

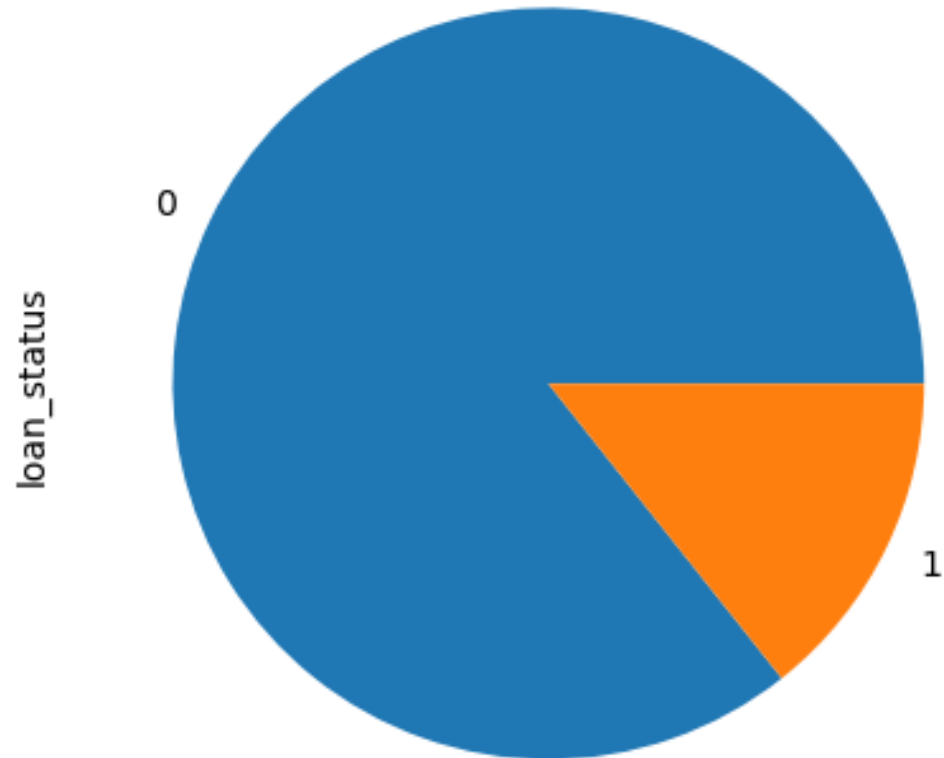
Loan Dataset case study- Recommendations

Presented by- Rutuja Jay Khose

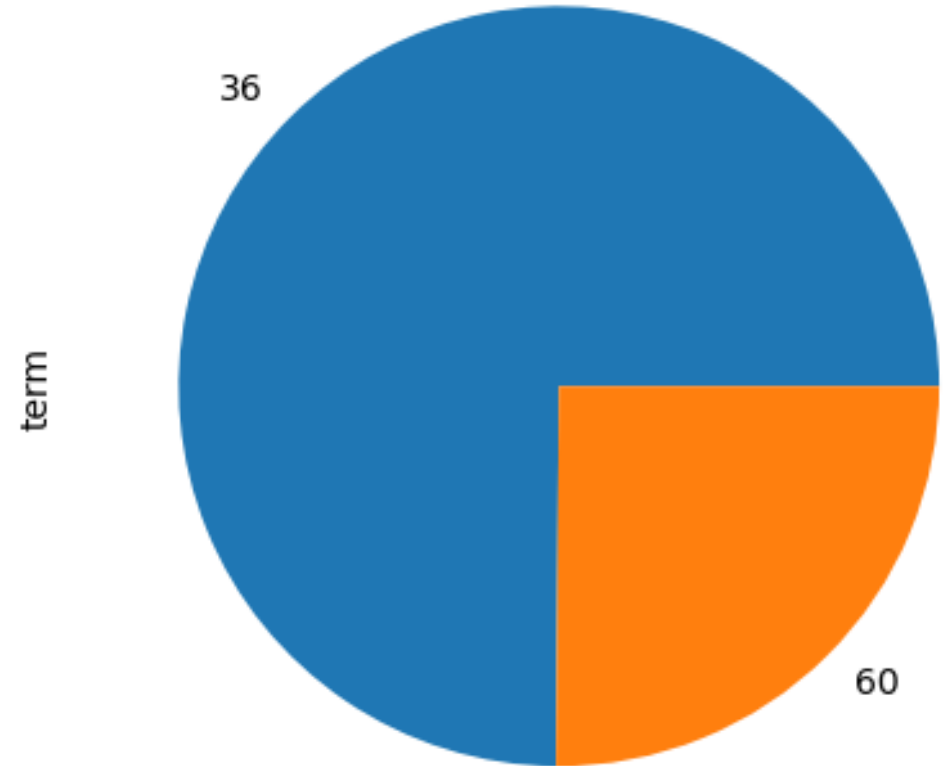
Univariate Analysis

- Firstly by ignoring loan status records for current loans, loan_status column is flag as '0' for fully paid loan status and '1' for charged off loan status
- Loan amount, loan interest rates and installment are binned according to the respective minimum and maximum values
- Outliers for annual income column were removed and annual income below 10 lacs is considered for analysis

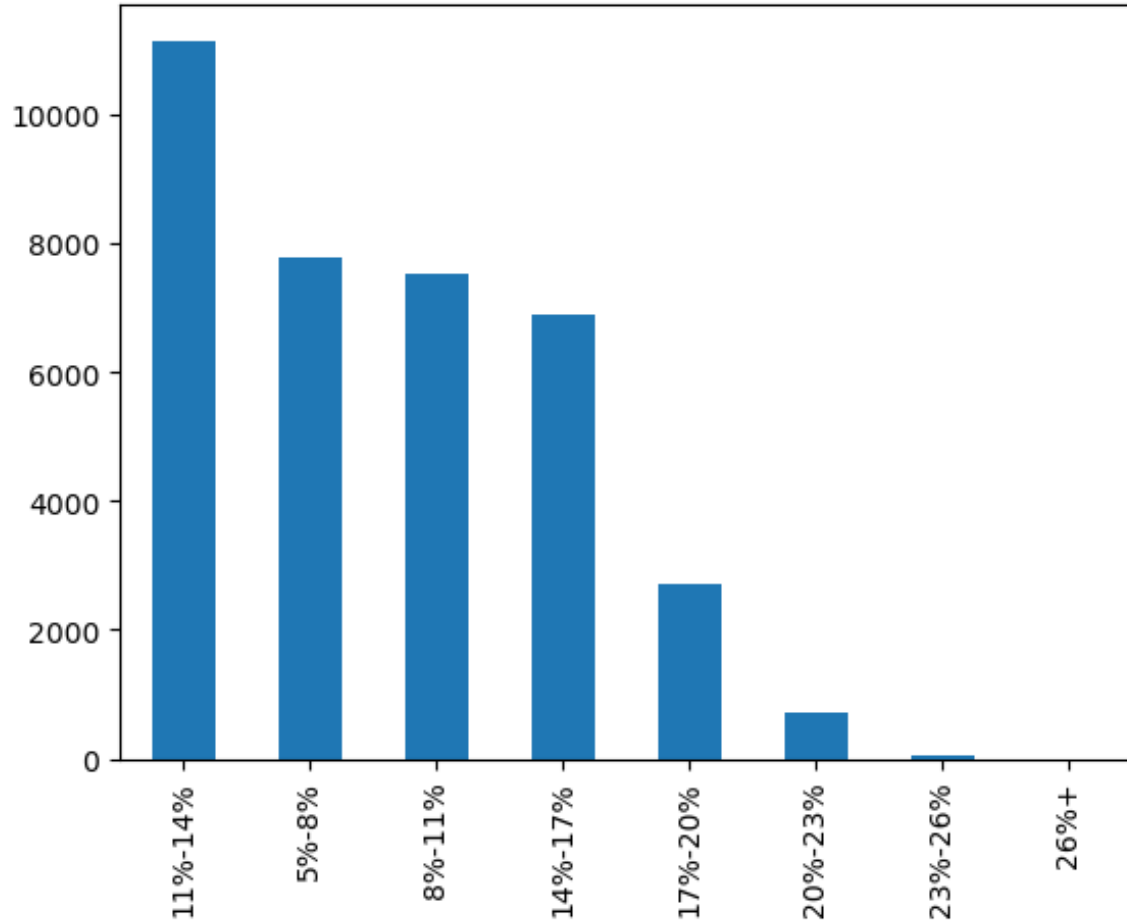
Around 14% of total loans are charged off



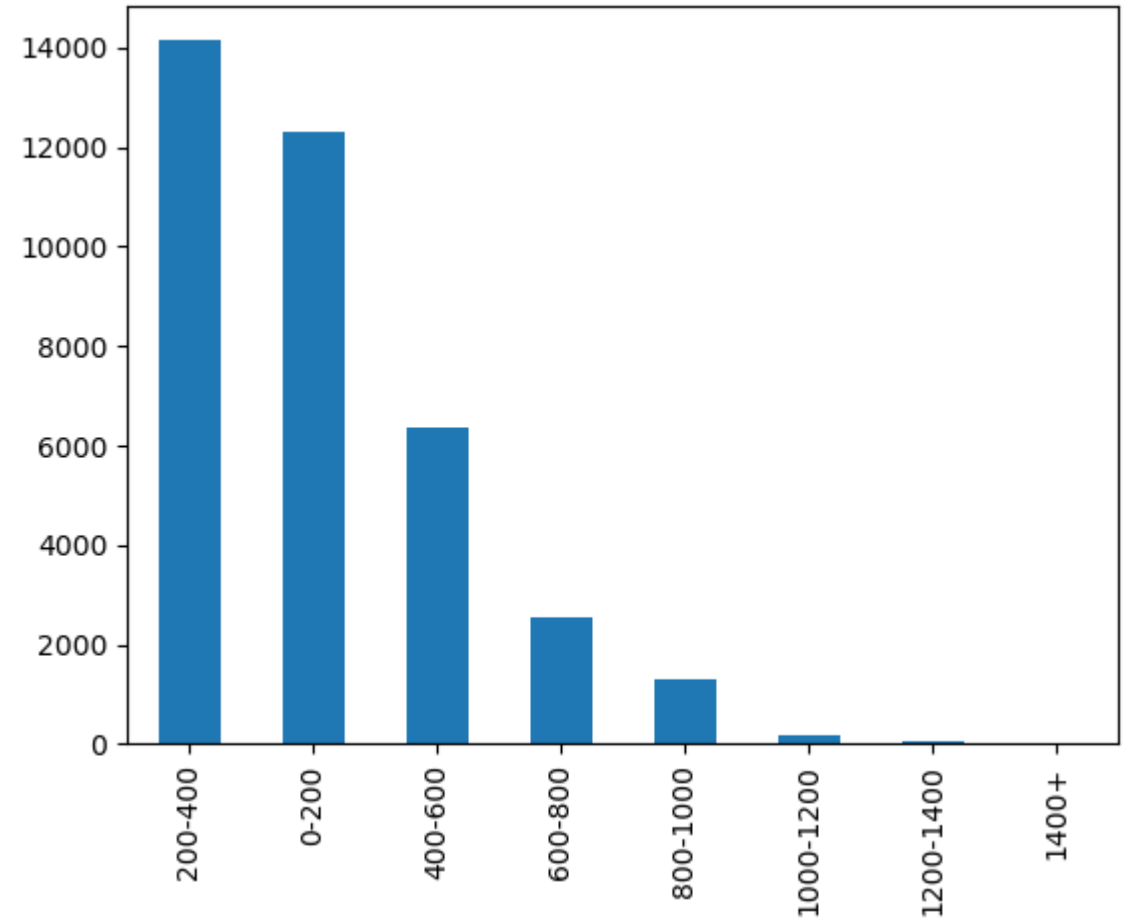
Around 36% of total loans have term 36 months



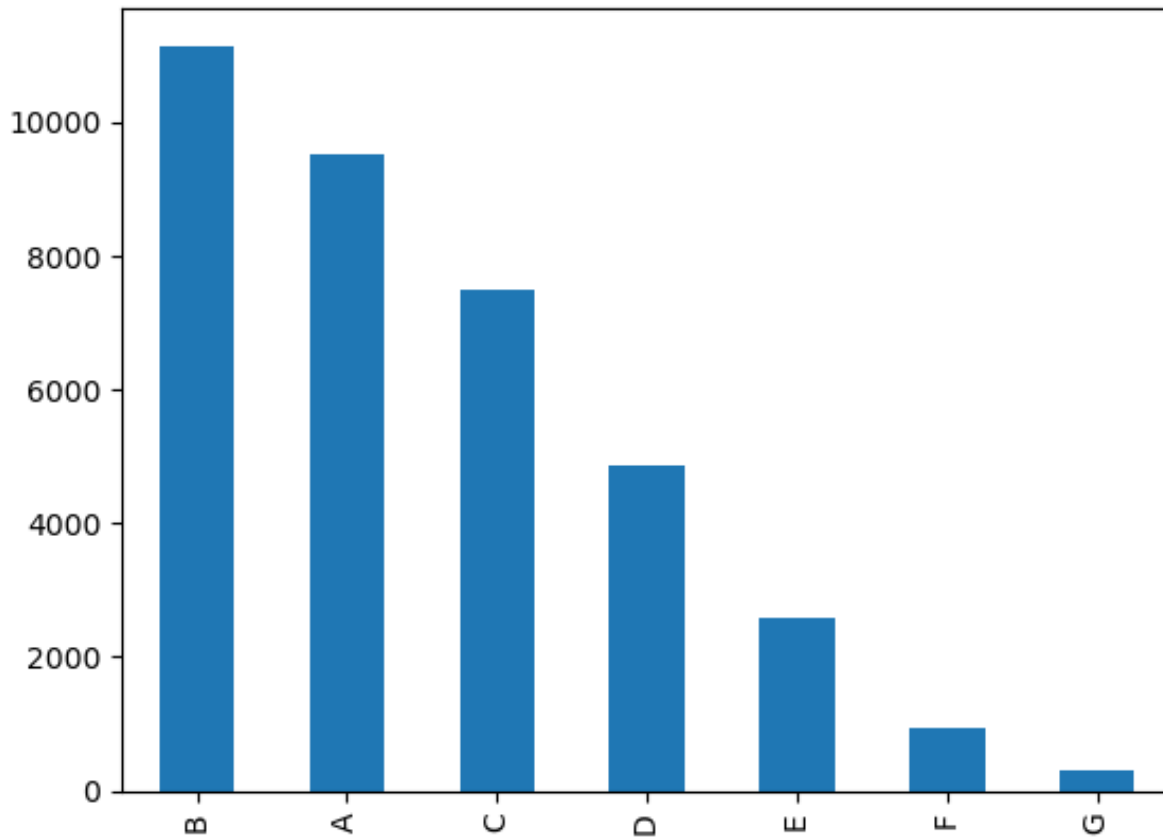
Maximum Number of loans have interest rates between 11% to 14%



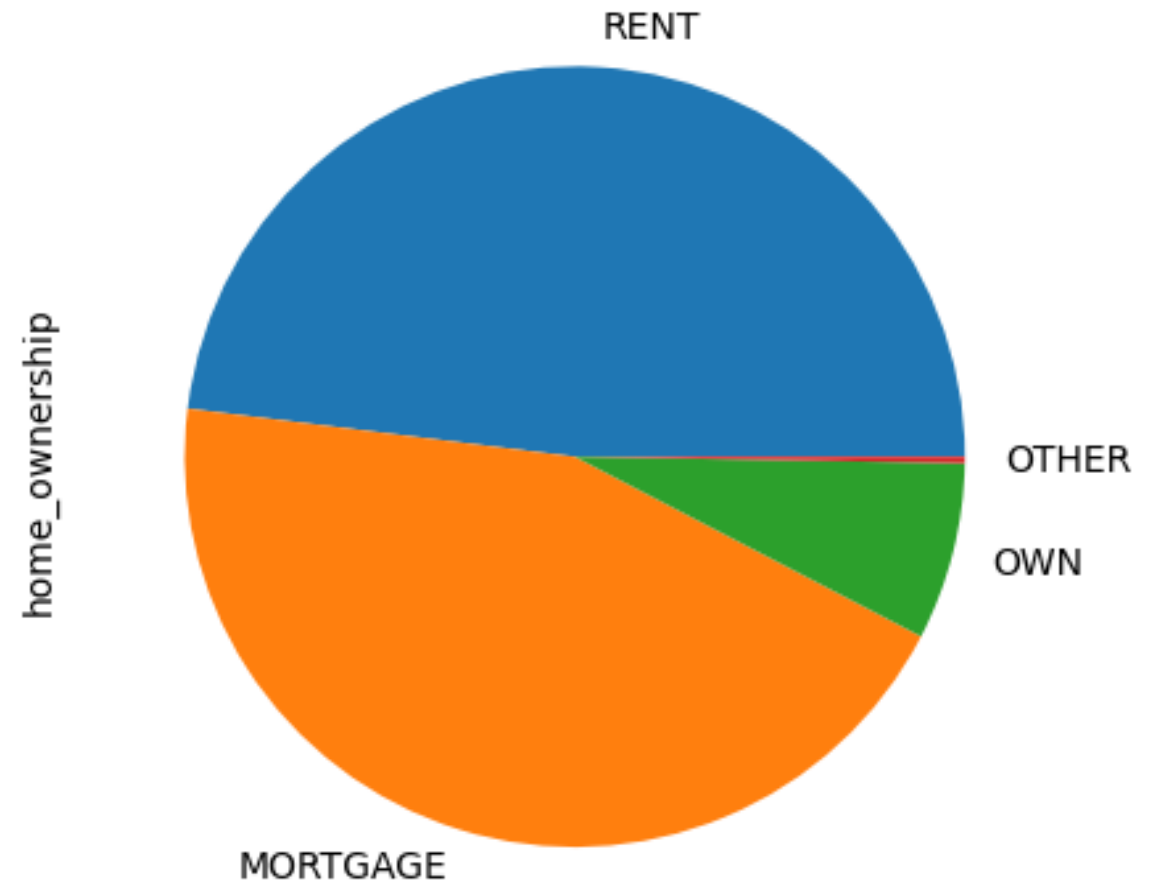
Maximum number of loans have installment between 200-400



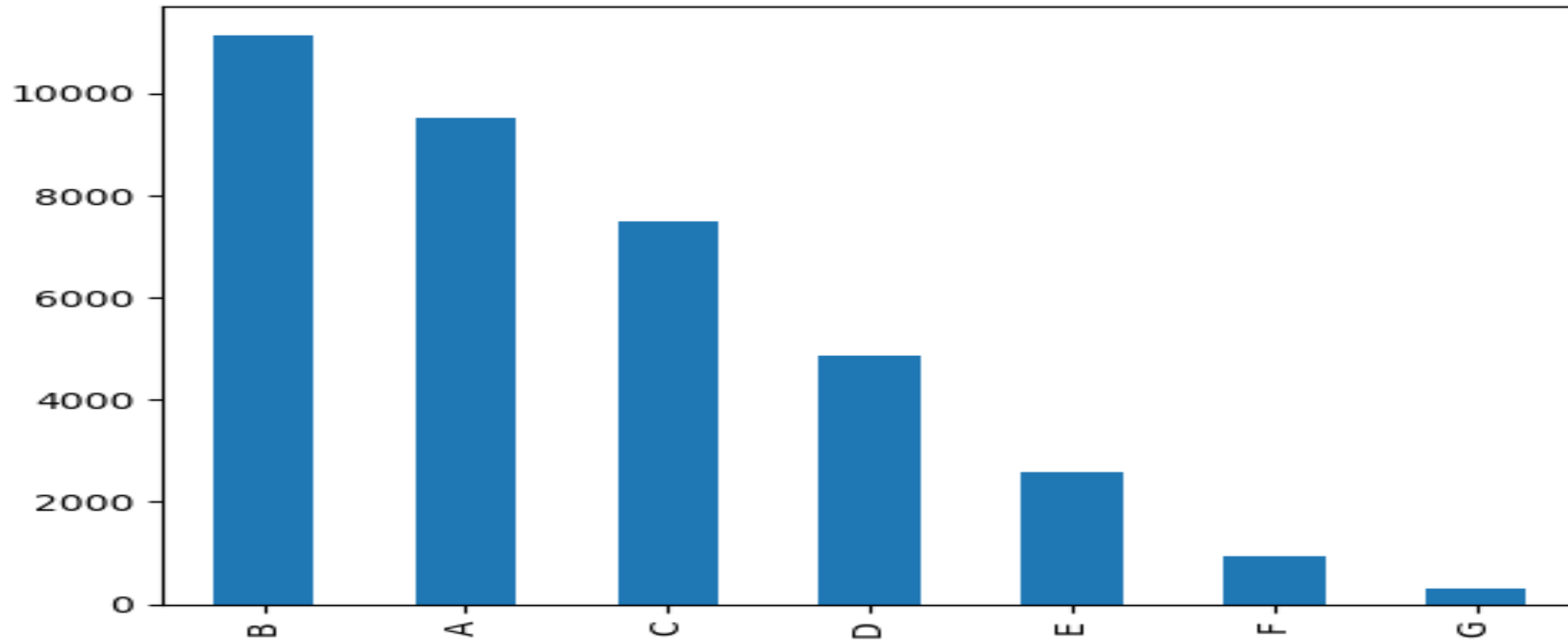
Maximum Number of customers who have taken the loan belongs to grade B



Maximum Number of customers who have taken the loan has home_ownership as rent

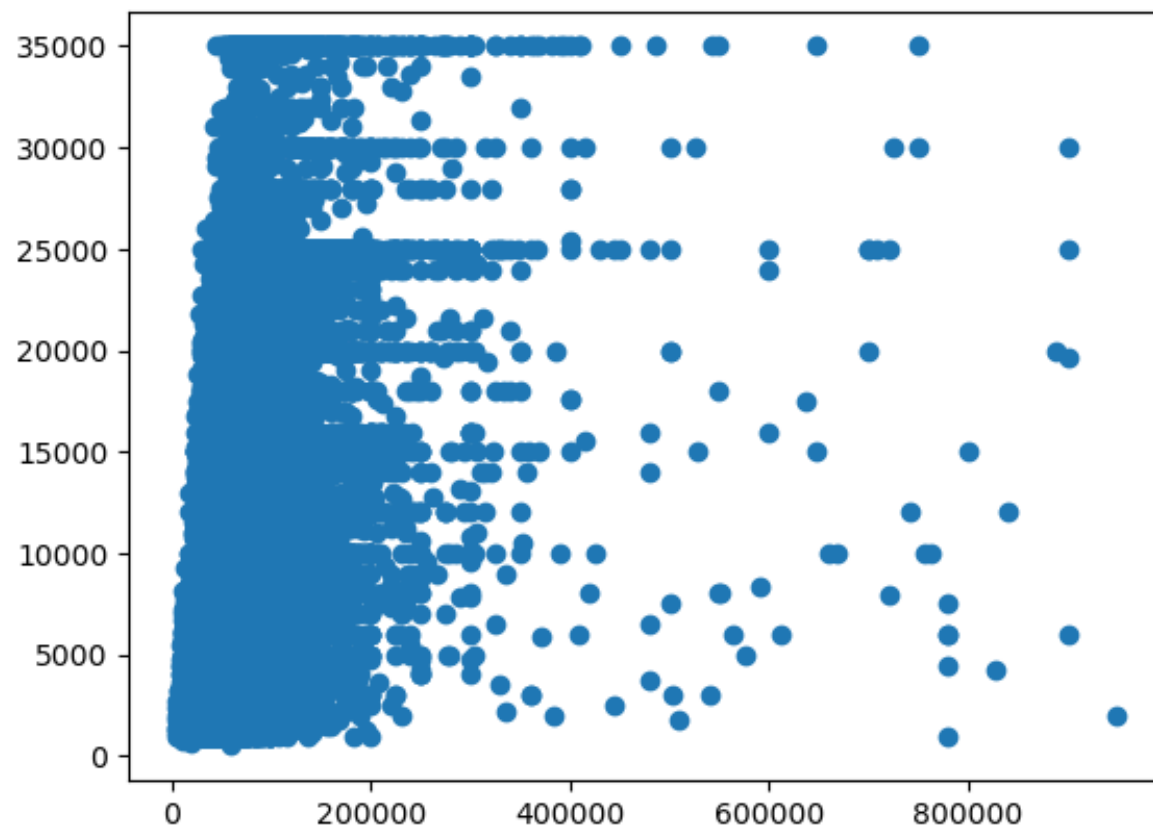


Maximum Number loan has taken for debt consolidation purpose

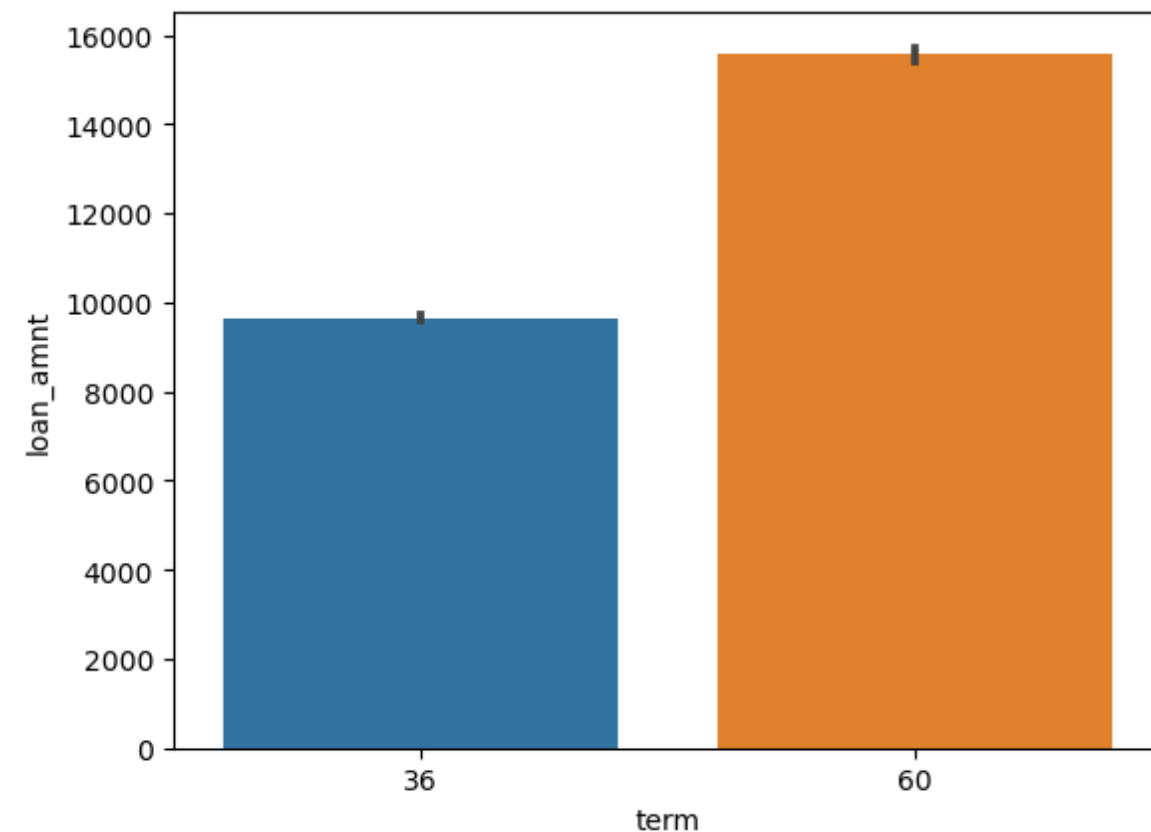


Bivariate Analysis

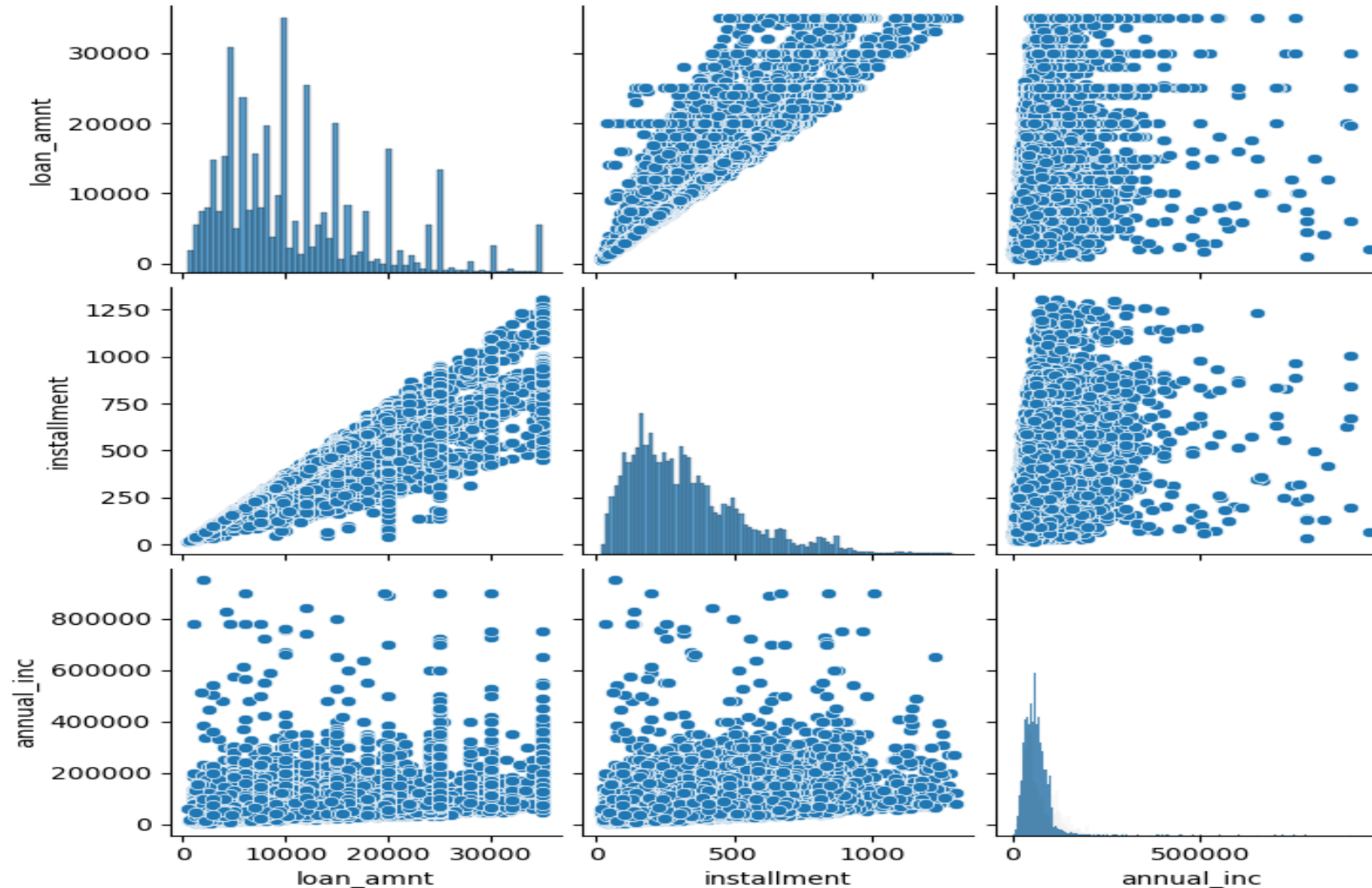
As the annual income increases, loan amount also increases



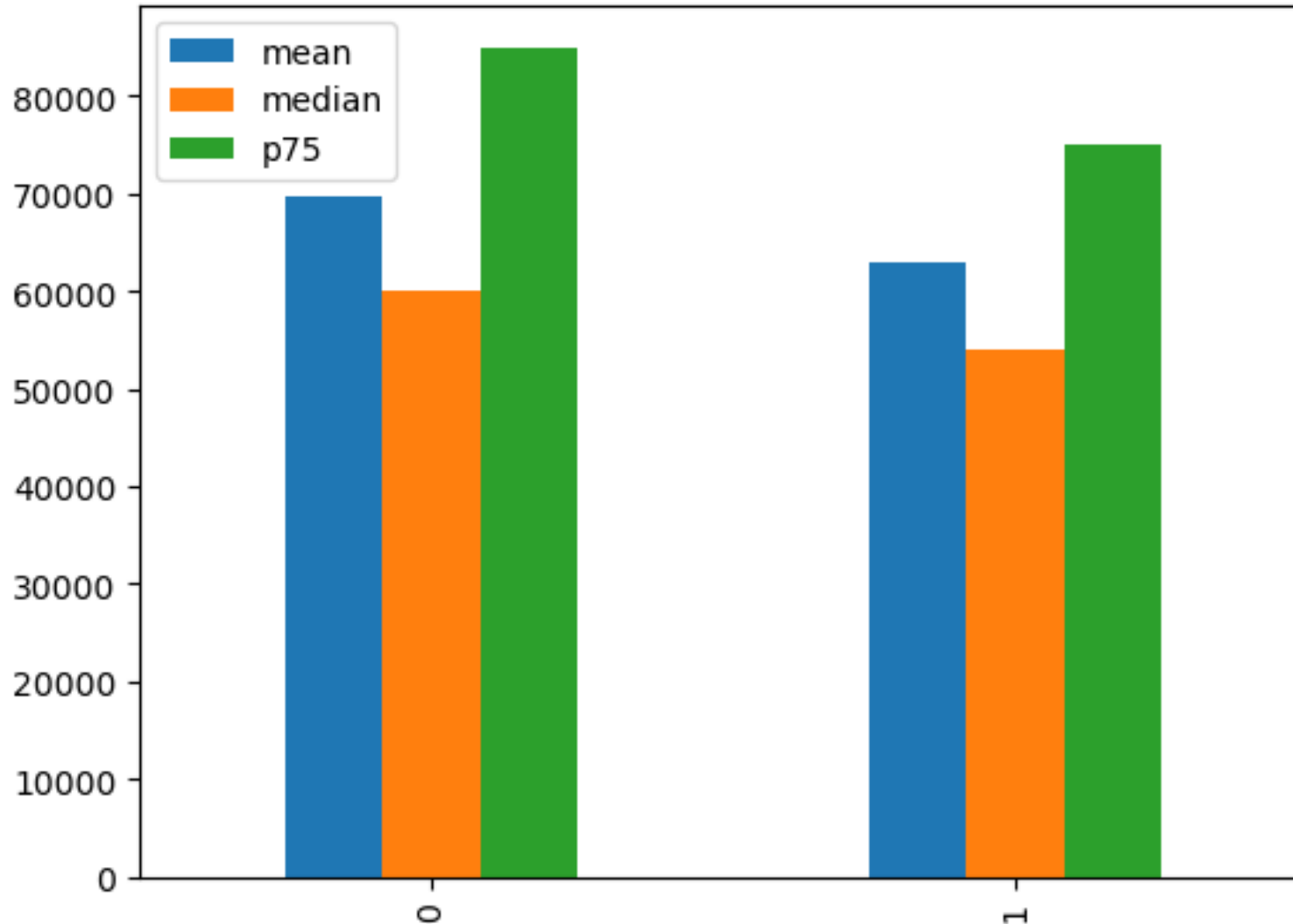
For higher loan amount, term is also higher



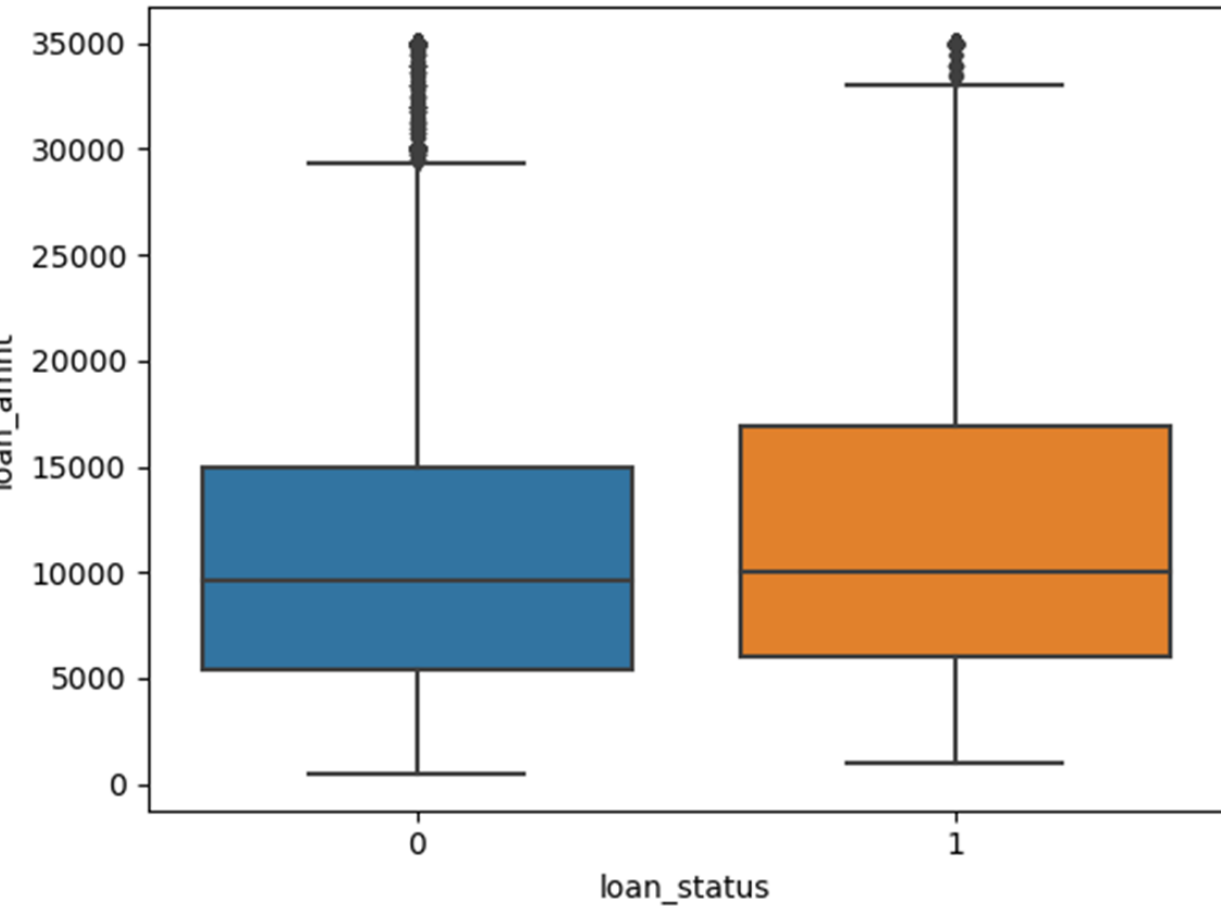
Pair plot installment, loan amount and annual income



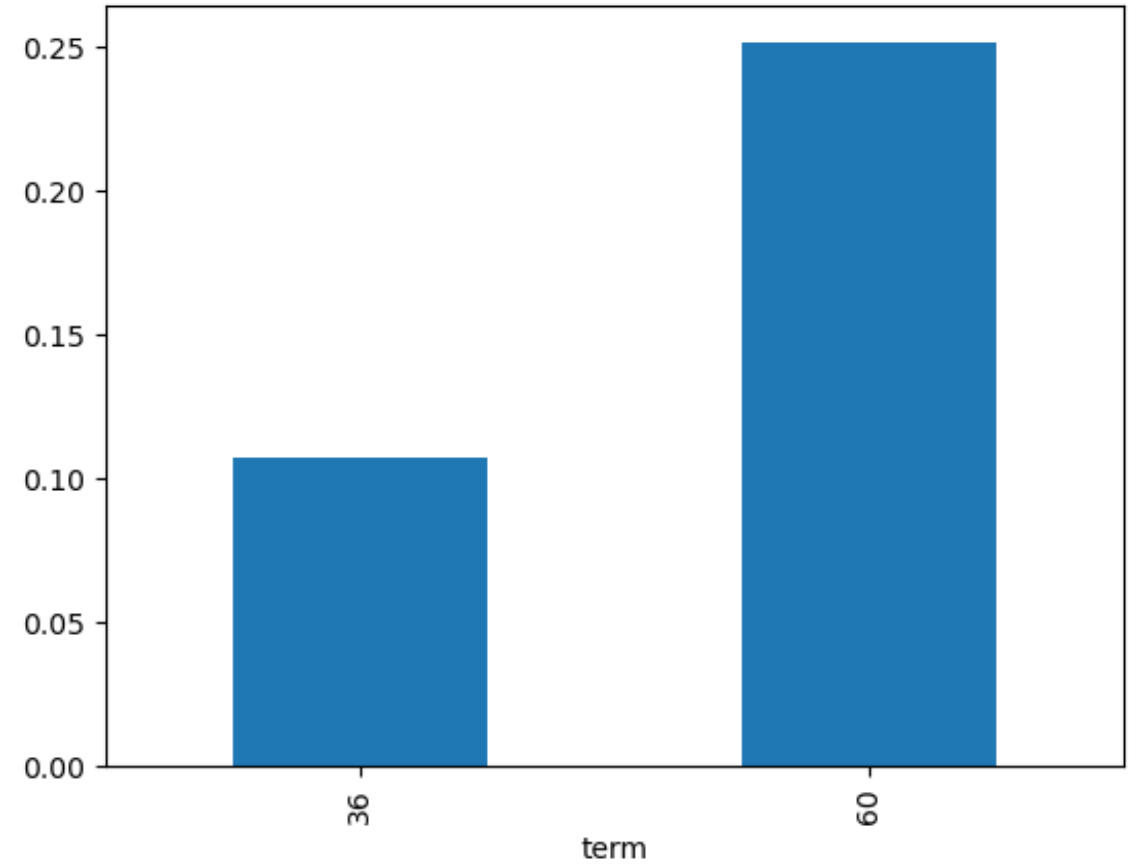
Annual Income for loan defaulters is less than that of fully loan paid customers



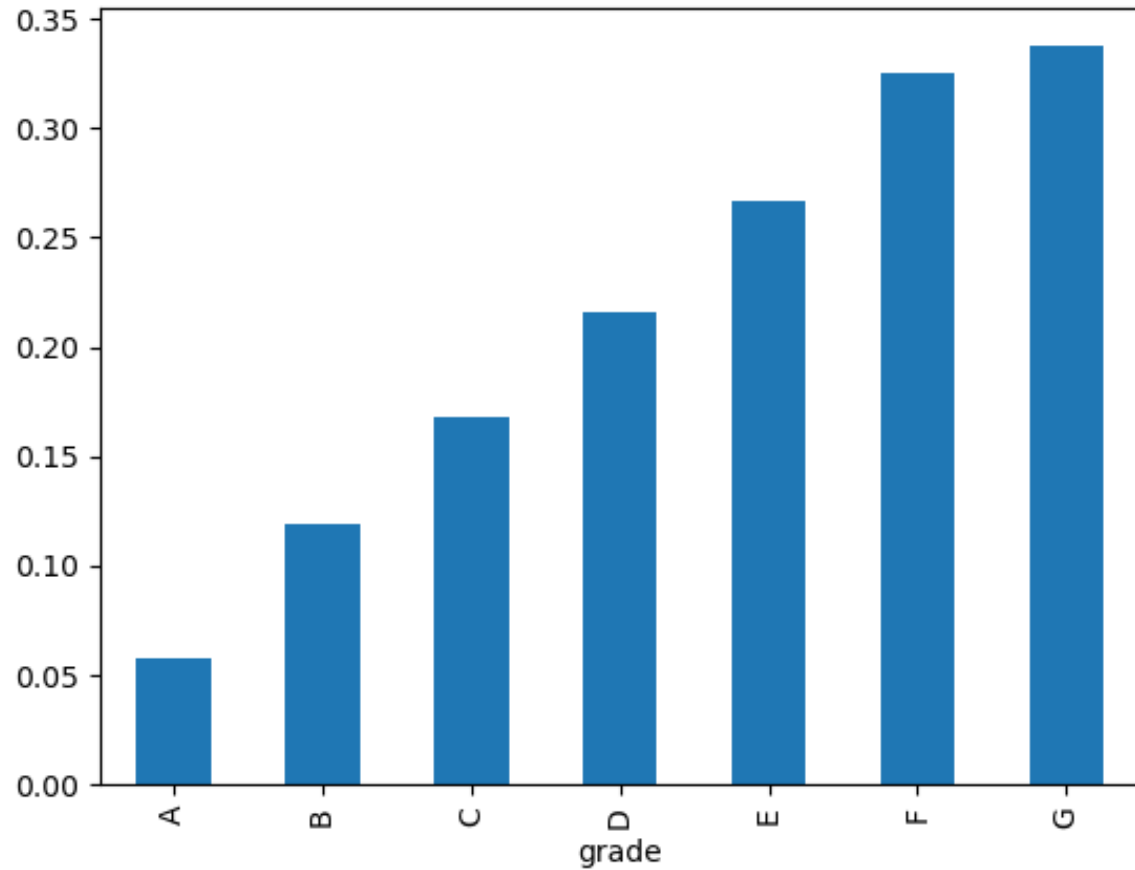
For higher loan amount, the default rate is slightly high



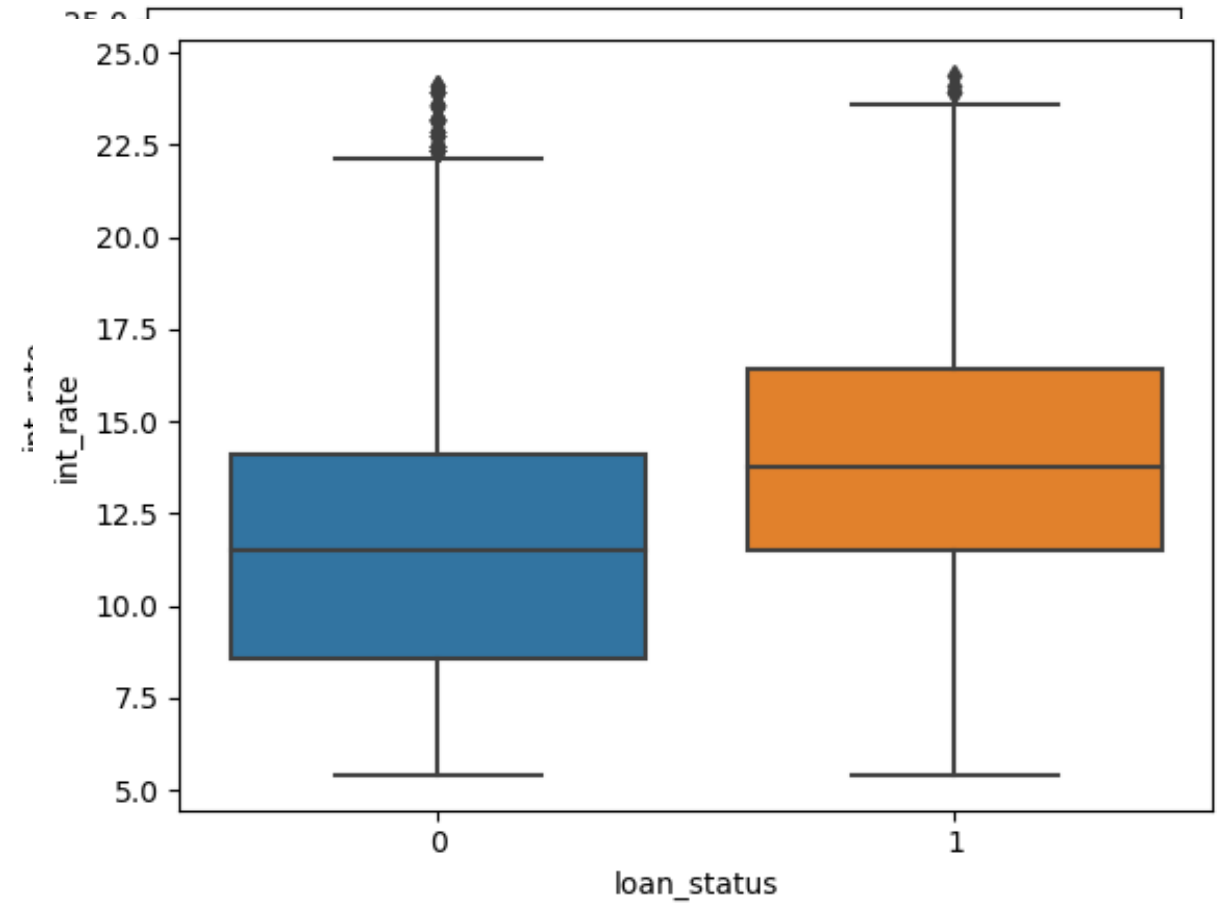
For longer term loans, the default rate is high compare to short term loans



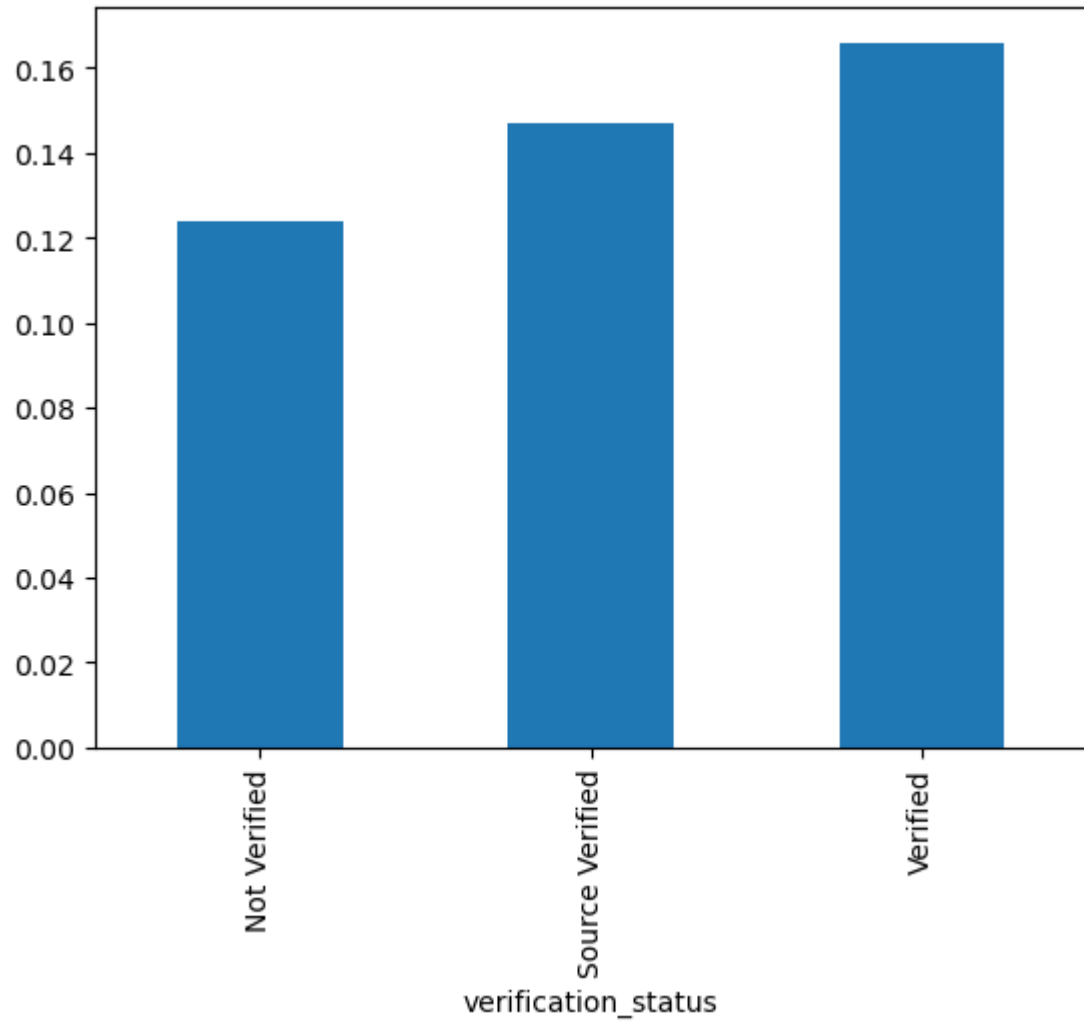
As the grade increases, default rate also increases



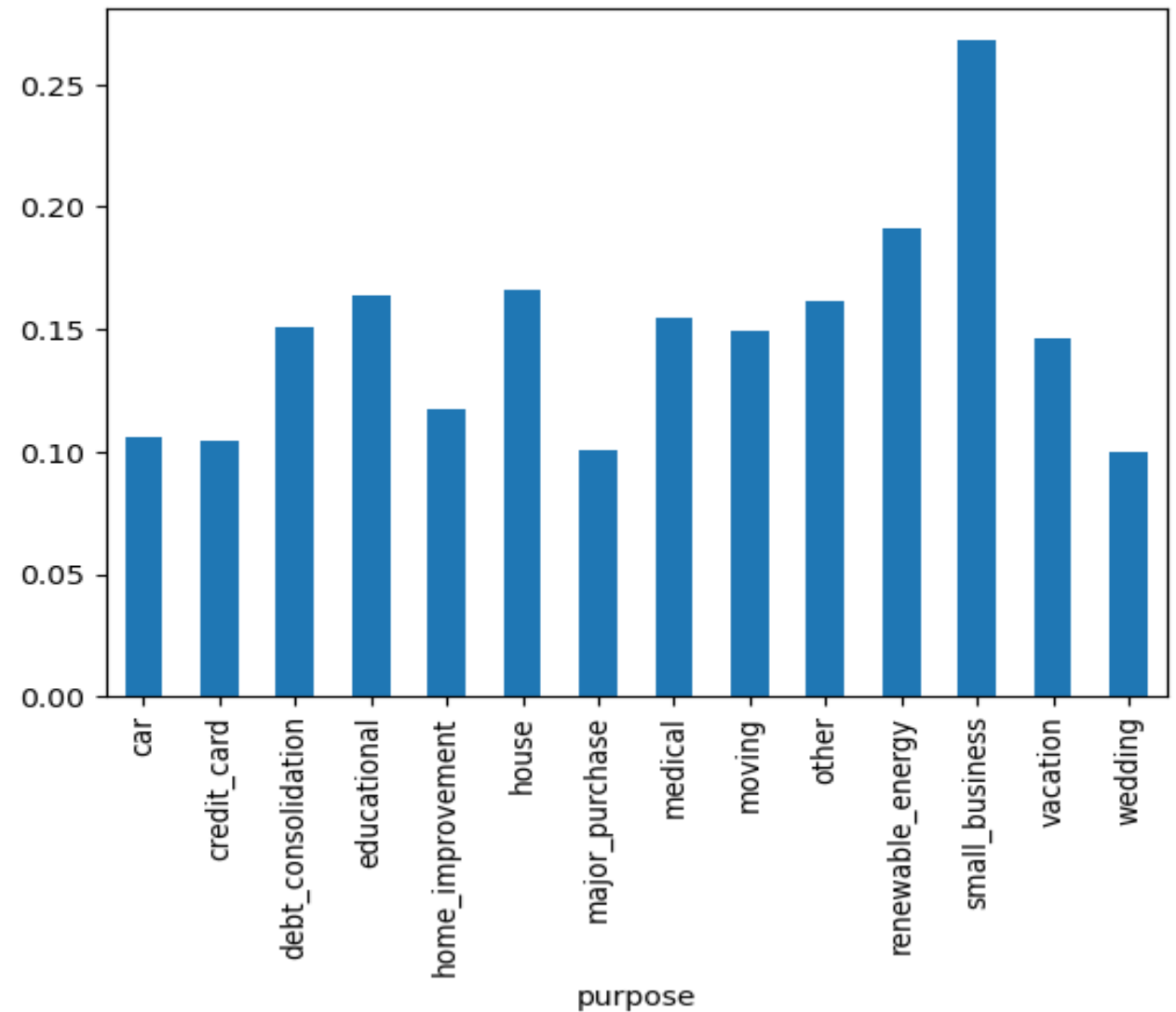
For higher interest rates, default rate is also high



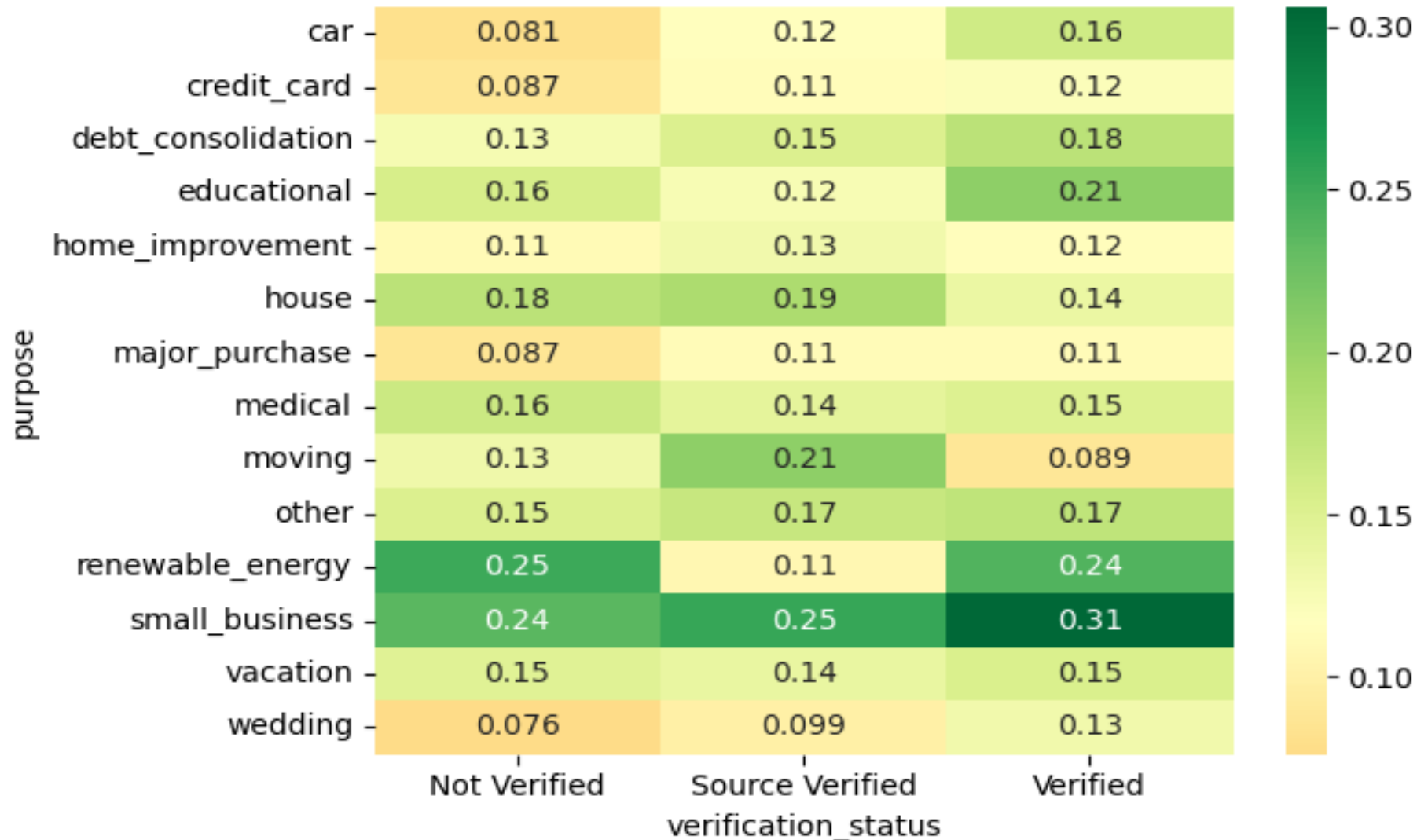
Surprisingly, the verified loans have maximum default rate



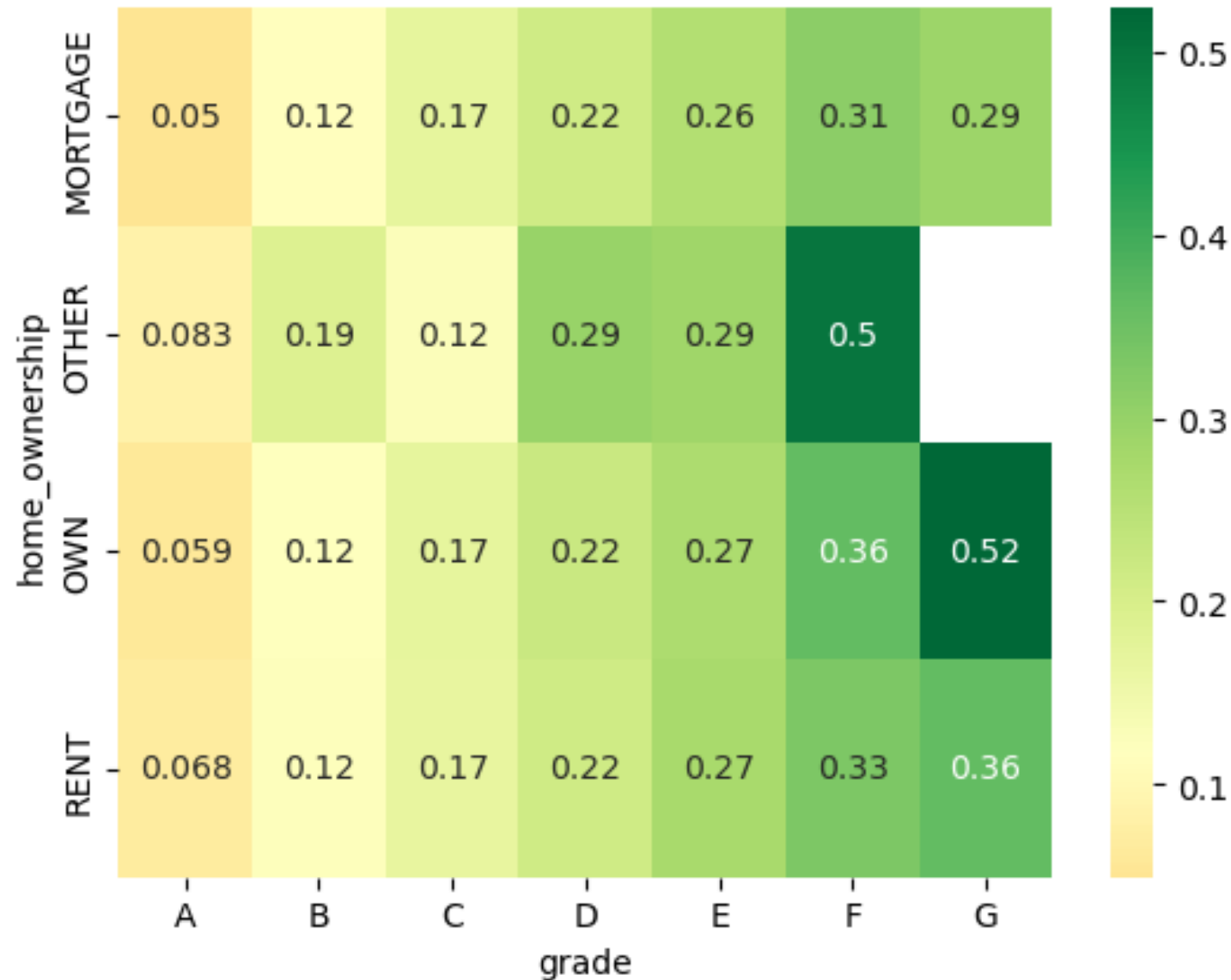
Loan taken for small businesses have maximum default rate



Heatmap for Purpose vs Verification status vs loan status



eat map of home ownership vs grade vs loan status



Recommendations to reduce loan default rate

- For verified customers, interest rates as well as default rate is high, which doubts the verification proves of loan providing company. Loan verification process must be improvised
- As the grade increases alphabetically, default rate is also increasing. The company should standardize the verification rules for each grades of customers
- Giving loan to small business is risky as the default rate for them is maximum. Strict verification must be followed for providing loan to small business.
- Company should normalize the interest rates according to the purpose, since the small business segment has high interest rate compare to others. Also in all segments higher interest rates causing more loan