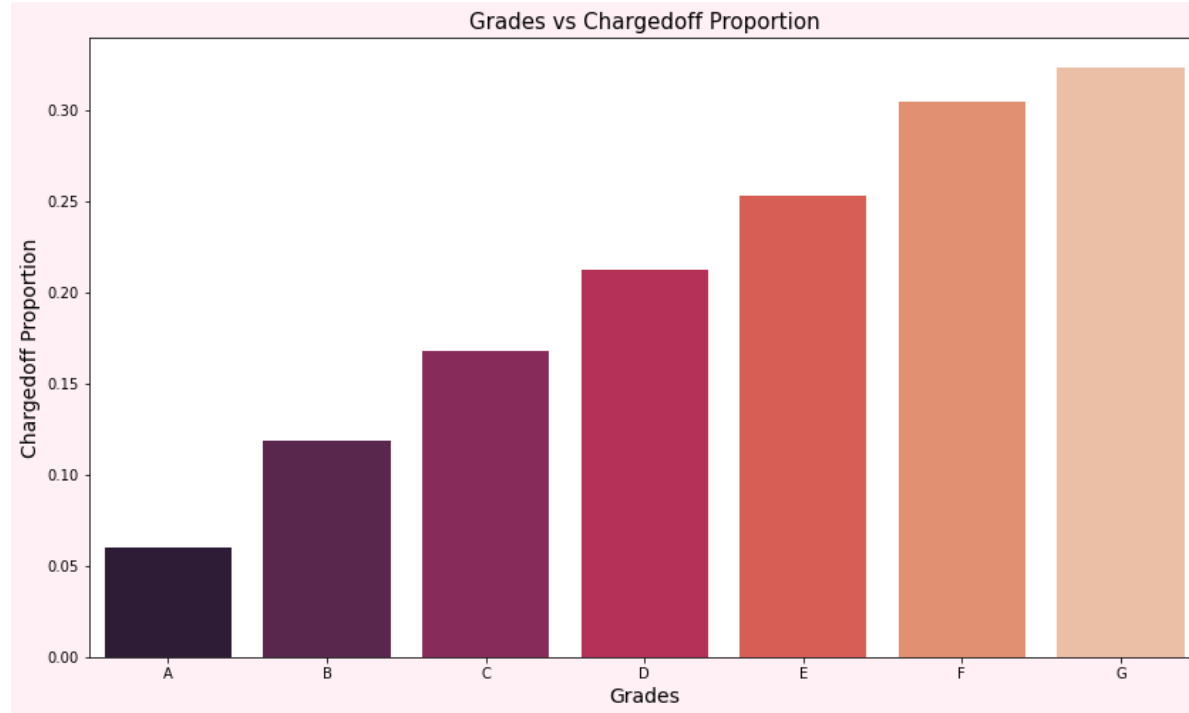
Those who had taken loan to repay in 60 months had more percentage of number of applicants getting charged off as compared to applicants who had taken loan for 36 months.

Annual Income vs Charged off Proportion



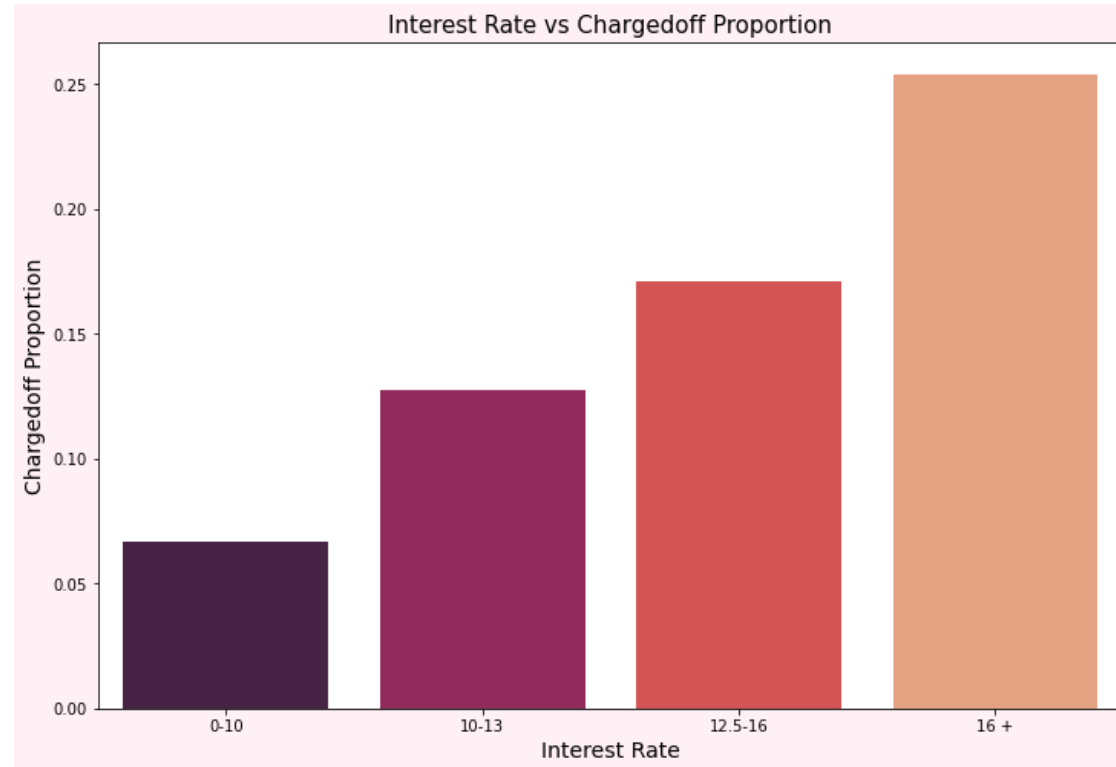
Income range 80000+ has less chances of charged off. Income range 0-20000 has high chances of charged off. Charged off proportion is decreased with increase in annual income.

Grades vs Charged Off Proportion & Interest Rate



Grade "A" has less interest and hence very less chances of charged off.
Grade "F" and "G" have higher interest and very high chances of charged off.
Chances of charged off is increasing with grade moving from "A" towards "G"

Interest Rate vs Charged Off Proposition

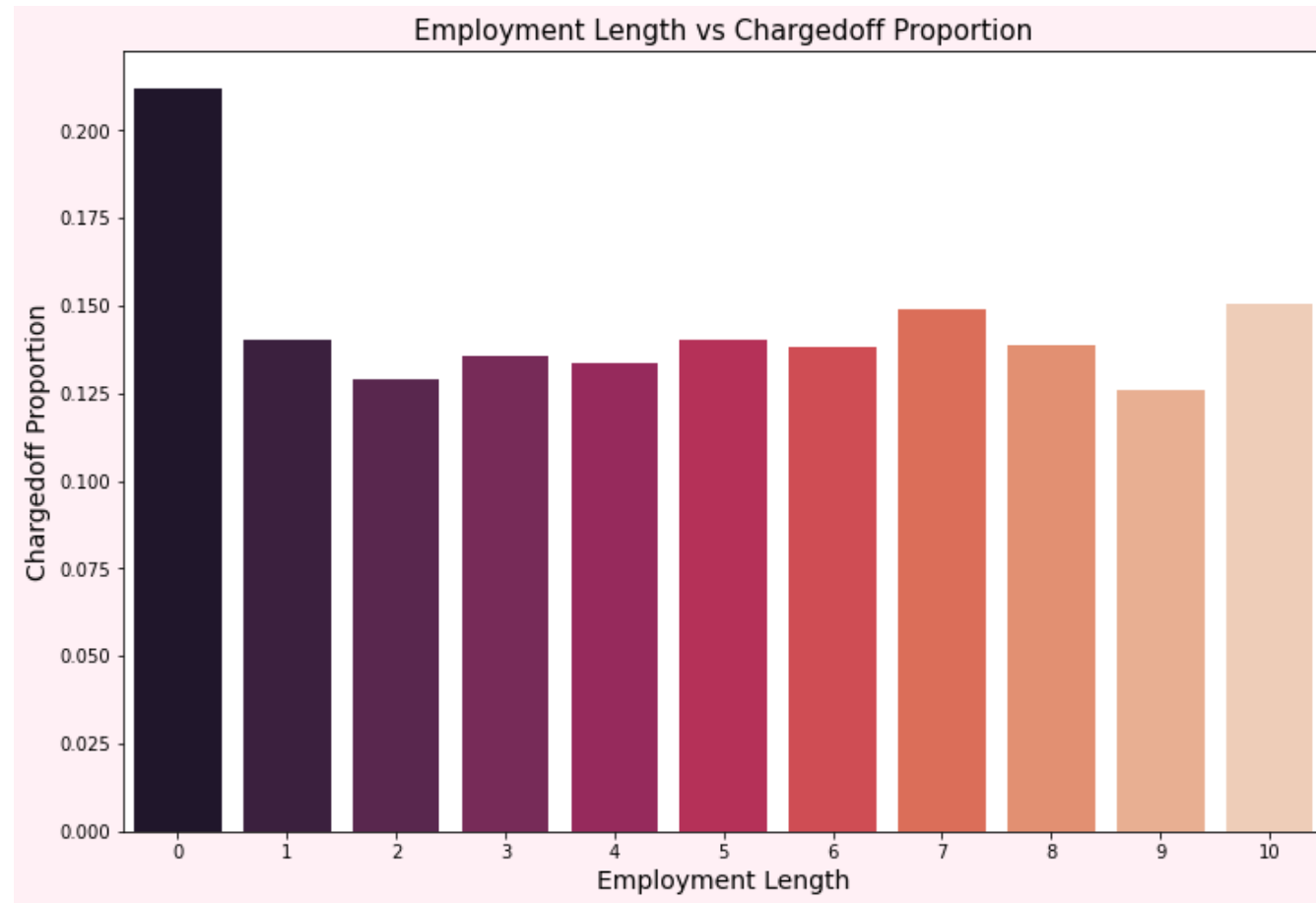


Interest rate less than 10% has very less chances of charged off.

Interest rate more than 16% has good chances of charged off as compared to other category interest rates.

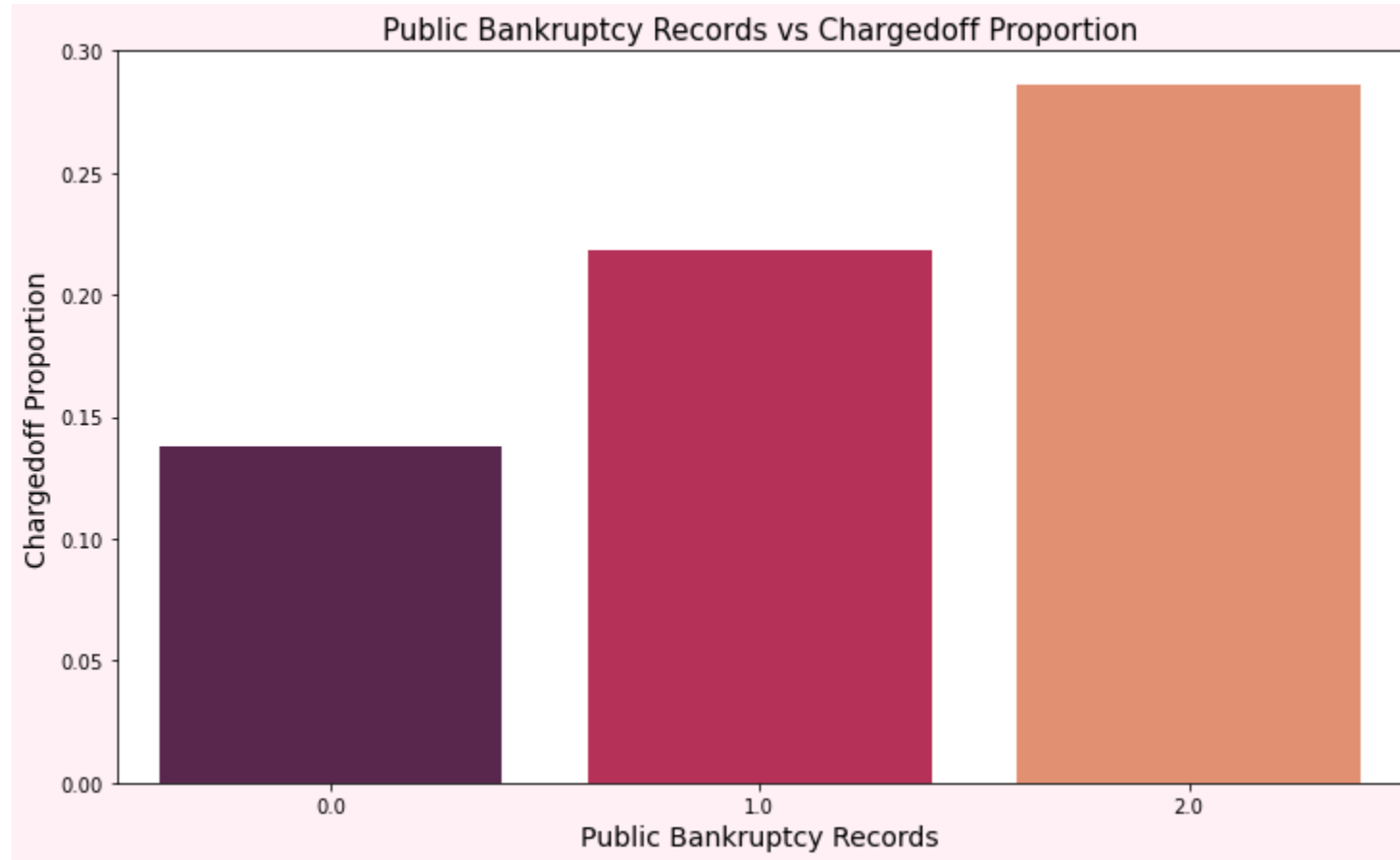
Charged off proportion is increasing with higher interest rates.

Employment Length vs Charged Off Proposition



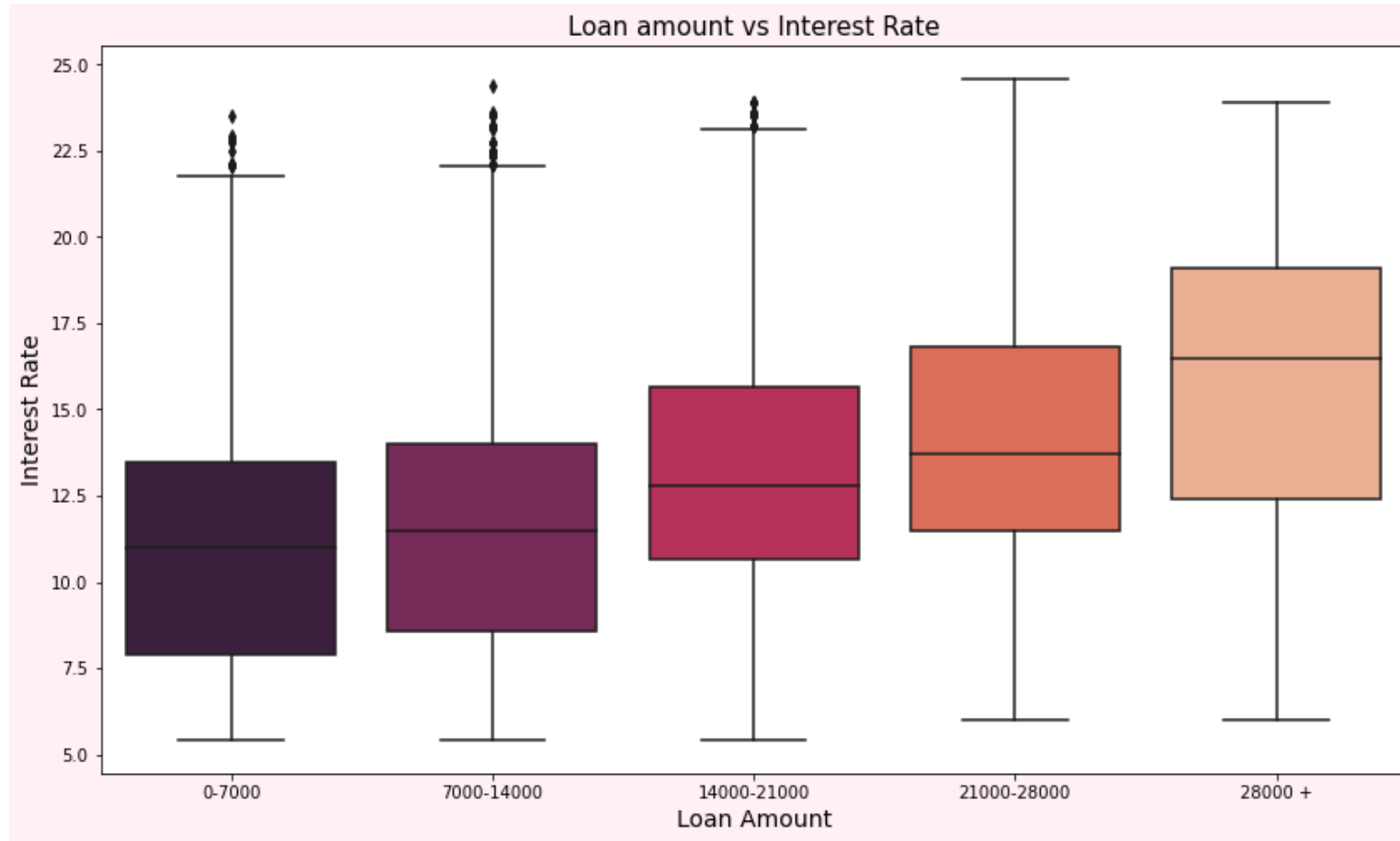
Those who are not working or have less than 1 year of work experience have high chances of getting charged off. It makes sense as with less or no experience they don't have source of income to repay loan. Rest of the applicants have more or less same chances of getting charged off.

Public Bankruptcy vs Charged Off Proposition



Those who already have `pub_rec_bankruptcies` value 1, have charged off proportion higher than who have no `pub_rec_bankruptcies`.
`pub_rec_bankruptcies` count 2 has even higher charged off proportion but those numbers are not significant to decide.
This also makes sense that who has defaulted before has more chances of defaulting in future as well.

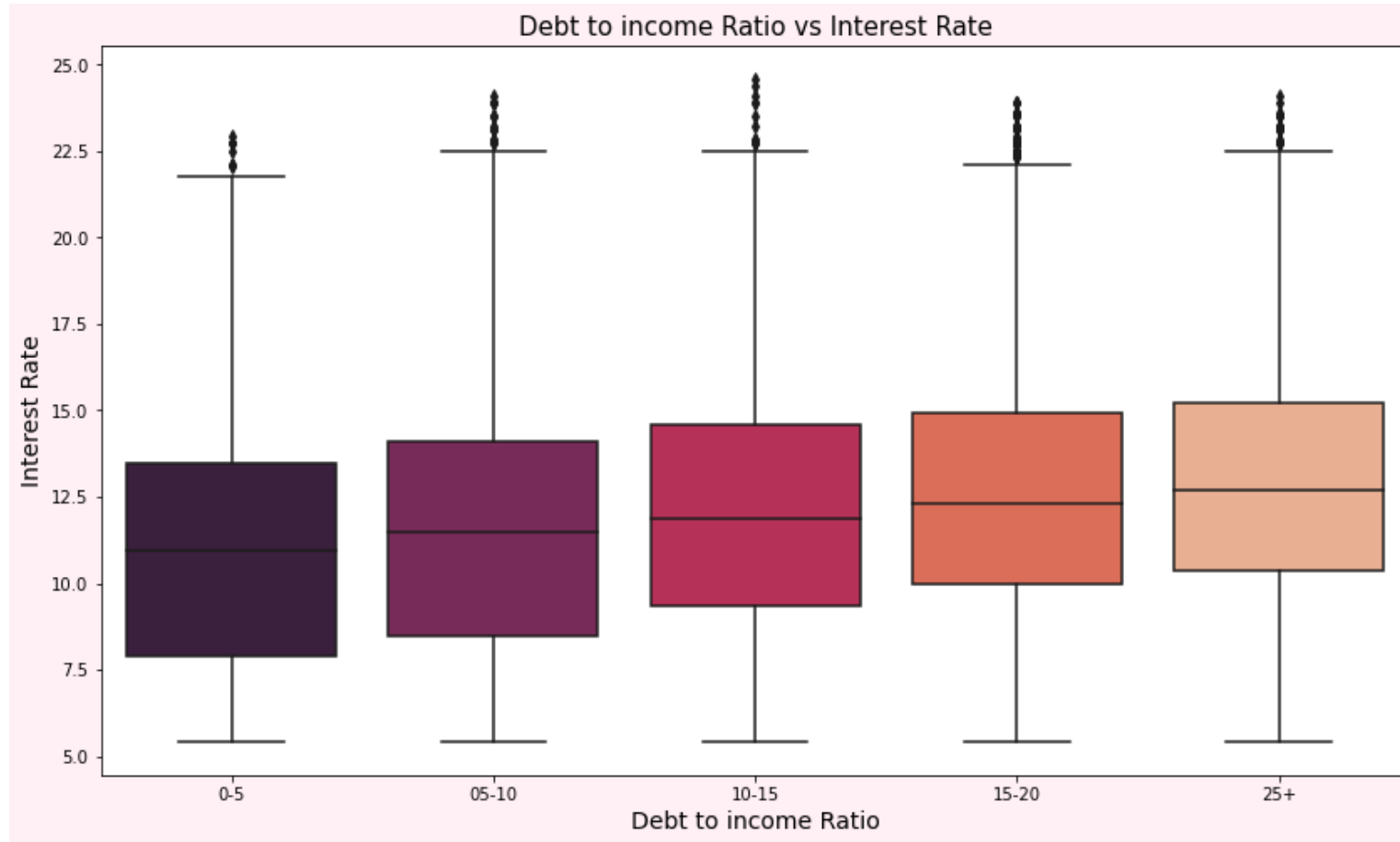
Loan amount vs Interest Rate



It is clear that interest rate is increasing with loan amount increase.

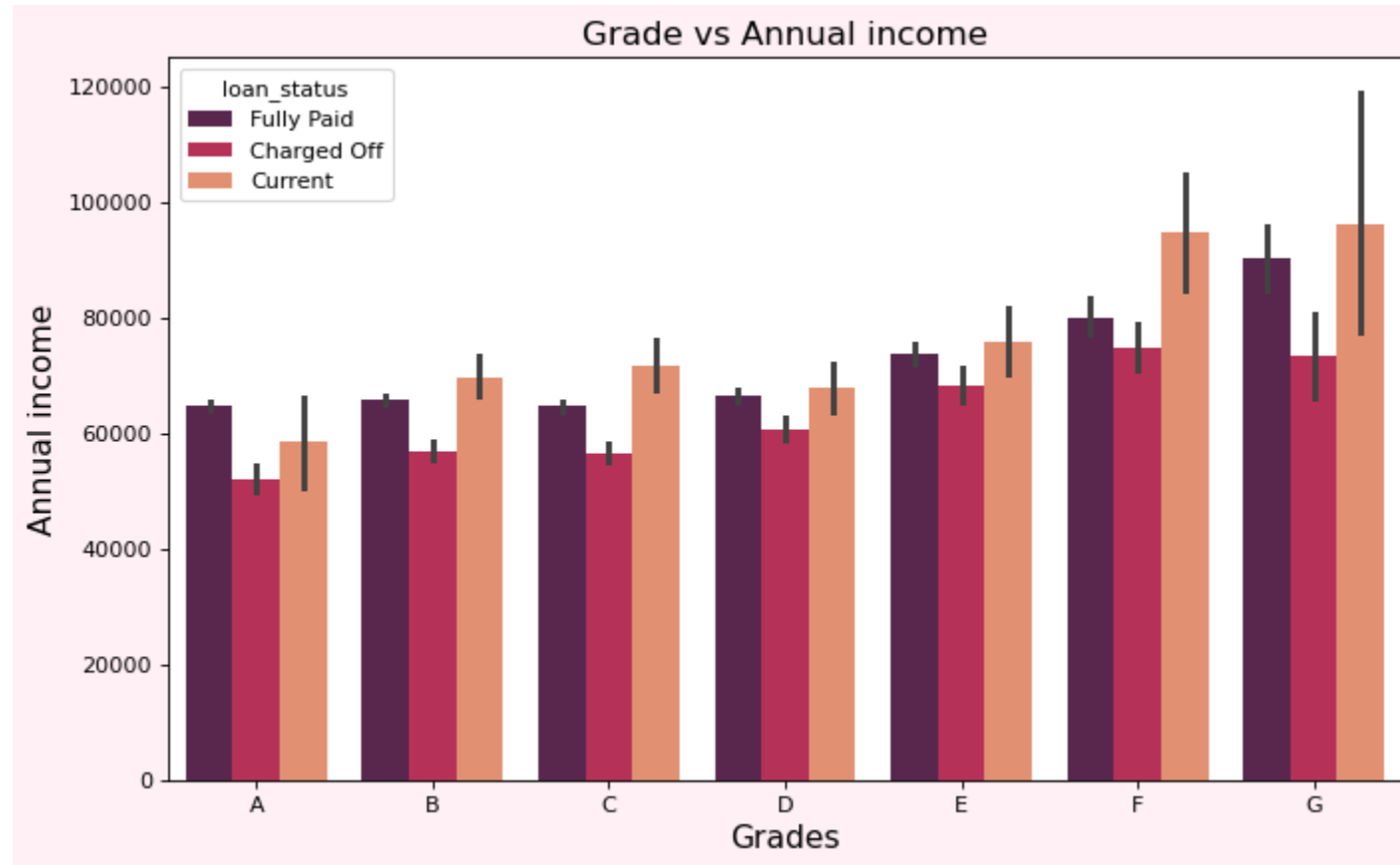
When loan amount is more and it is taken for longer loan term, the interest rate will be high.

DTI vs Interest Rate



If DTI is low, chances are there to get a lower interest rate.
Plot shows slight increase in interest rate with increase in DTI.

Grade vs Annual Income



The ones getting 'charged off' have lower annual incomes than the ones who 'paid fully' for each and every grade (i.e. at same interest range)

Conclusion

- ✓ Lending club should reduce the high interest loans for 60 months tenure, they are prone to loan default.
- ✓ Grades are good metric for detecting defaulters. Lending club should examine more information from borrowers before issuing loans to Lower grade.
- ✓ People with more number of public derogatory records are having more chance of filing a bankruptcy. Lending club should make sure there are no public derogatory records for borrower.
- ✓ People with less than 1 year experience and low income are prone to be defaulters.