Lending Club Case Study

Group Members:

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Case Study Objective

- 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
- Objective of the analysis is to determine the driving factors (or driver variables) behind loan default, i.e. the variables which are strong indicators of default.
- The company can utilize this knowledge for its portfolio and risk assessment.

Process Flow

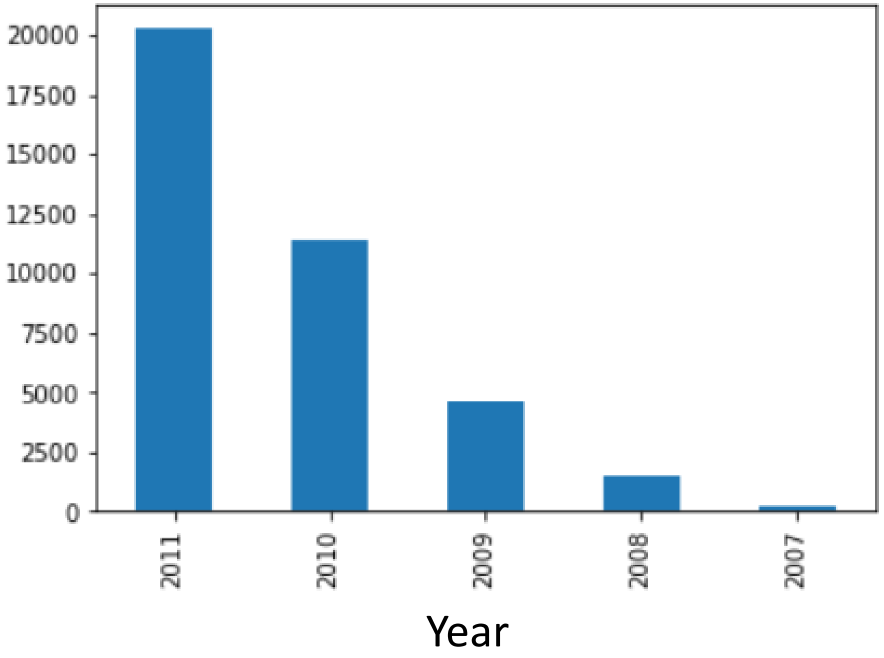
Data Understanding
- Involves working with data dictionary to understand each attribute and their business definition

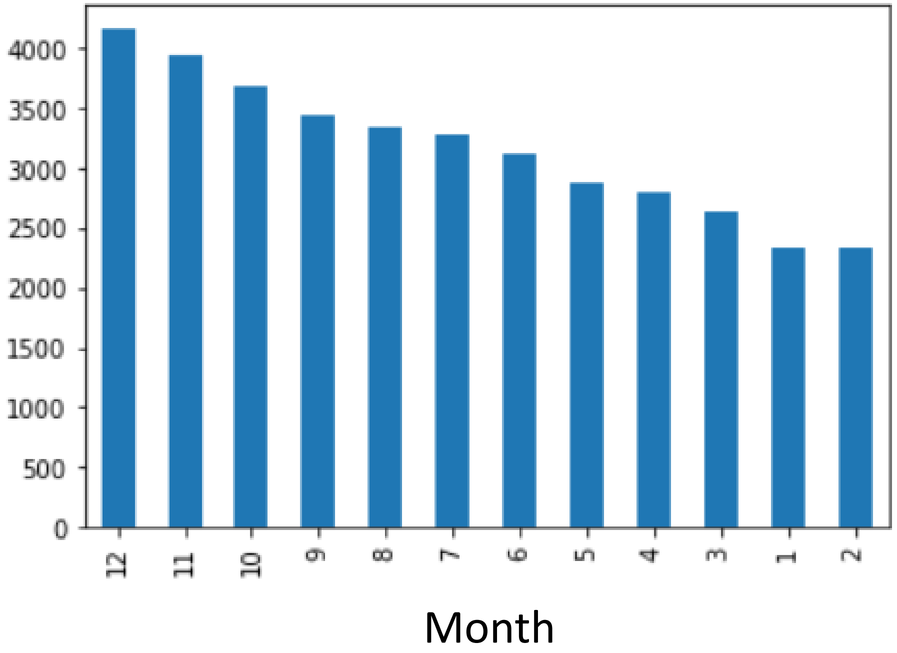
Data Cleaning
- Involves removal of unwanted rows and columns, filling null values

Data Analysis
- Univariate Analysis: Analysing each column to derive business insights
- Segmented Univariate Analysis: Analysing continuous data columns with respect to categorical column
- Bivariate Analysis: Analysing two variables to derive the correlation

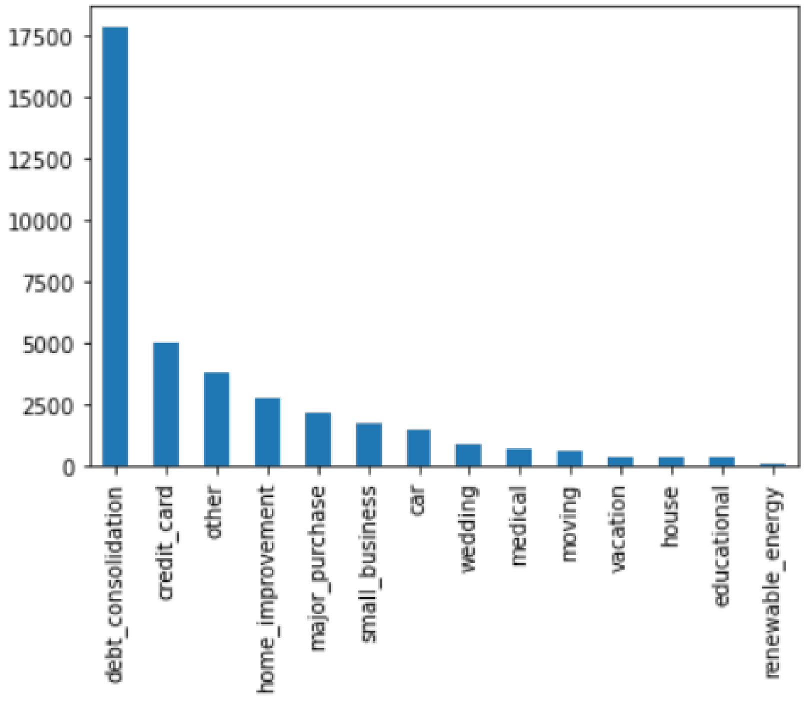
Recommendation
- Driving factors behind the loan default

Analysis : Univariate

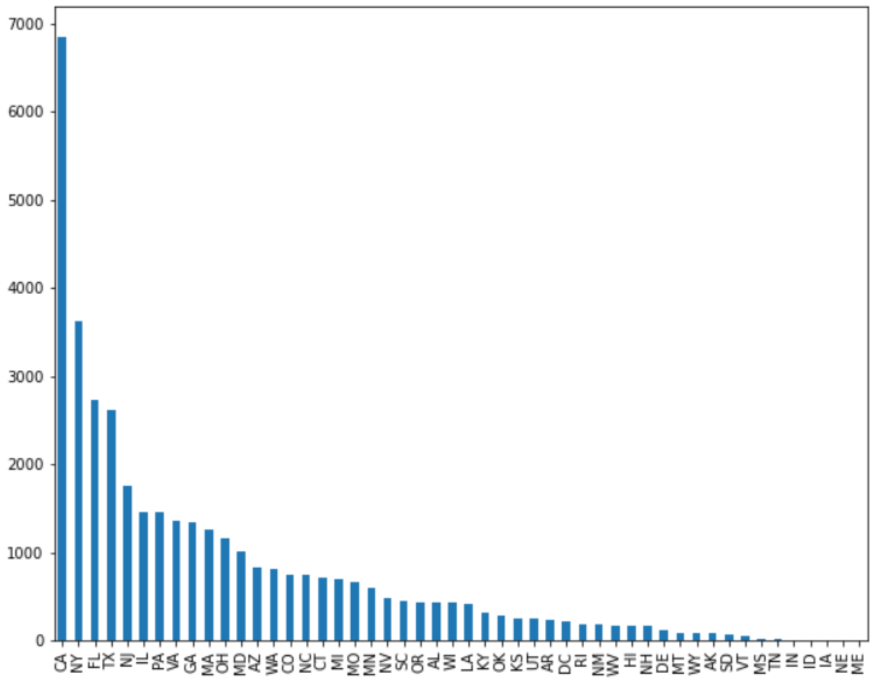




- Maximum loan applications are from 2011 and they are increasing year on year
- The loan applications are more towards the end of the year and less during the beginning

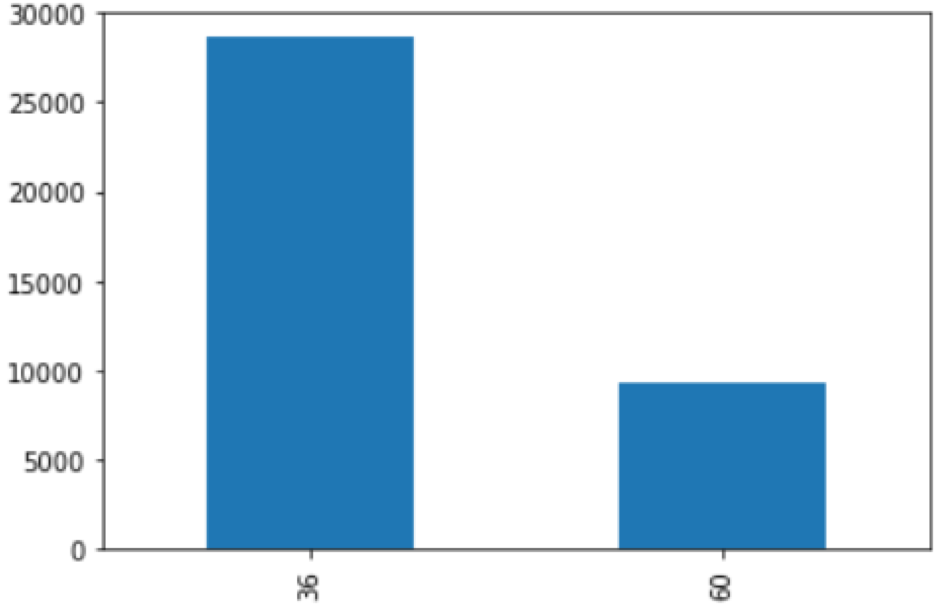


Purpose

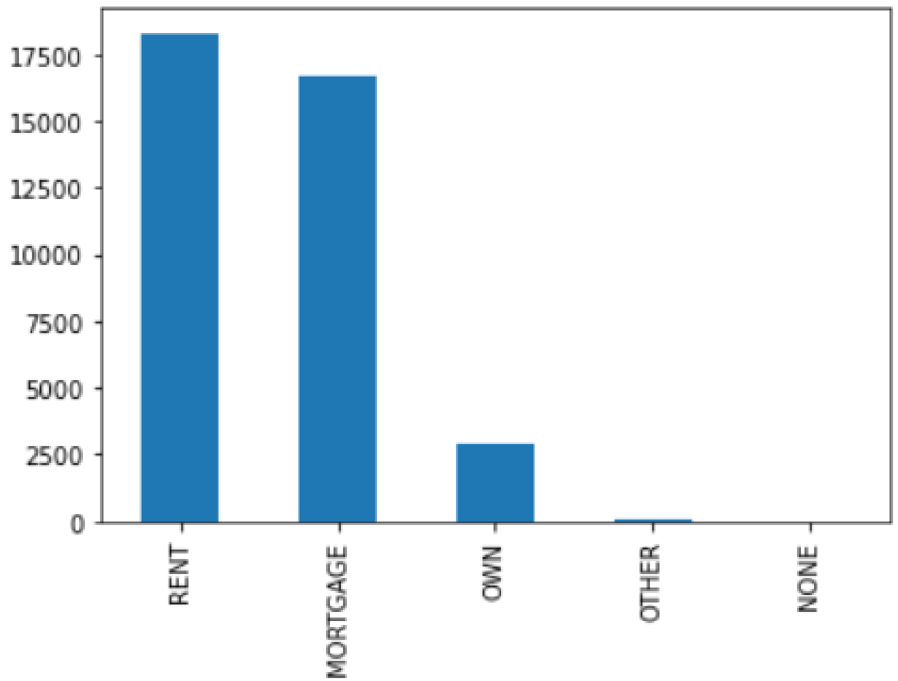


State

- Majority of the loan applications are for debt consolidation
- Majority of the loan applications are from California State



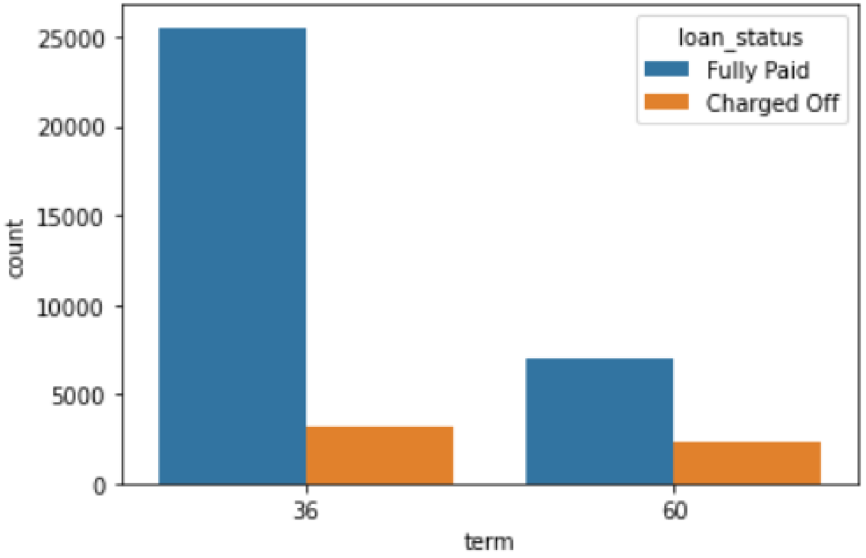
Term

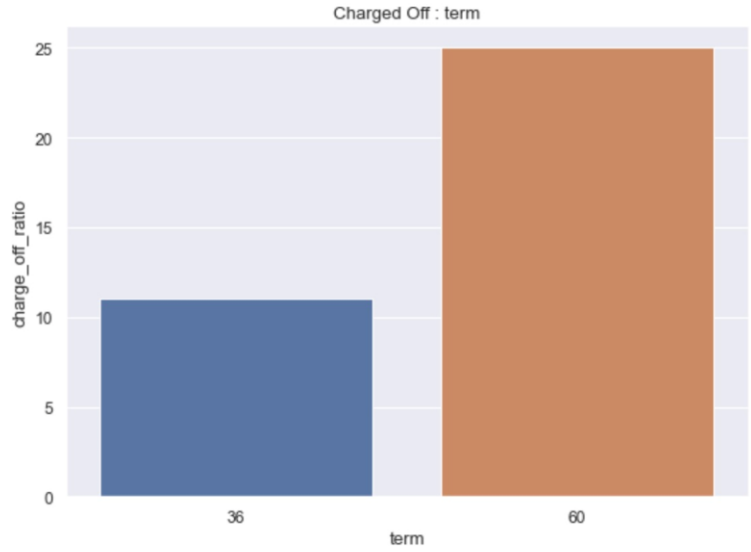


Home Ownership

- Majority of loan applications have a term of 36 months
- Majority of the loan applicants are in Rent and Mortgage

Analysis: Bivariate

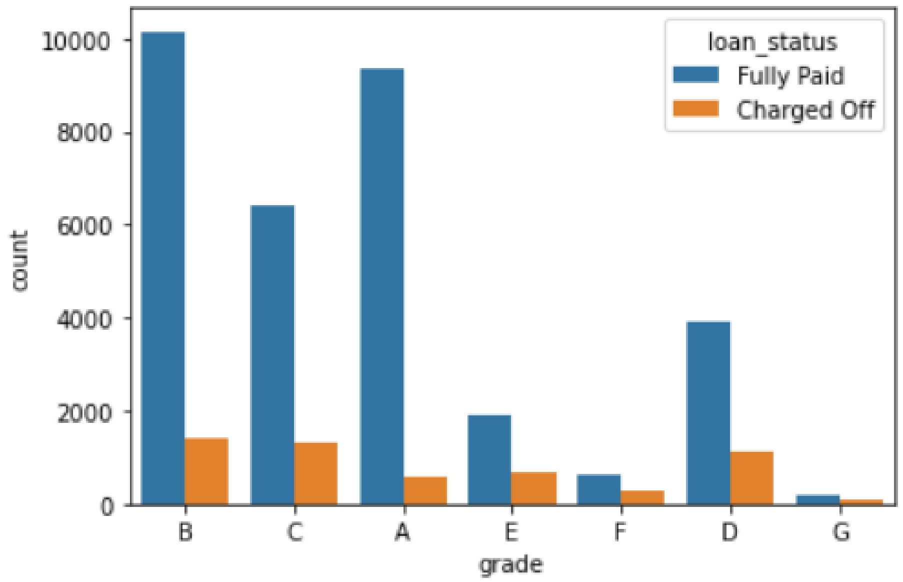


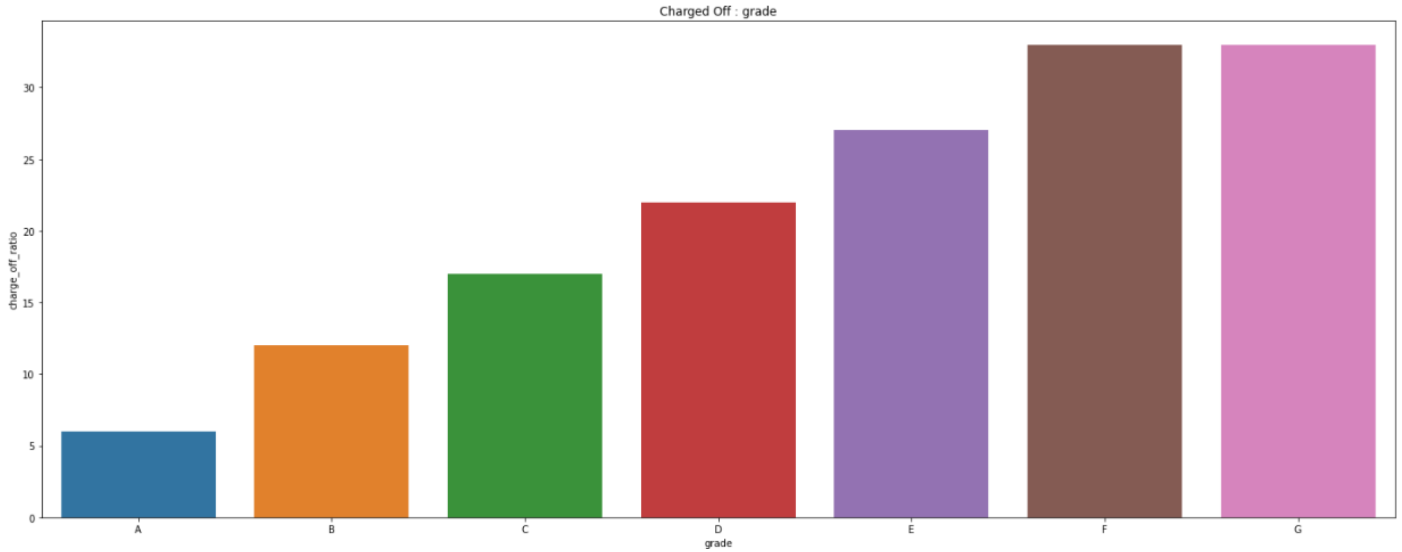


- Majority of loans are in the category of term 36
- Charge Offs ratio for the term 60 is 25% whereas term 36 is 10%

Inference:

Charge Offs are higher for the loan applications with term 60

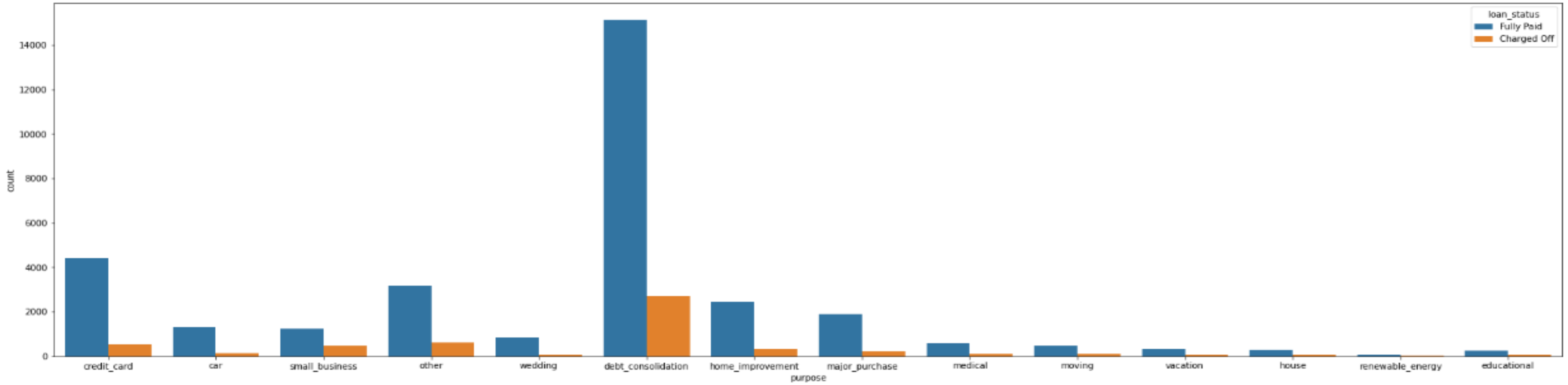


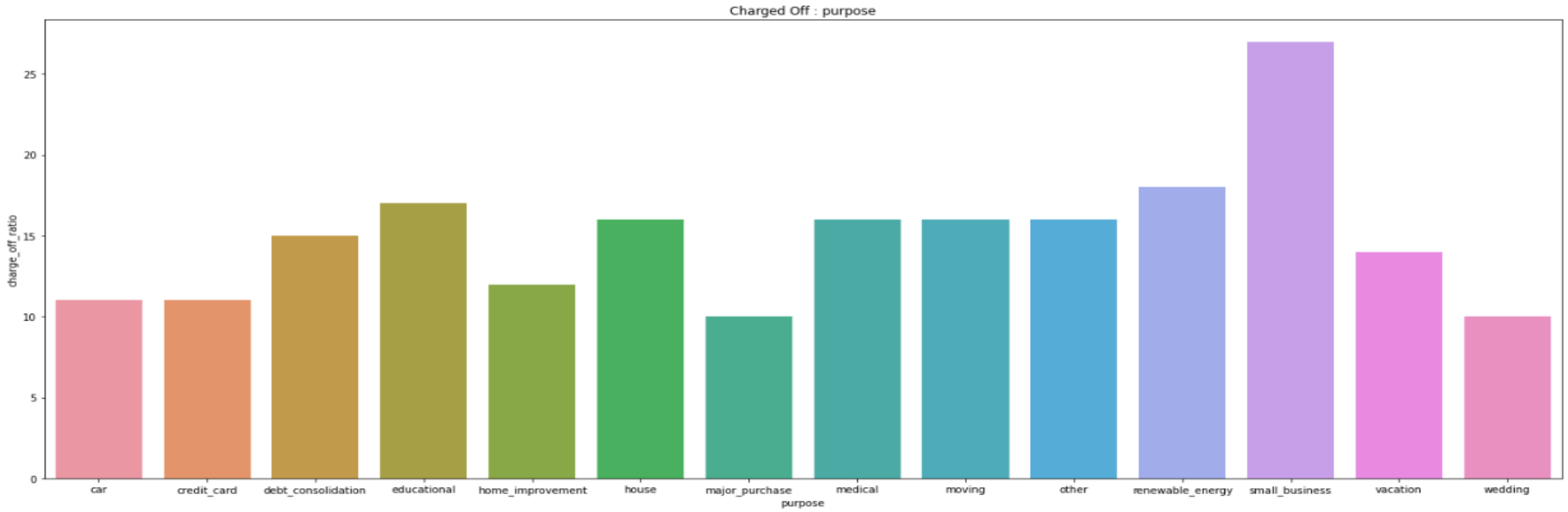


- Majority of loan application is from grade B
- Charge Offs are higher for grades B and C.
- But the ratio of Charge Offs are higher for grades F and G

Inferences:

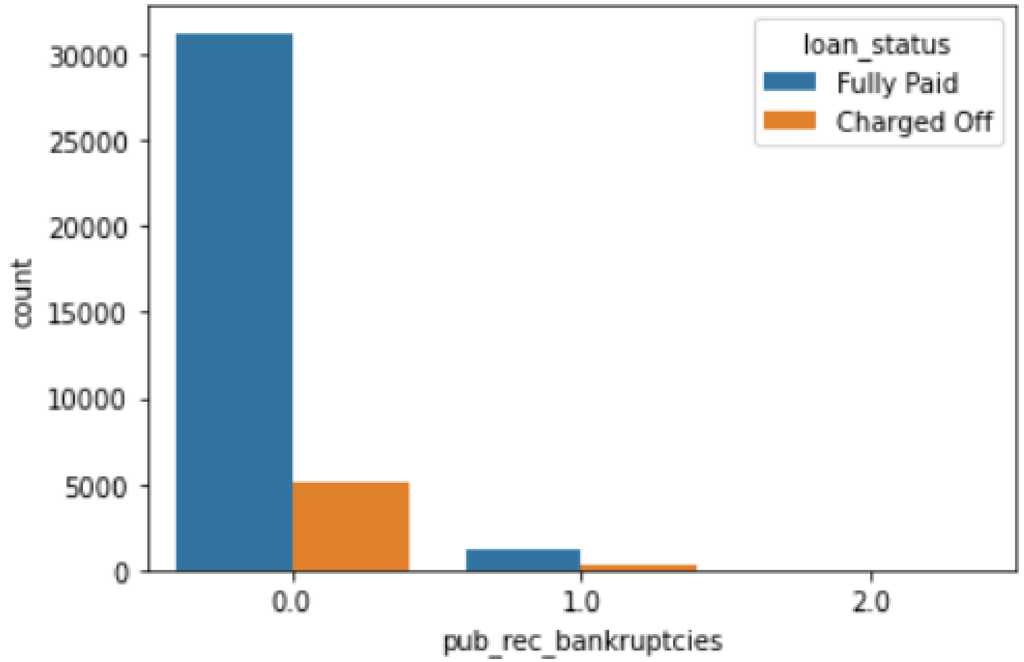
Lower the grade, higher the possibility of charge off.

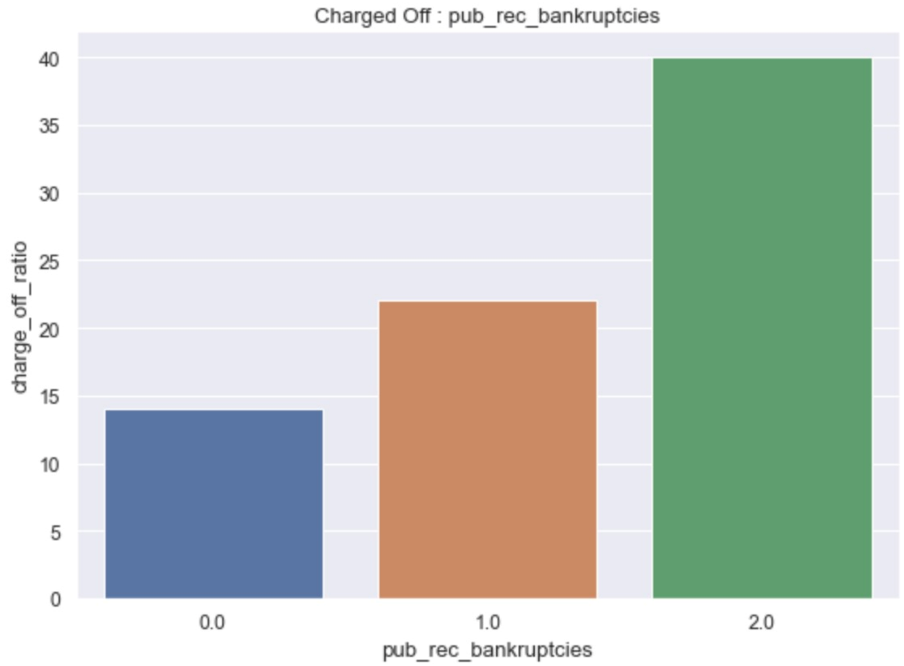




- Debt consolidation loans are having the highest charge offs.
- But the ratio of charge offs is higher for small business.
- Inferences:

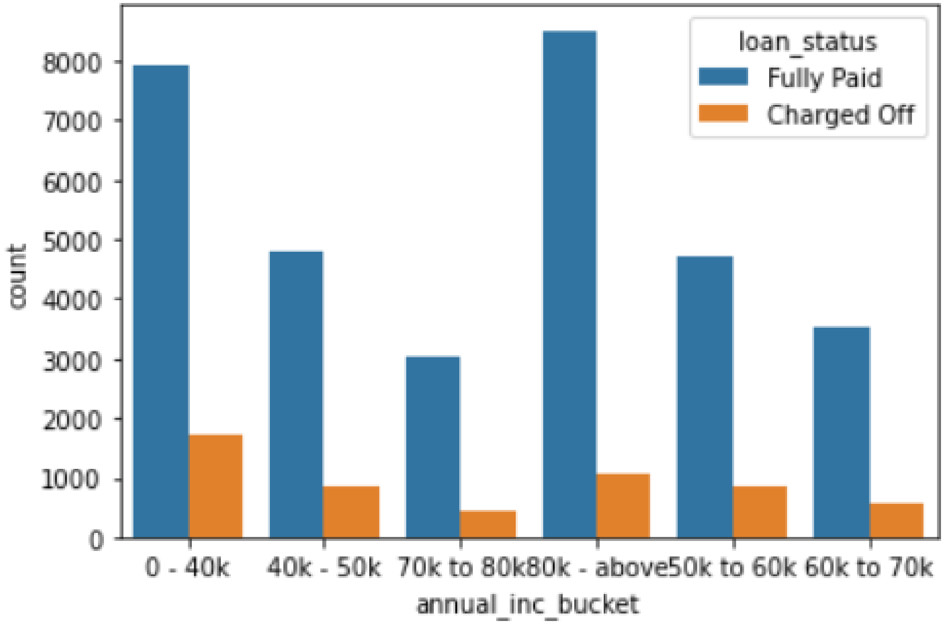
  Debt consolidation loans have highest risk of charge offs, whereas the probability of charge off is more for small business loans.

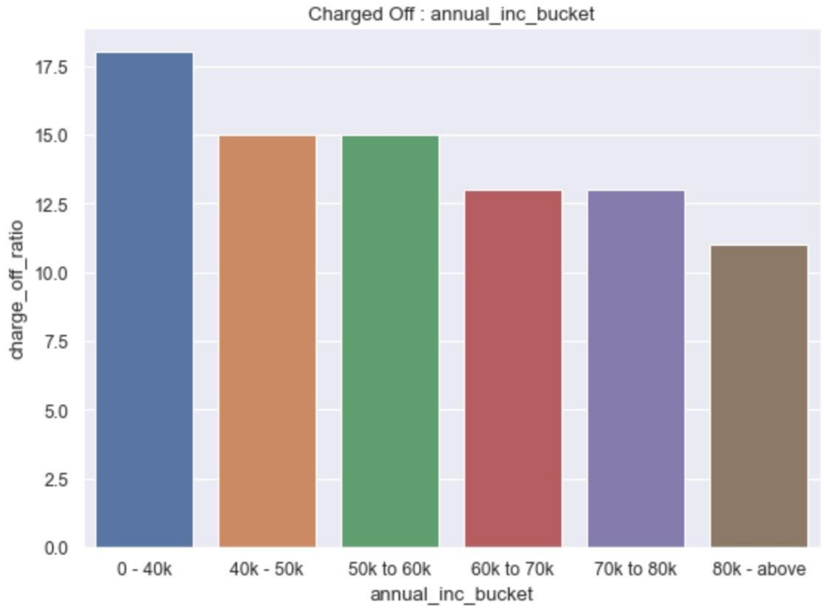




Inferences:

Customers having bankruptcy record are at high risk of Charge Offs





Inference:
Higher the salary, less is the chance of change off

Summary

- Charge Offs are higher for the loan applications with term 60
- Lower the grade, higher the possibility of charge off.
- Debt consolidation loans have highest risk of charge offs, whereas the probability of charge off is more for small business loans.
- Customers having bankruptcy record are at high risk of Charge Offs
- Lower the salary, Higher the possibility of charge off

Recommendation

- Avoid lending loans with higher term
- Grades are good metric for detecting defaulters. Avoid lending loans to lower gra de applicants
- Consider the purpose of the loan before lending as we have seen that even though the volume is less for small business, charge offs are more.
- Avoid lending loans to applicants who have bankruptcy record.
- Consider annual income before lending the loans