LENDING CLUB CASE STUDY

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BACKGROUND

- This company 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.
- Lenders decide 1) whether to lend and 2) the terms of loan such as interest rate, monthly installment, tenure etc.

Objective:

- To identify the driving factors (or driver variables) behind loan default which can be utilized for portfolio and risk assessment.

UNDERSTANDING DATA VARIABLES

Types of Variables

Customer Information

- Employment Title
- Employment Length
- Employment Grade
- Home Ownership
- Annual Income
- Customer Address (State, Zip code)

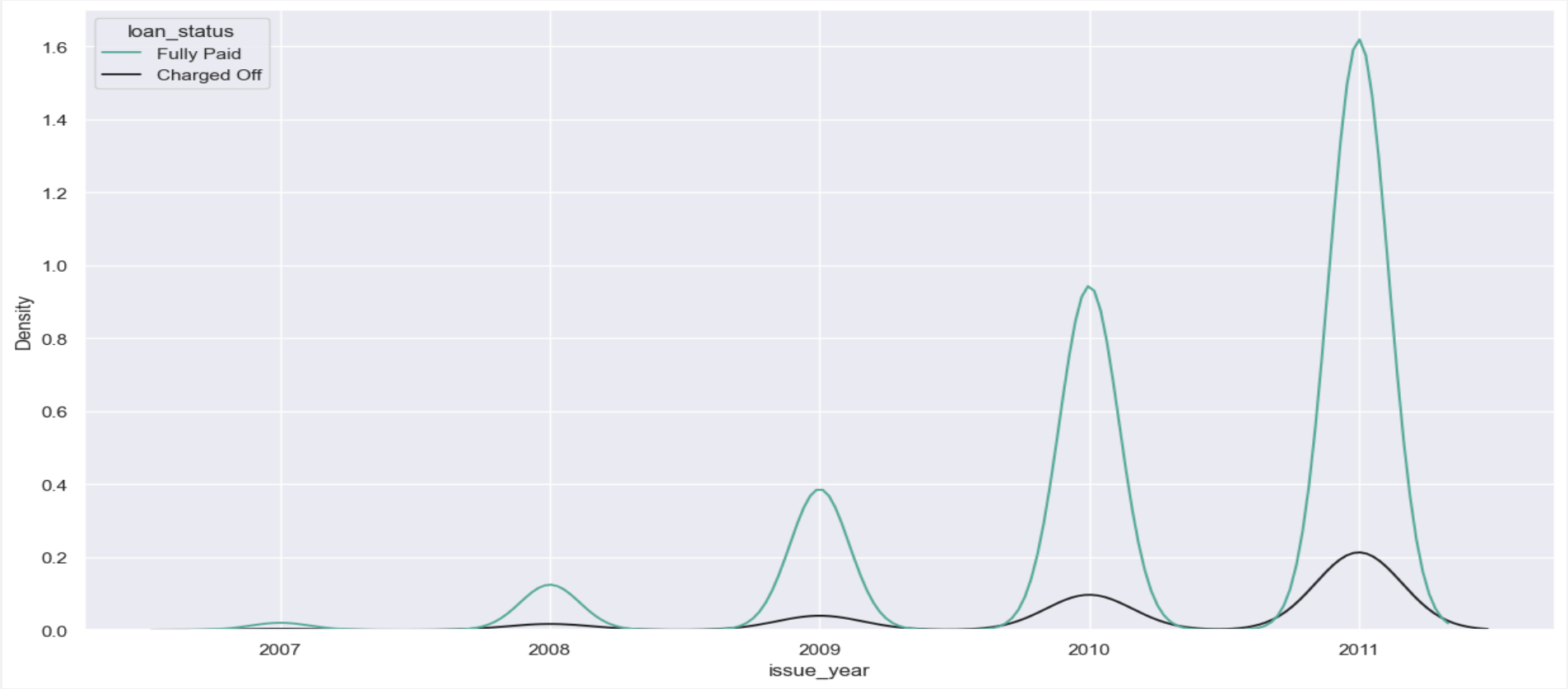
Loan Information

- Loan Amount
- Funded Amount
- Loan Term
- Interest Rate
- Monthly Installment
- Loan Purpose
- Loan Status

Available Loan data for all loans issued through the time period 2007 to 2011

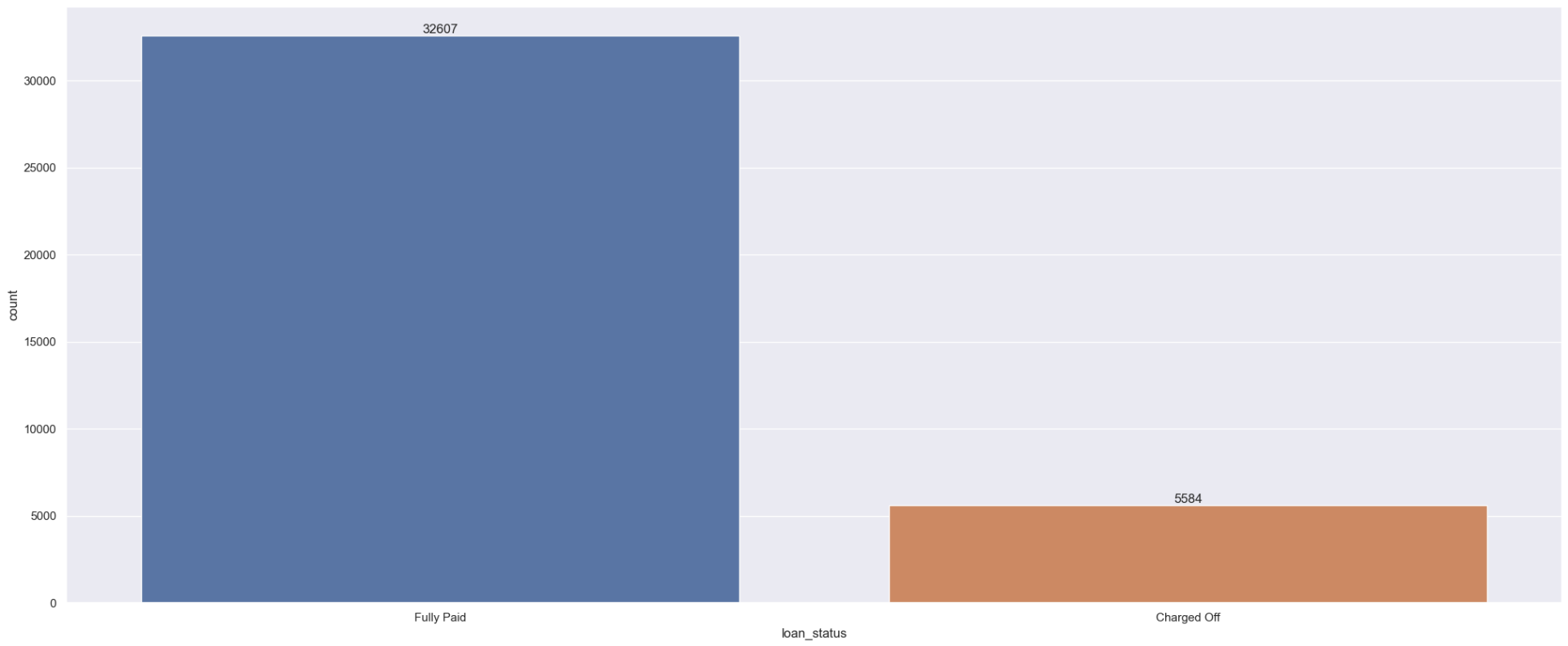
DATA TIMEFRAME – 2007 TO 2011

- 238% Average growth in loans issued from 2007 to 2011
- 78% increment in loans issued in 2011 compared to 2010



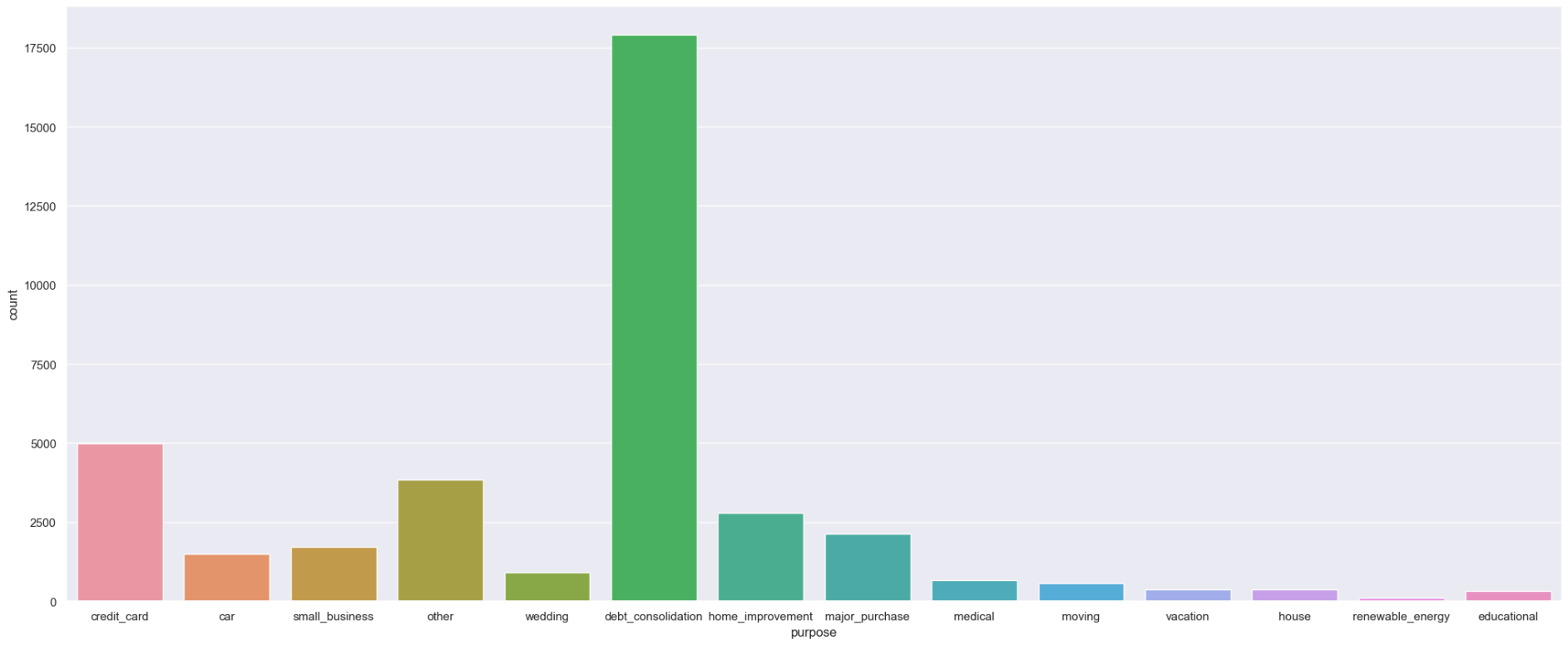
LOAN STATUS

- 85.4 % of total loans are Fully Paid
- 14.6 % of total loans are Charged Off



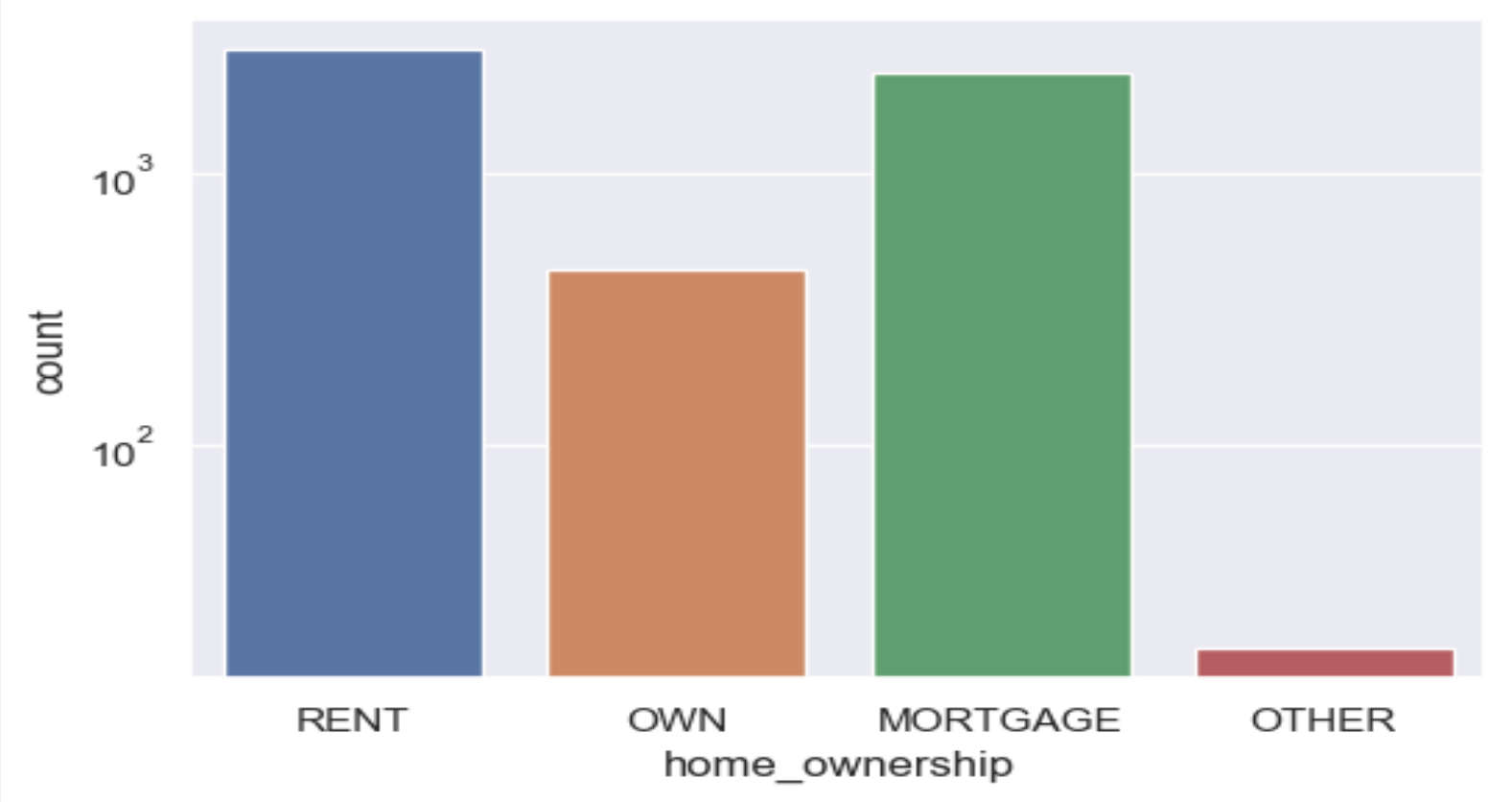
LOAN PURPOSE

- 46.8 % Debt Consolidation Loans – most popular
- 13.1 % Credit Card Loans
- 7.3 % Home Improvement Loans



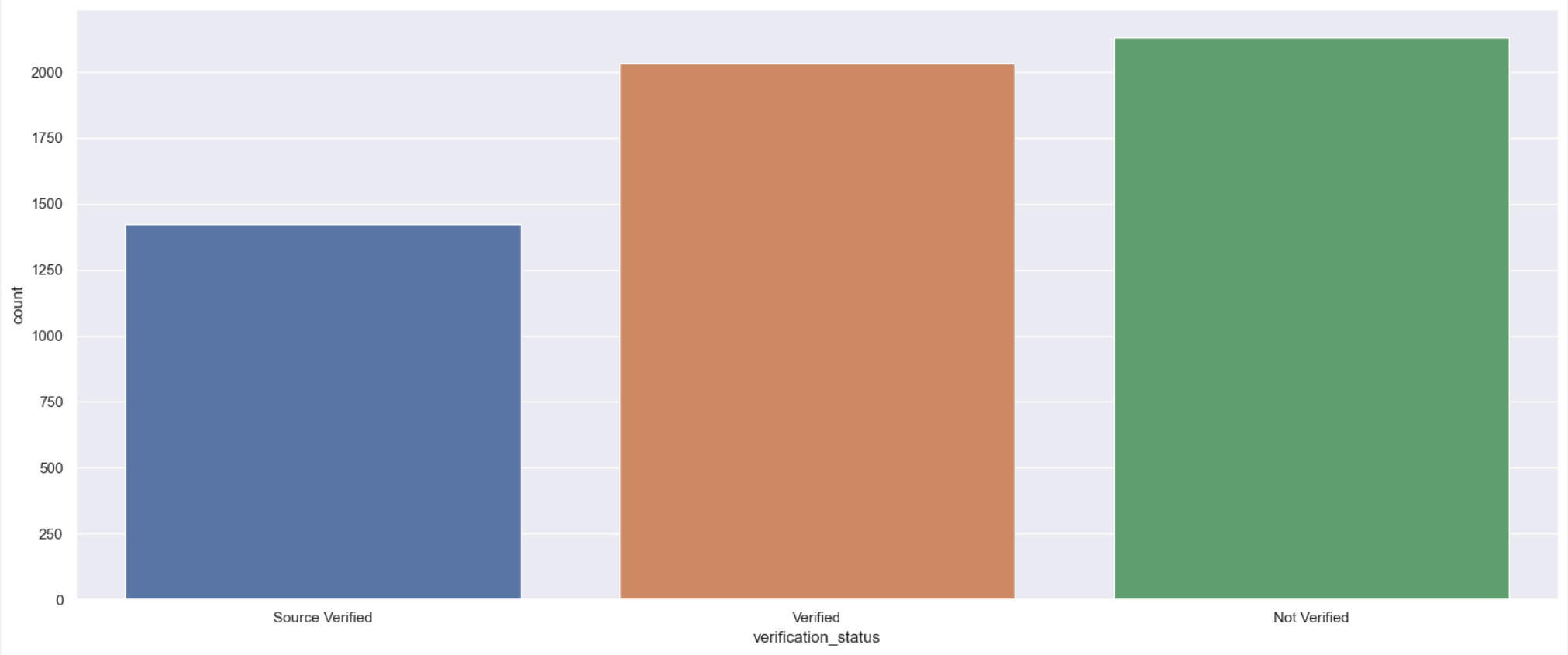
HOME OWNERSHIP

- 8 % Only loan applicants have Owned House
- 51 % have Rented House



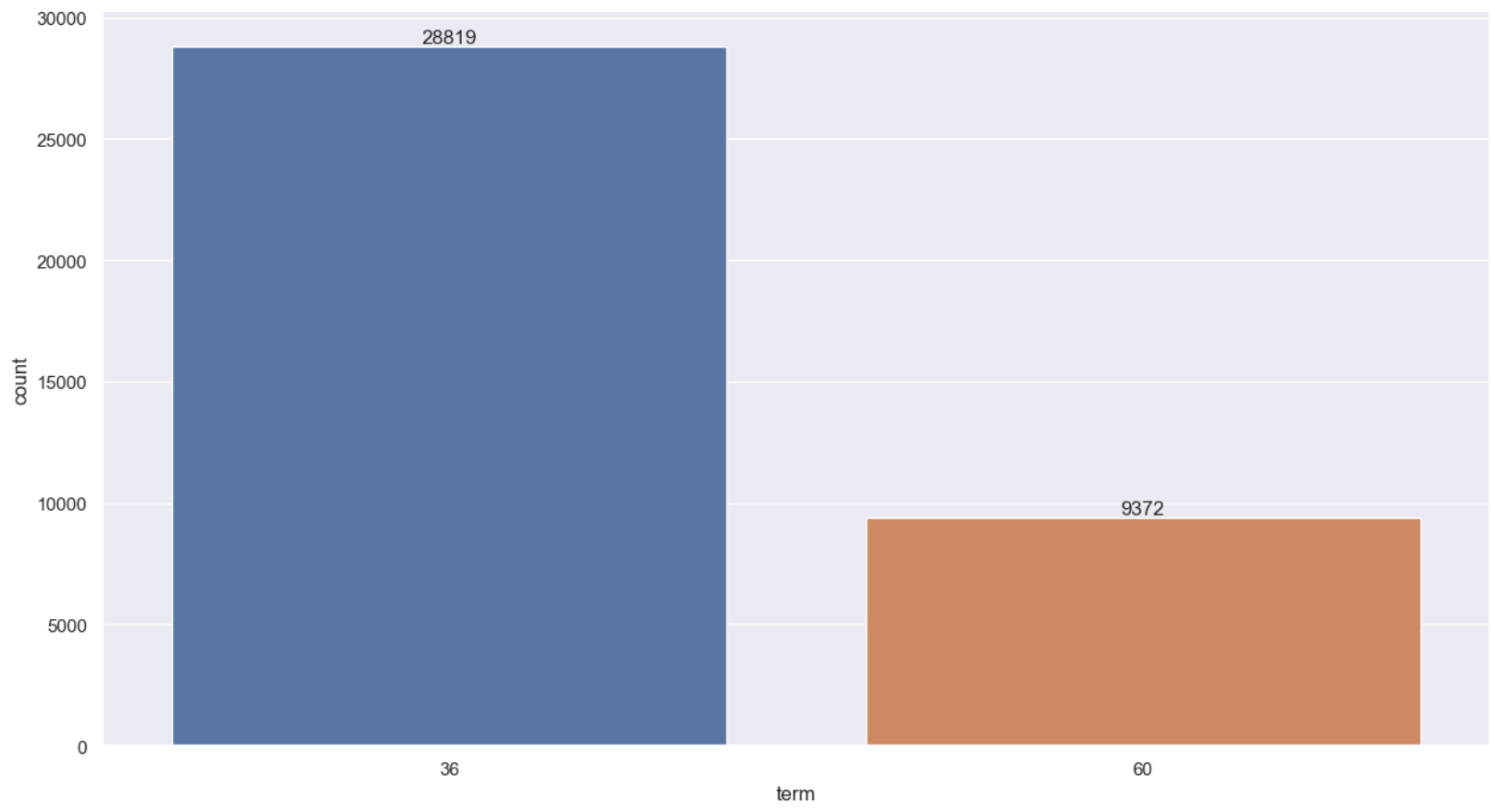
LOAN VERIFICATION STATUS

- 36% of Charged off loans were 'Verified'
- 38% of Charged off loans were 'Not Verified'



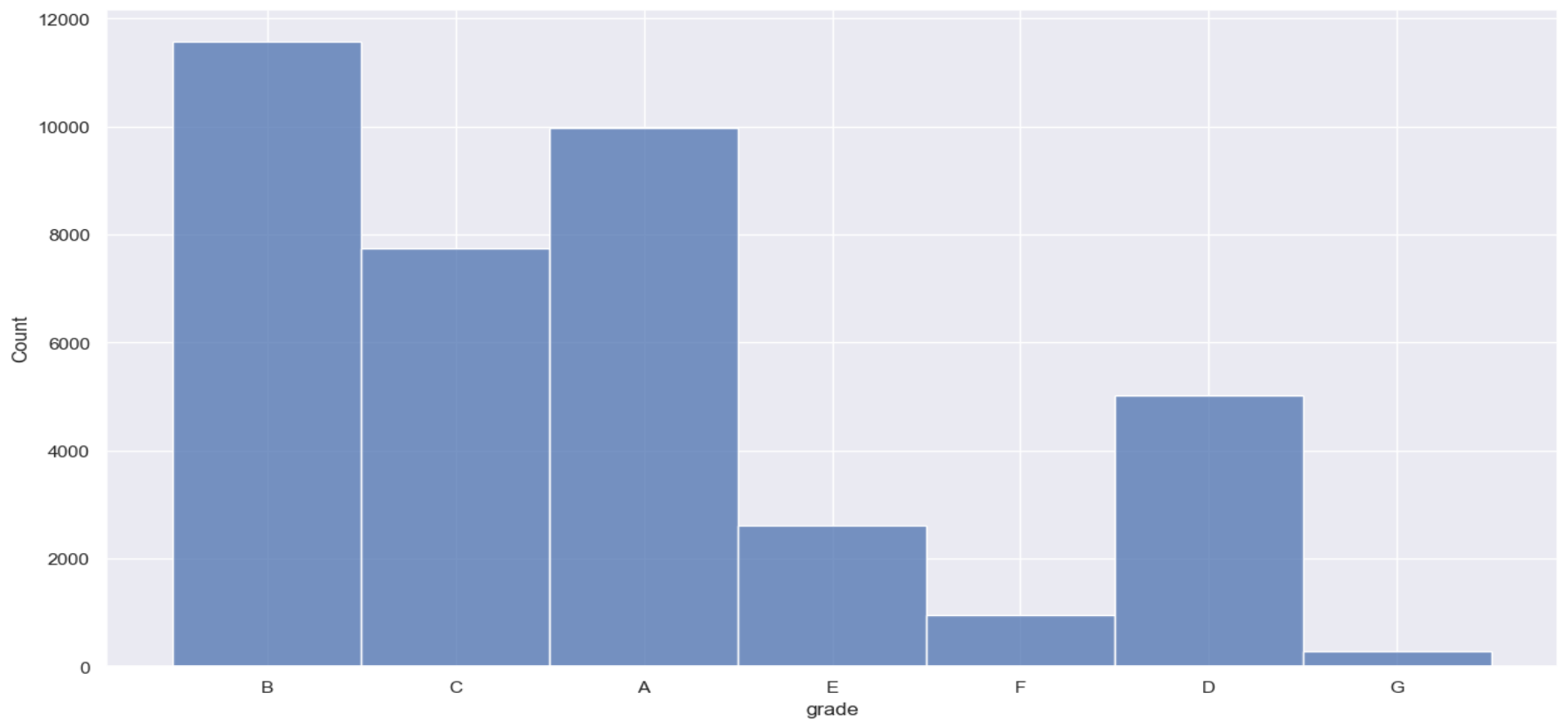
LOAN TERM

- Three – Fourth (75%) of the loans issued with 36 months tenure



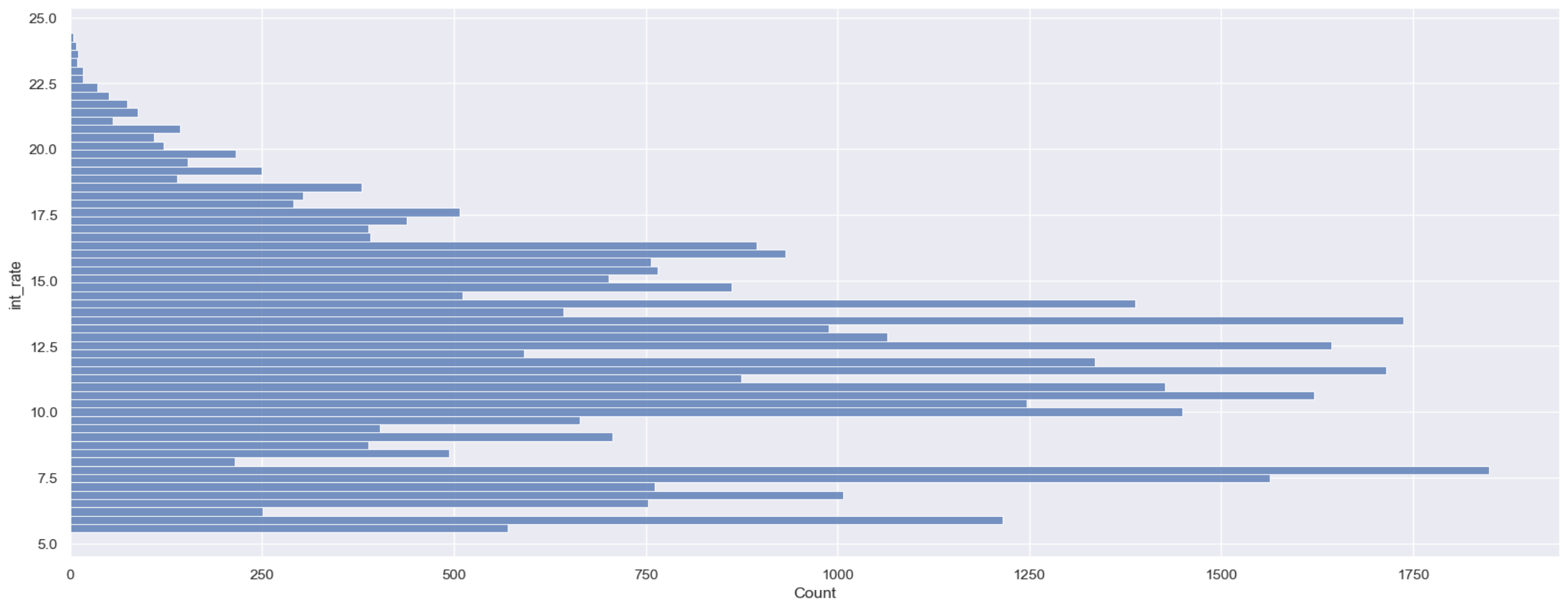
CUSTOMER GRADE

- 30% loans issued to Grade B customers
- 26% loans issued to Grade A customers
- Less than 1% loans issued to Grade G customers



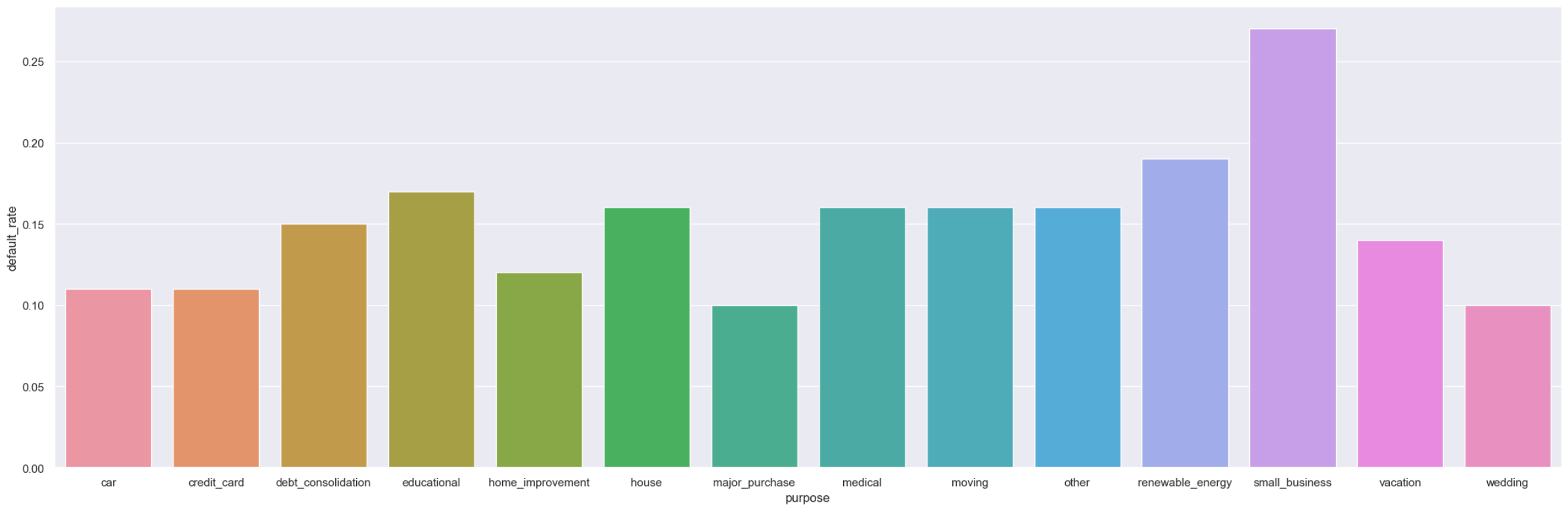
INTEREST RATE ANALYSIS

- Average Interest Rate is 11.9%
- Loans Interest Rate range is from minimum 5.4 % to maximum 24.4%



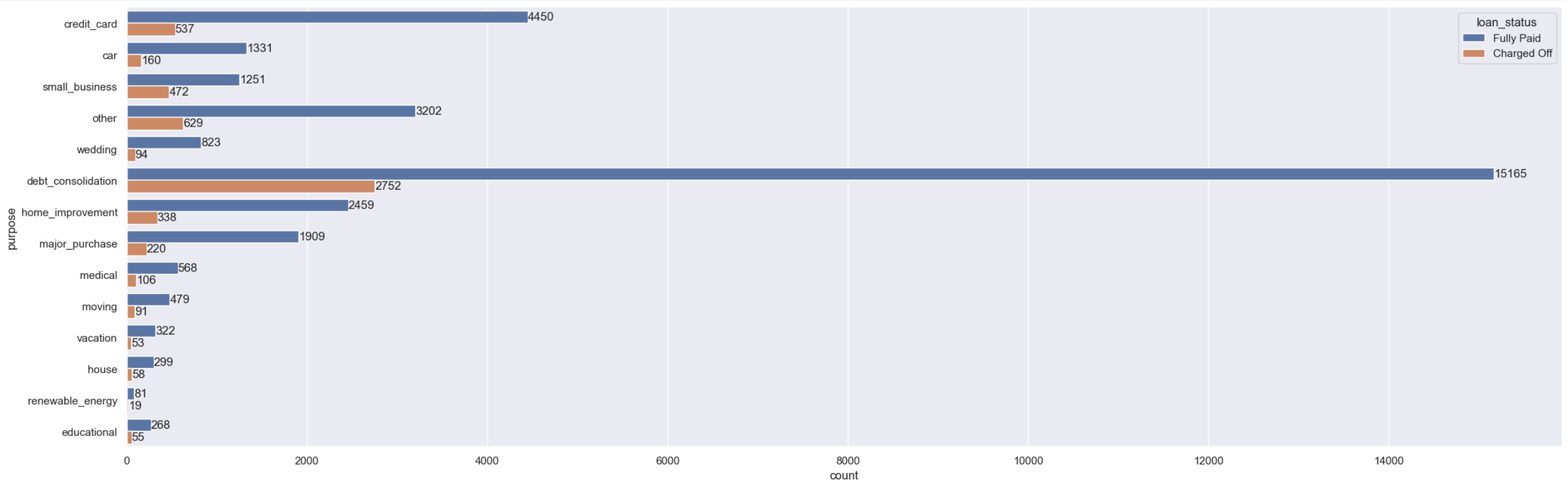
LOAN DEFAULT RATE BY PURPOSE

- 27% Small Business
- 19% Renewal Energy
- 17% Educational



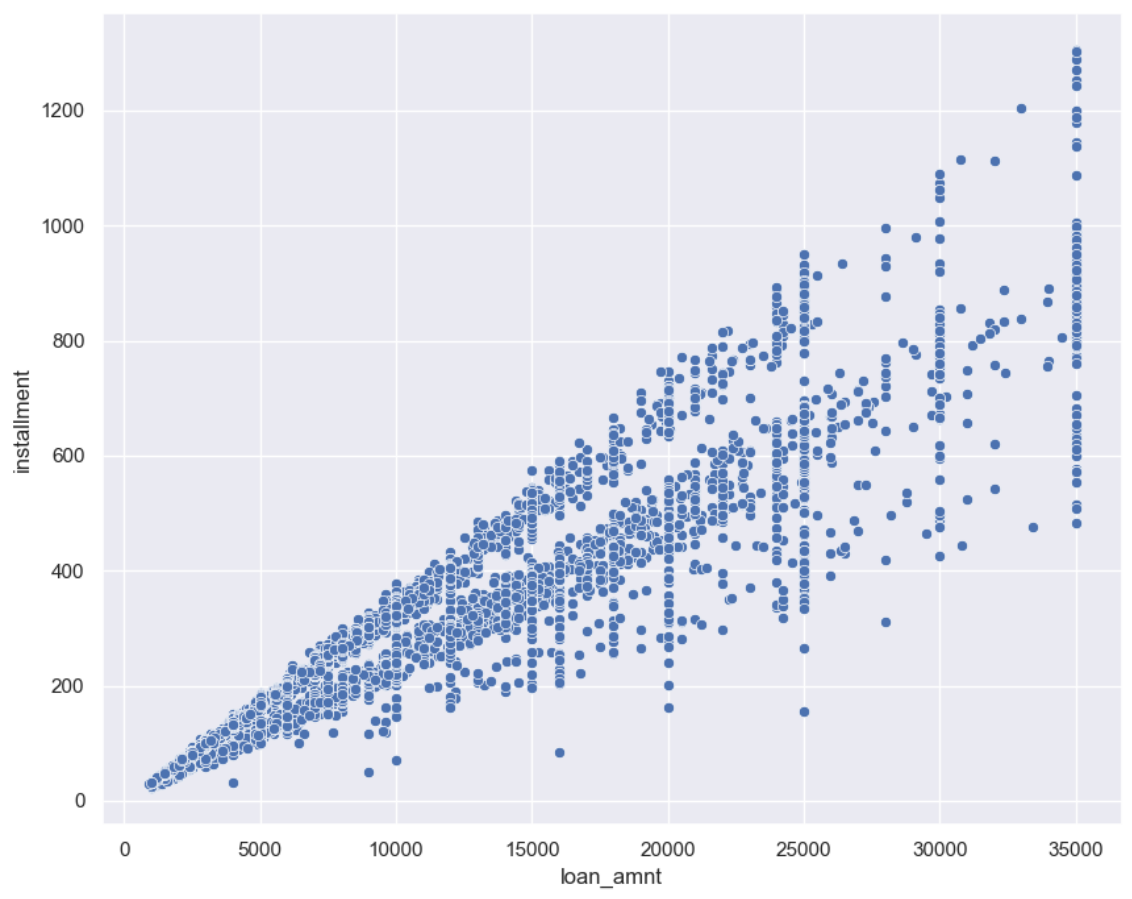
DISTRIBUTION OF LOAN STATUS AGAINST PURPOSE

- 90% Wedding & Major Purchase Loans are Fully Paid
- 89% Car & Credit Card Load are Fully Paid



LOAN AMOUNT & ANNUAL INCOME CORRELATION WITH INSTALLMENT

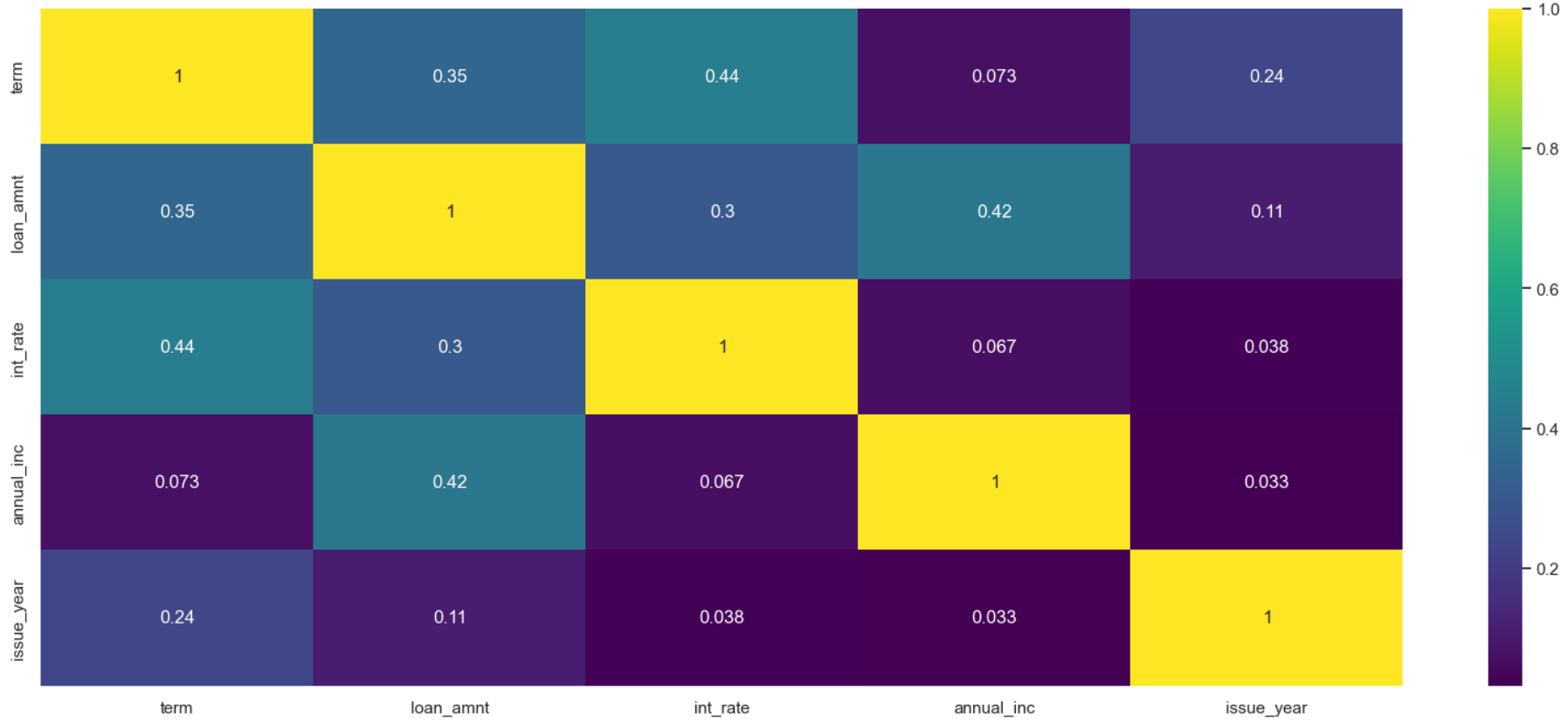
Correlation between Loan Amount and Installment



Correlation between Annual Income and Installment

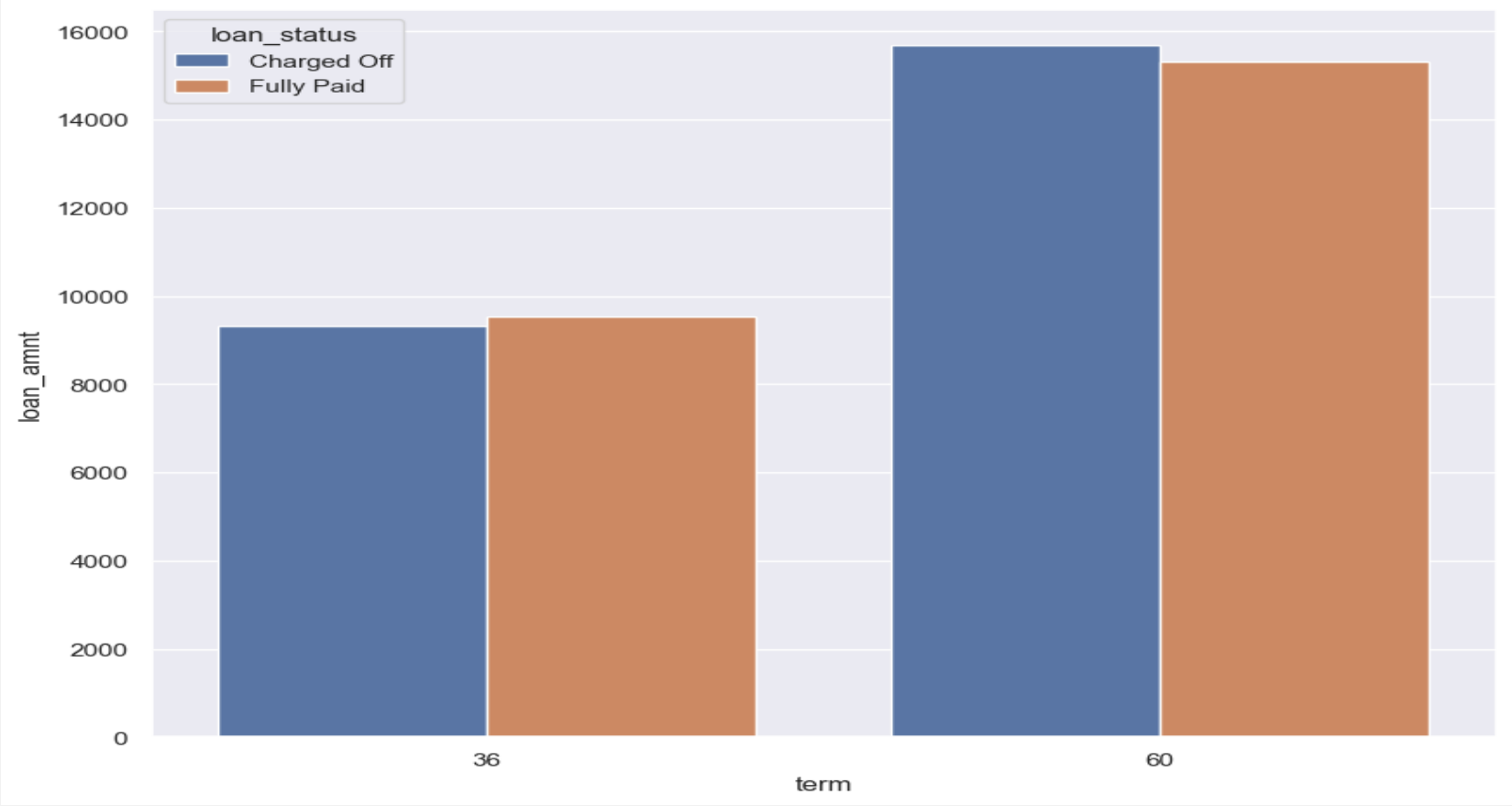
CORRELATION MATRIX

- High Correlation of Term with Interest rate
- High Correlation of Loan Amount with Annual Income
- Low Correlation Annual Income with Term, Interest Rate & Issue Year



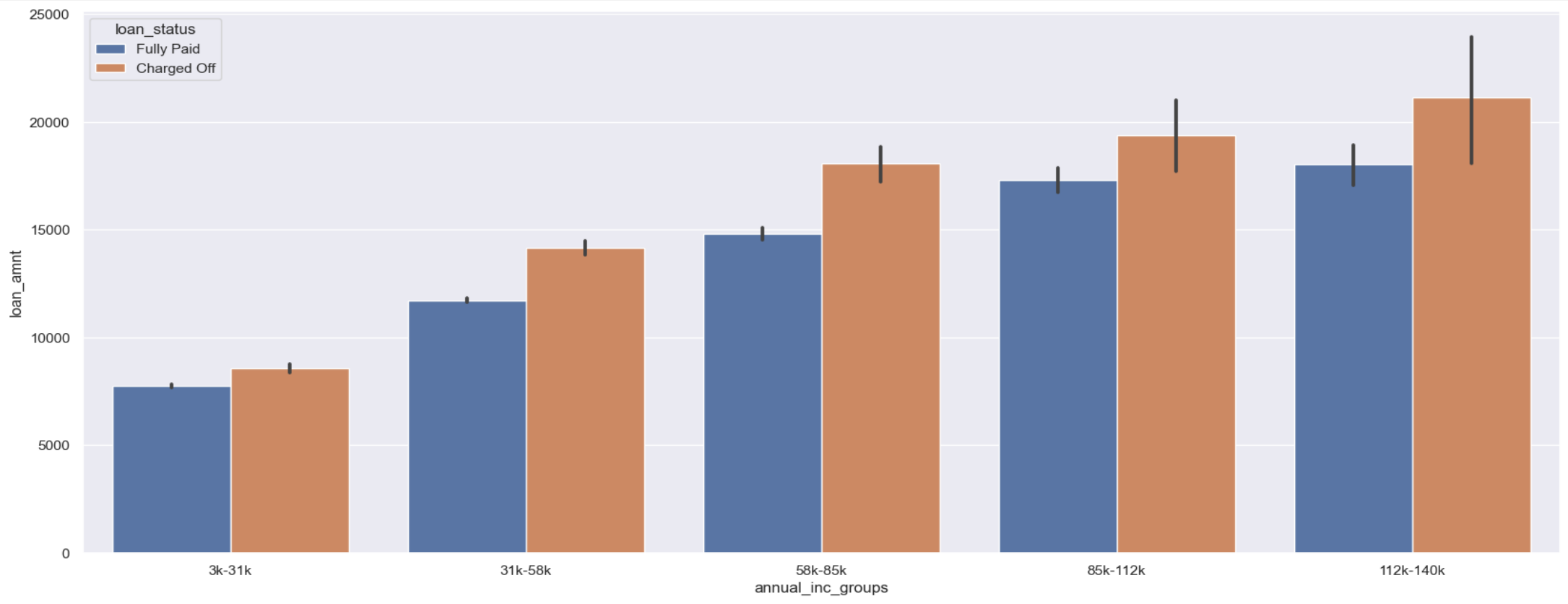
LOAN STATUS BY TERM & LOAN AMOUNT

Applicants who applied and defaulted have no significant difference in loan amounts

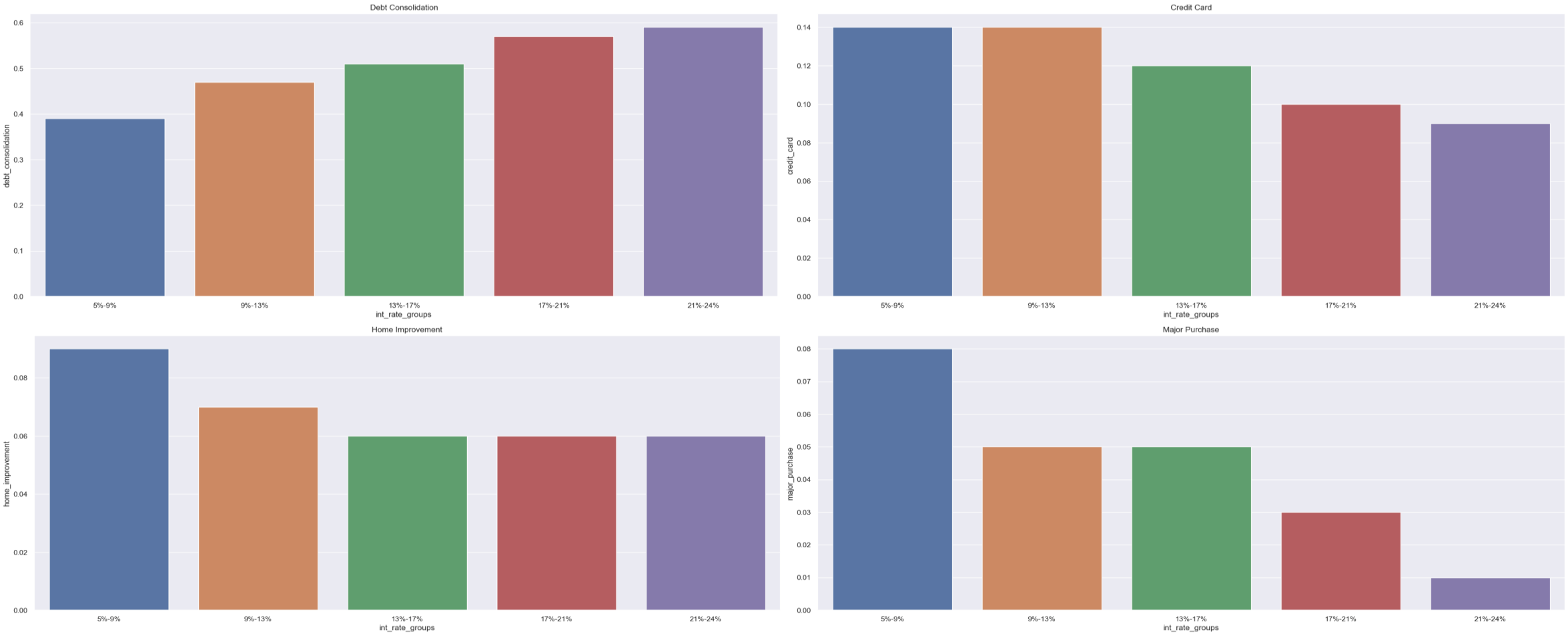


LOAN STATUS BY LOAN AMOUNT & DIFFERENT INCOME GROUPS

Default Rate is Higher with High Loan Amount for each Income Group

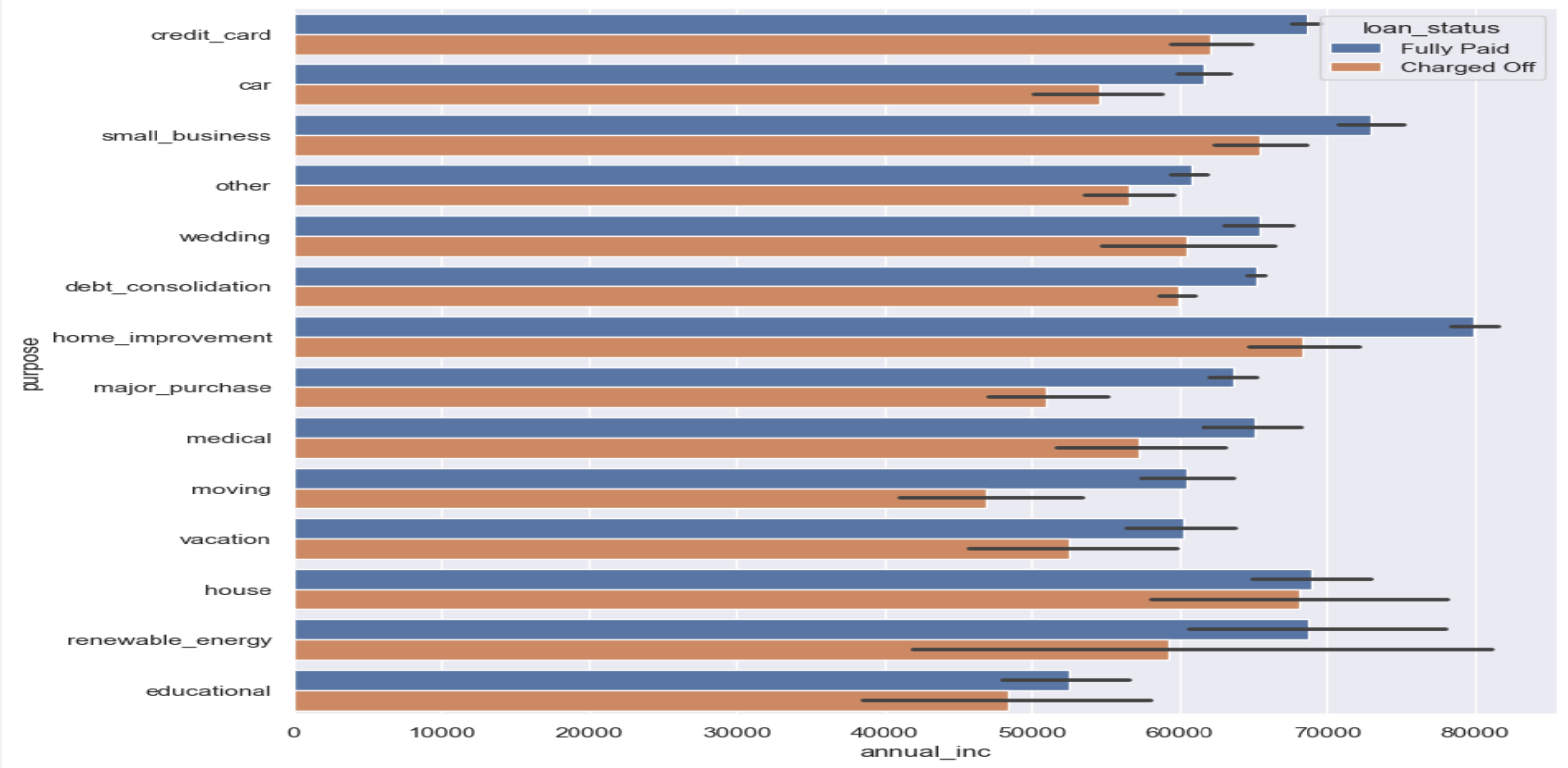


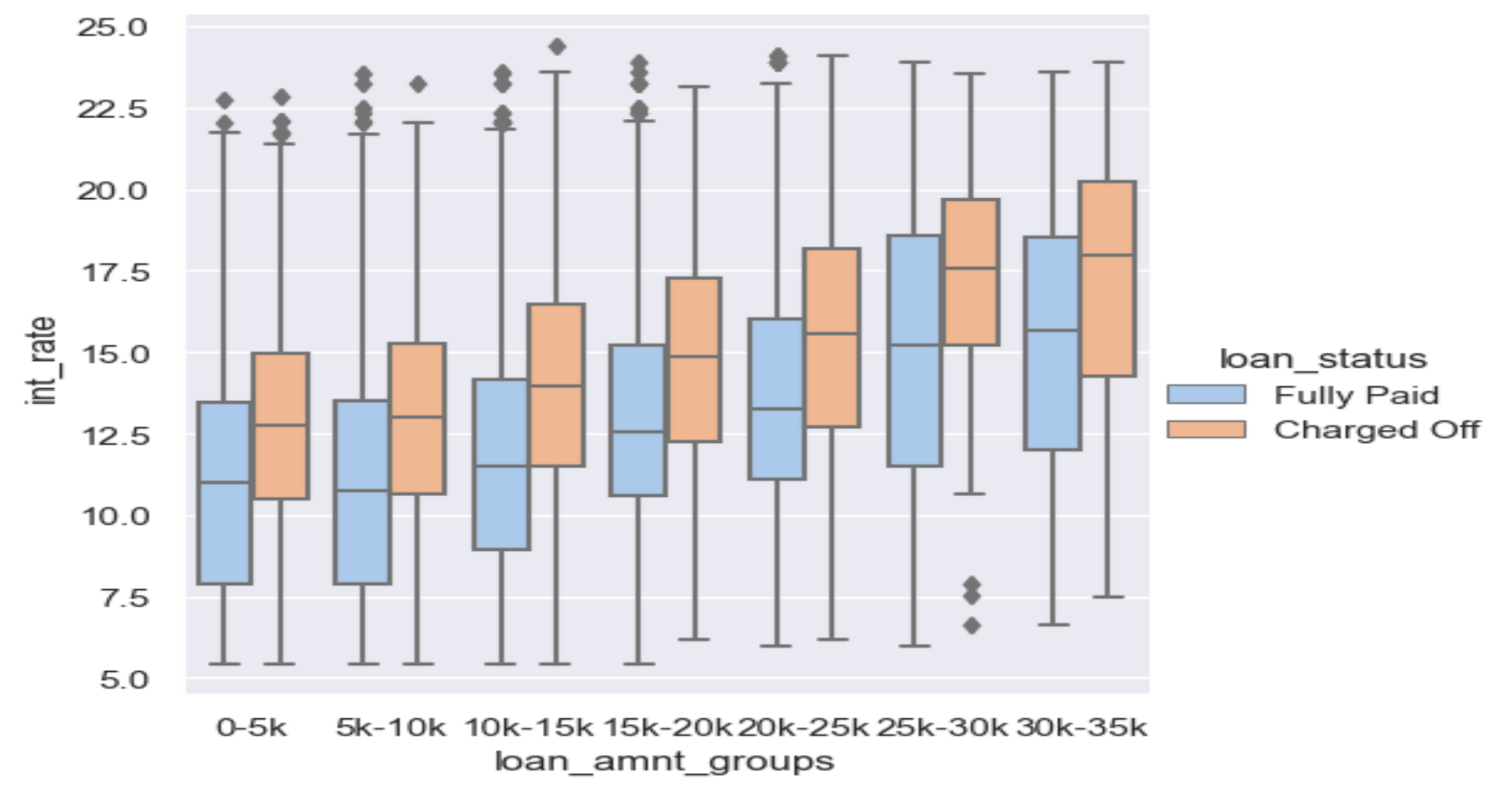
INTEREST RATE GROUPING FOR TOP-4 PURPOSES



ANNUAL INCOME VS LOAN PURPOSE

- Number of loans applied and defaulted are the highest in number for Debt Consolidation. However, the annual income of those who applied isn't the highest
- Applicants with higher salary mostly applied loans for Home Improvement, House, Renewable energy and Small businesses



LOAN AMOUNT VS INTEREST RATES

Interest rate for charged off loans is pretty high than that of fully paid loans in all the loan amount groups