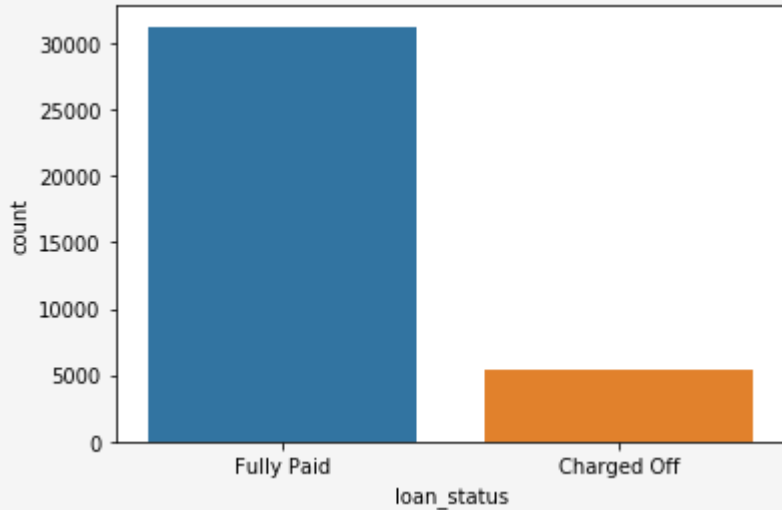# Lending Club Case Study

Leveraging EDA techniques to understand how **consumer attributes** and **loan attributes** influence the tendency of default.
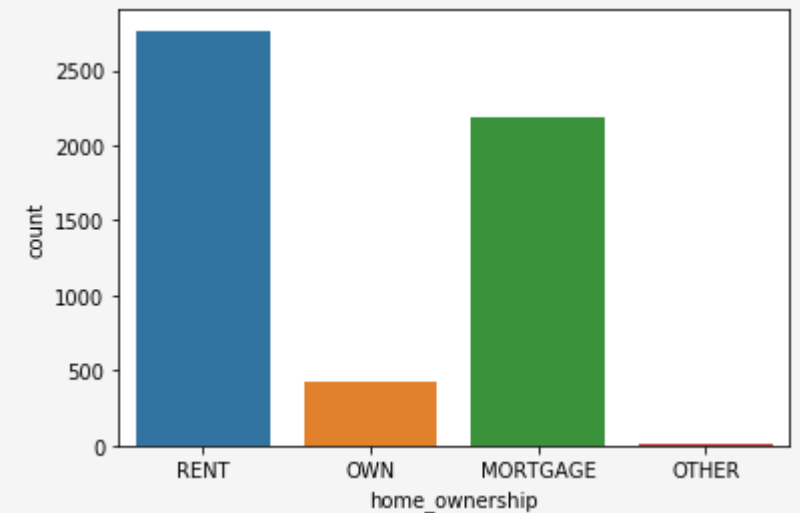
Parijat Banerjee
August 2024
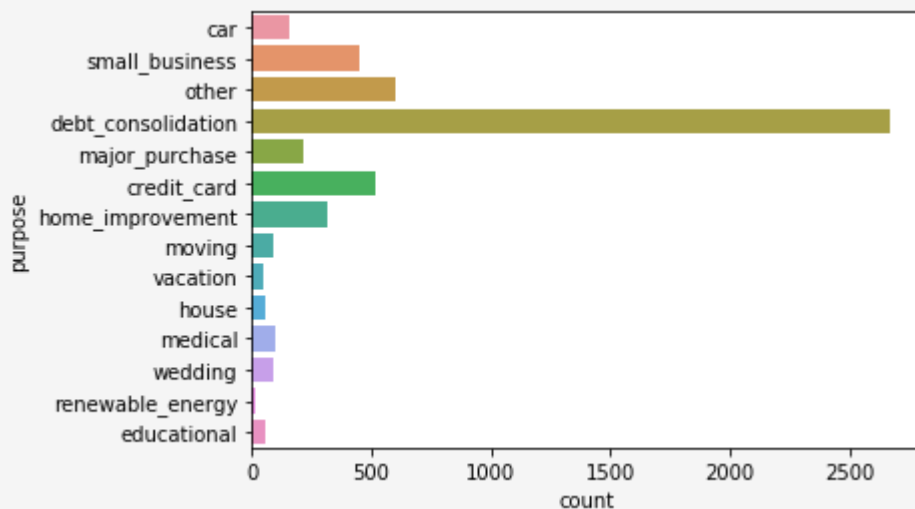
Exploratory Data Analysis

- The Charged off loans counts for ~15% of the Completed loans base which is in line with expectations. The current loans which are running has been excluded from the analysis

- Customers with fixed outgoings for accommodation like rent and mortgage have higher chances of default
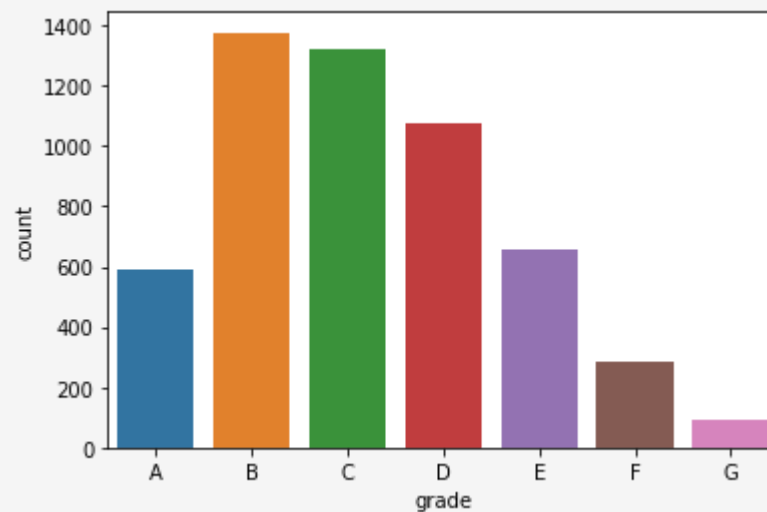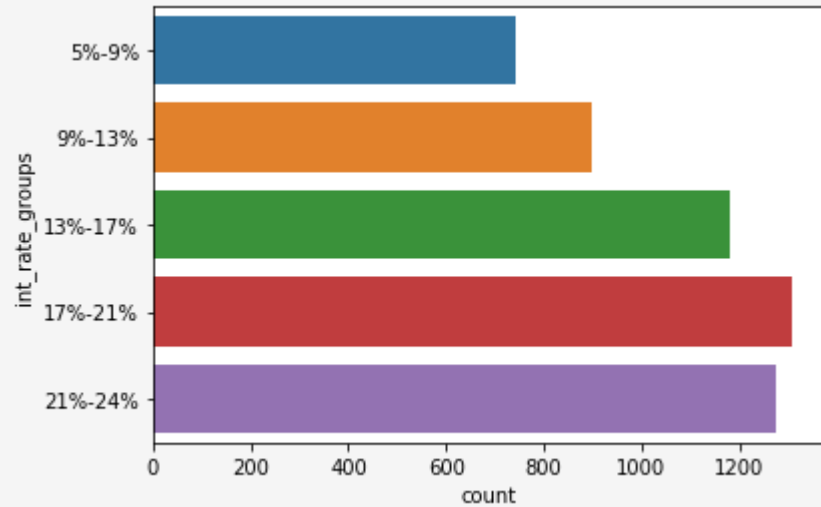
Exploratory Data Analysis

- Customers who have taken loans for Debt Consolidation or Credit card or Small business have higher default propensity

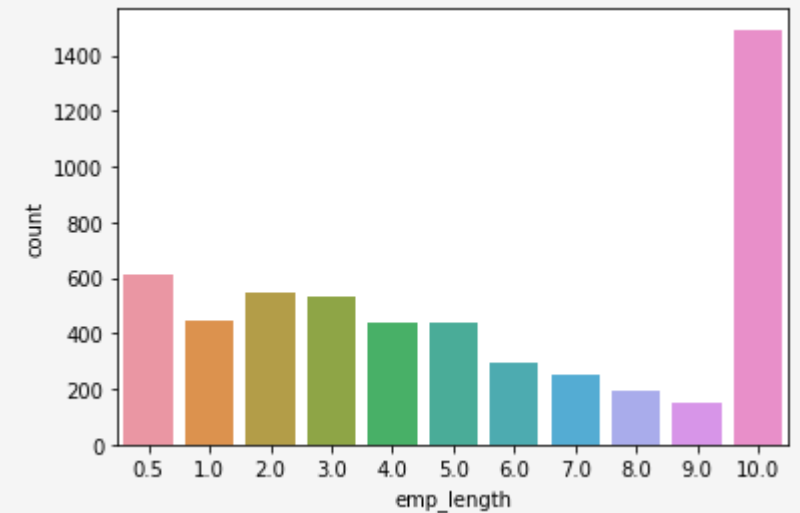- Customers with grades B or C have higher chances of default
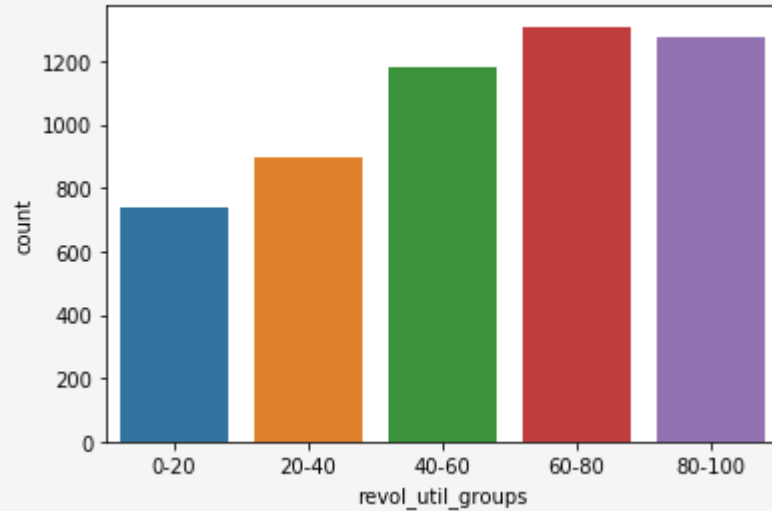
Exploratory Data Analysis

- Customers who have taken higher interest loans have higher chances of default

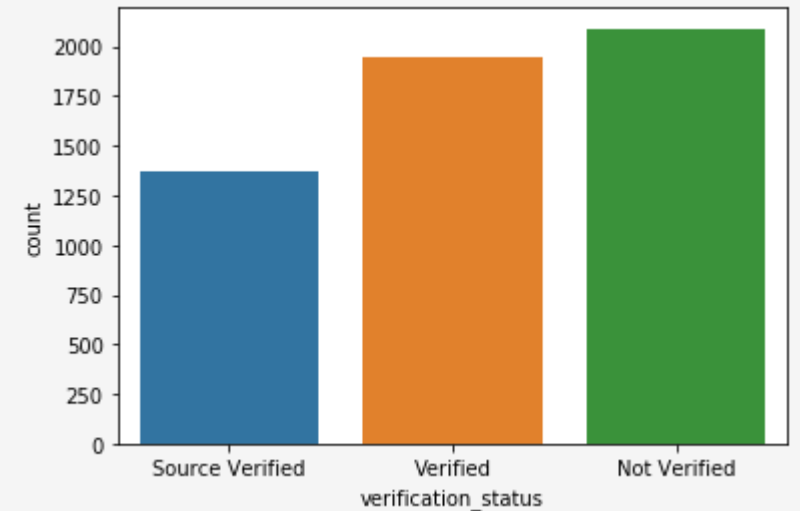- Customers with 10yrs experience have steep spike in default
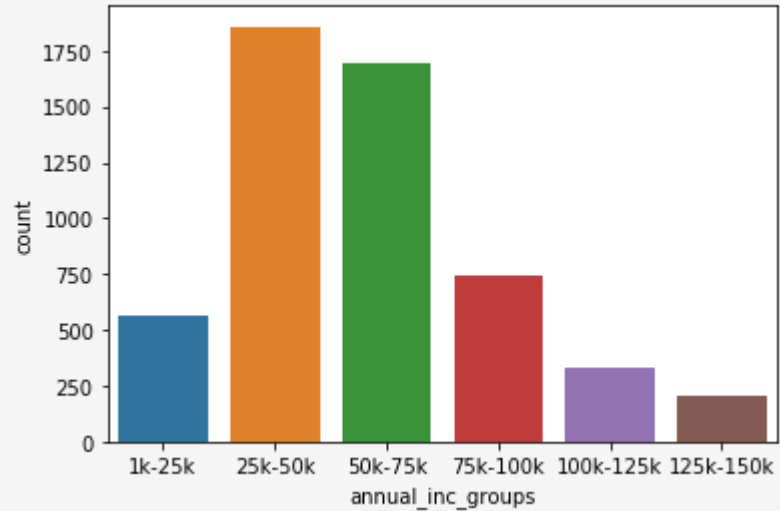
Exploratory Data Analysis

- Customers with higher utilization has higher chances of default

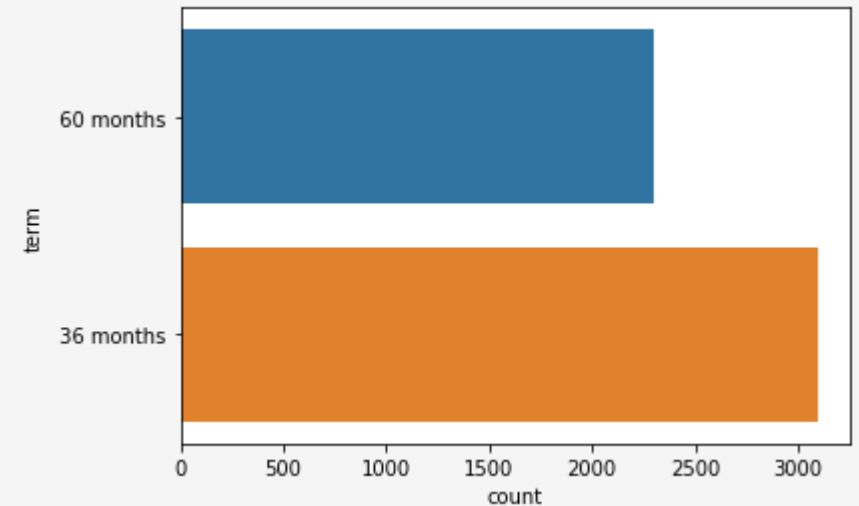- As expected, unverified applications have higher default chances
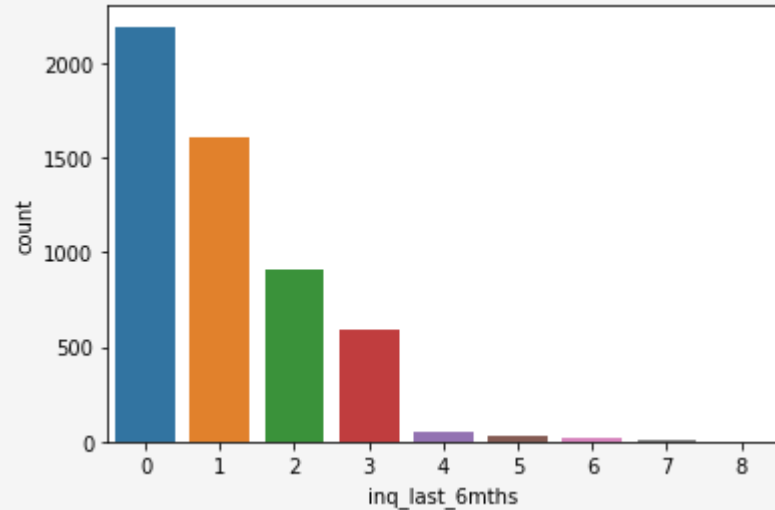
Exploratory Data Analysis

- Mid income segment 25-75k has been hit hard in terms of default

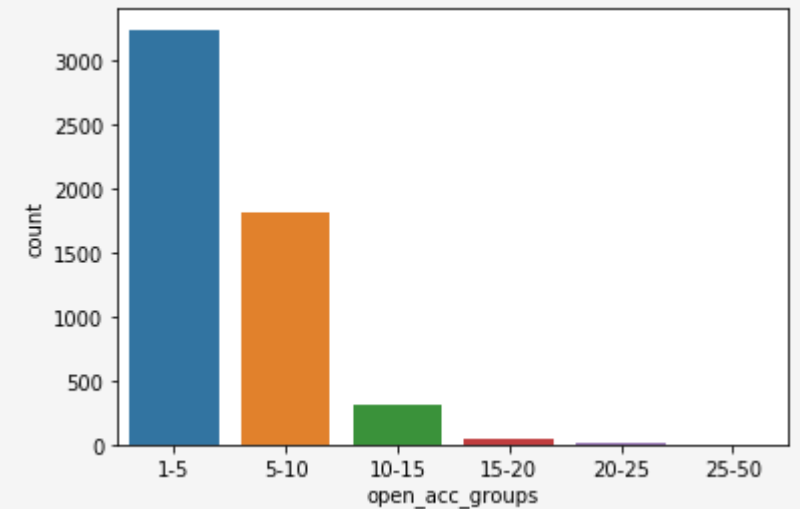- Short term loans have higher default chances

Exploratory Data Analysis

- Surprisingly customers with fewer income have more default chances

- More defaults have been seen for customers with fewer open accounts thereby indicating generally good customers have come under financial stress
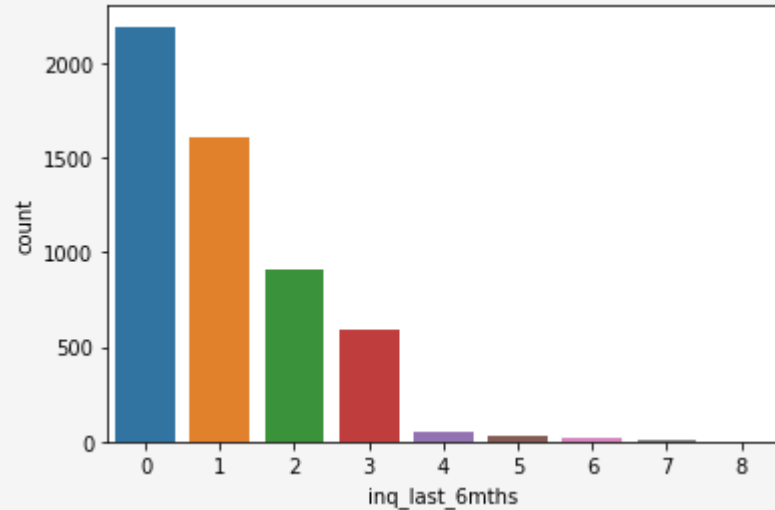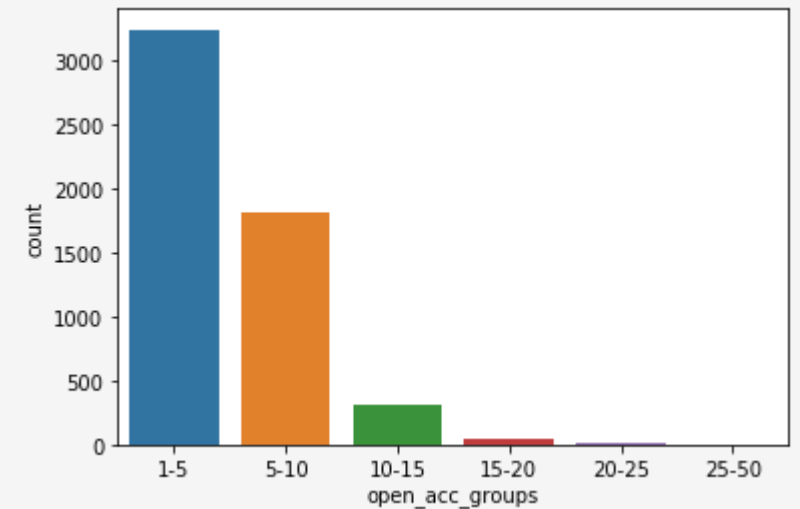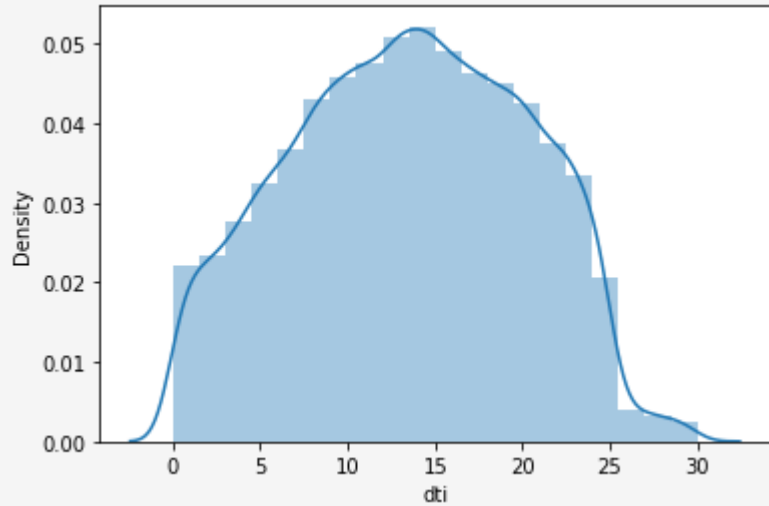
Exploratory Data Analysis

- Surprisingly customers with fewer income have more default chances

- More defaults have been seen for customers with fewer open accounts thereby indicating generally good customers have come under financial stress
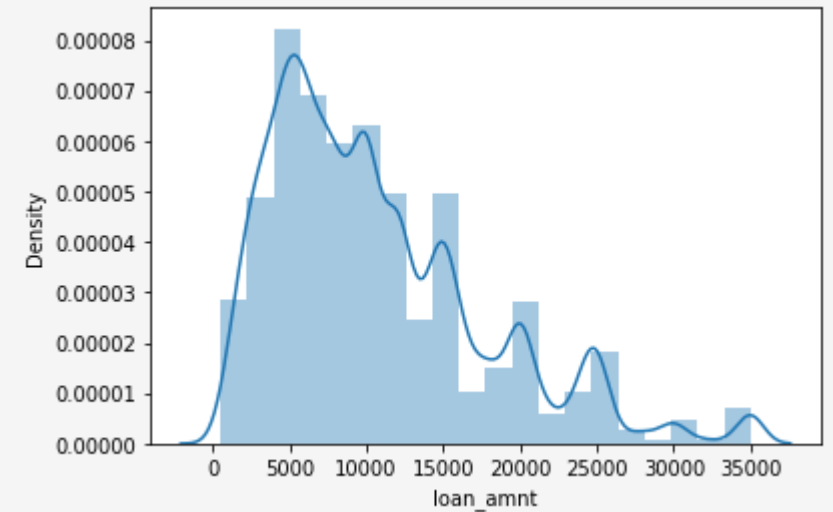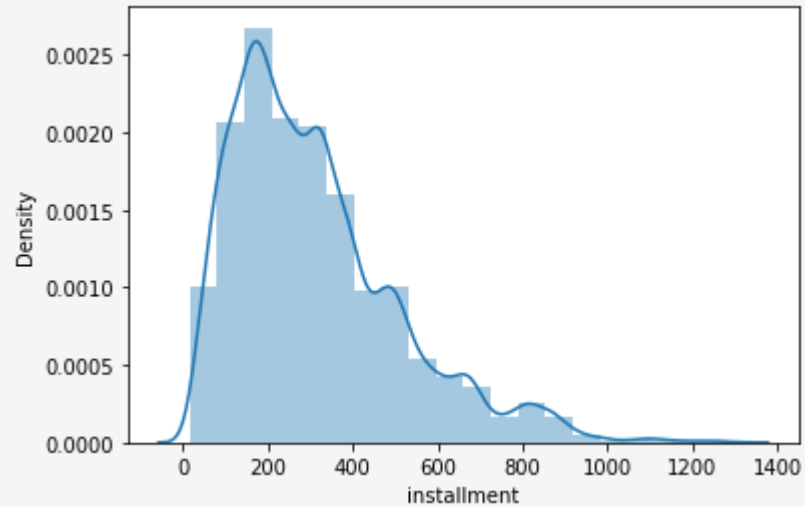
Exploratory Data Analysis

- Customers with ~15% DTI have highest default chances

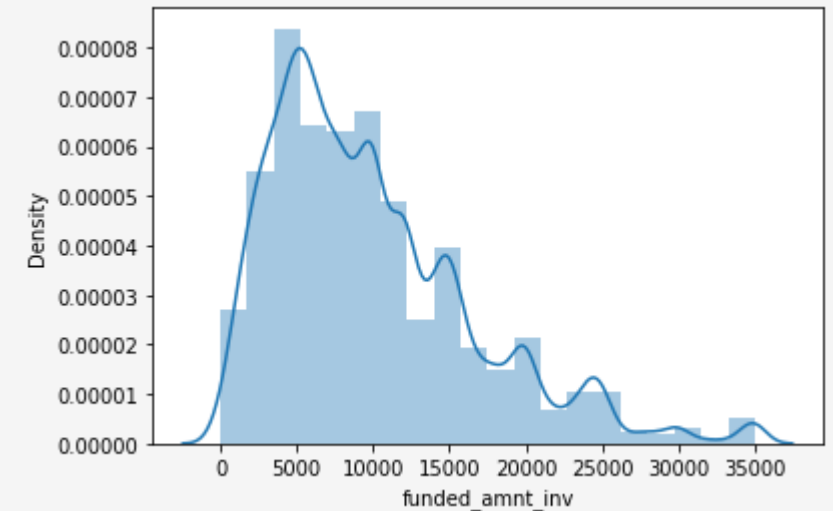- Loans between 5000 to 10000 has higher chances of default
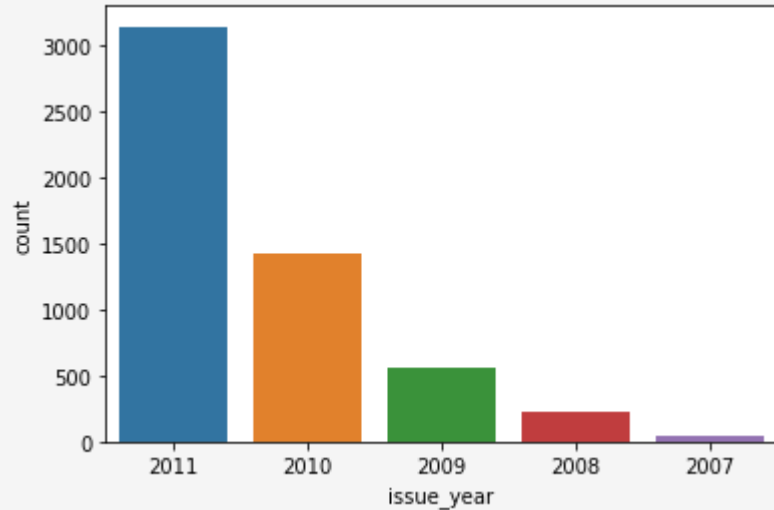
Exploratory Data Analysis

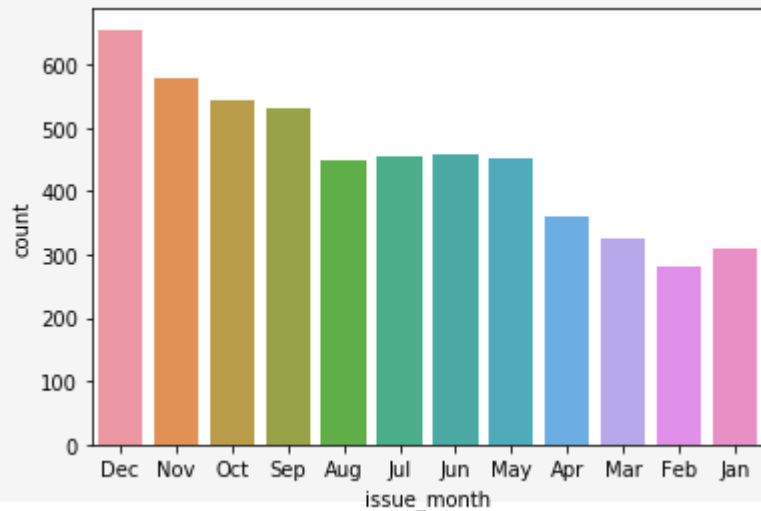- Customers < $400 installment have higher default chances

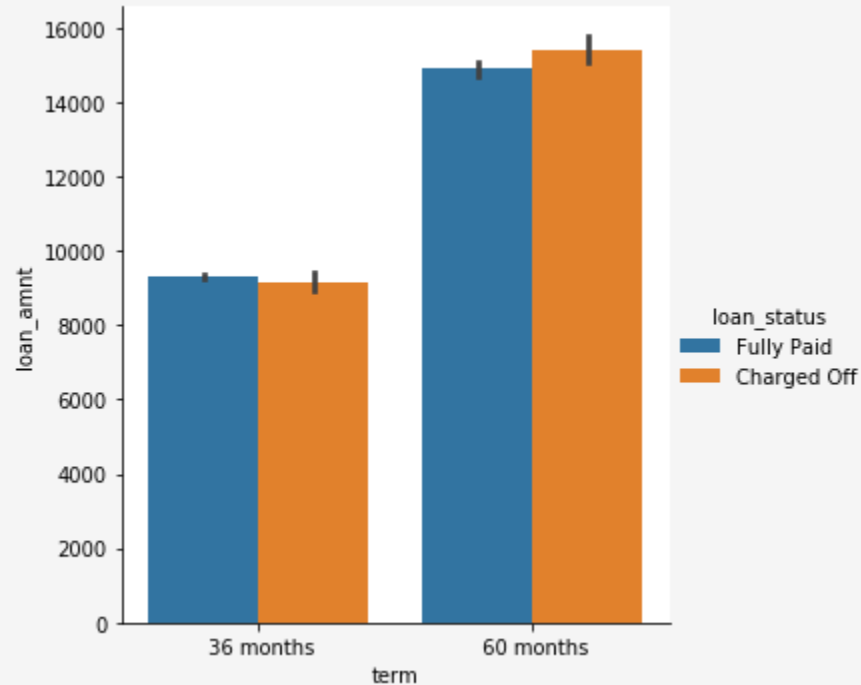- Investor funds below $12,000 have higher default

Exploratory Data Analysis

- Loans issued in 4Q have higher default propensity, with 2011 being the year where a large majority of the defaulted loans were offered
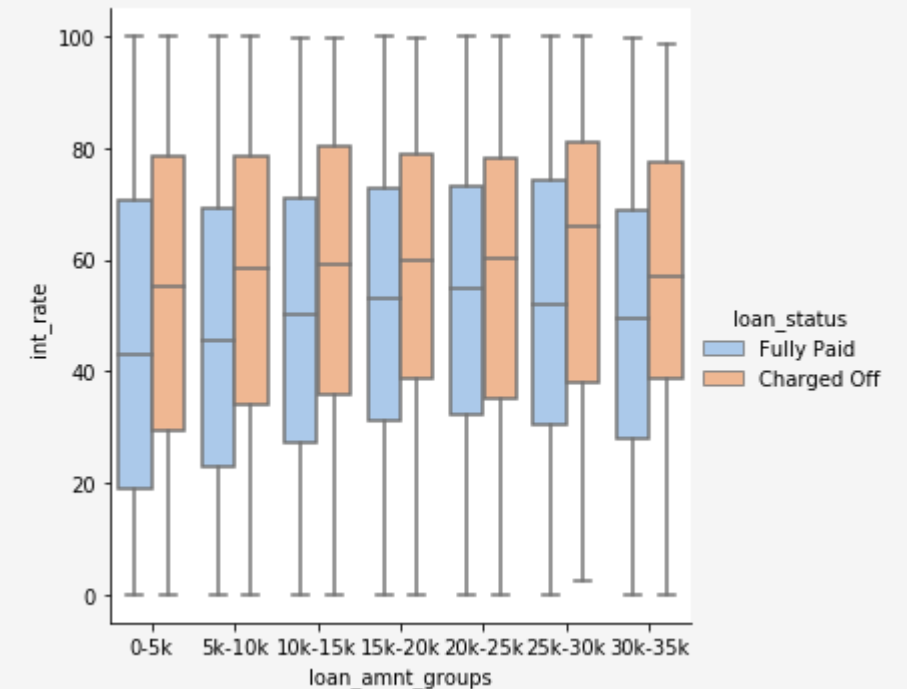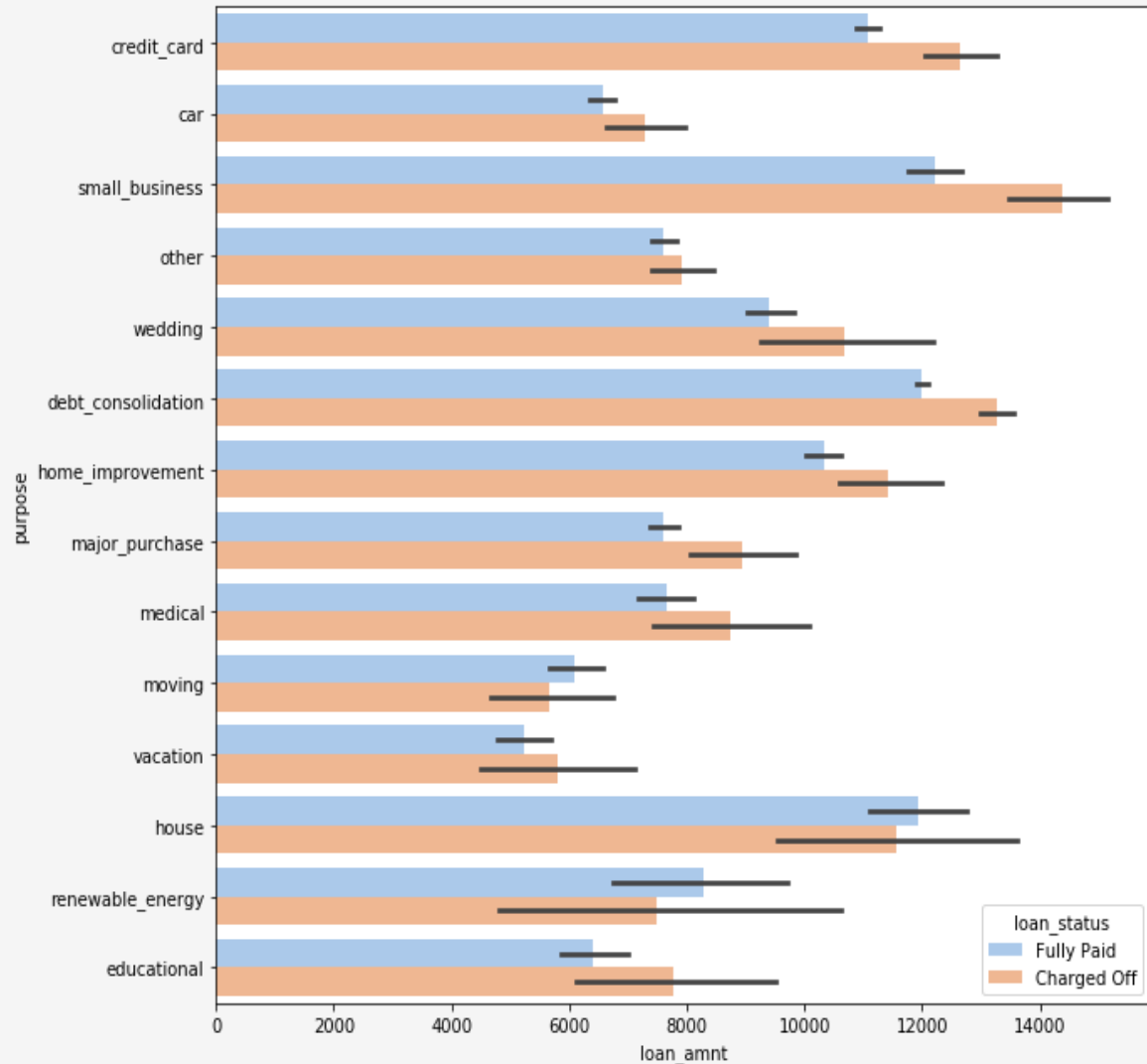
Exploratory Data Analysis

- Loan amount doesn't play a role in default, Higher ticket loans have longer term

- Charged off loans have higher Interest rates compared to fully paid ones in every loan segment
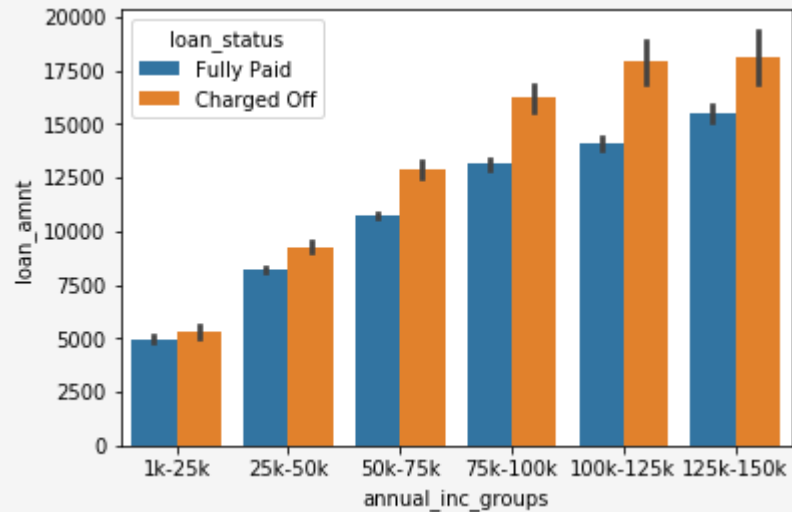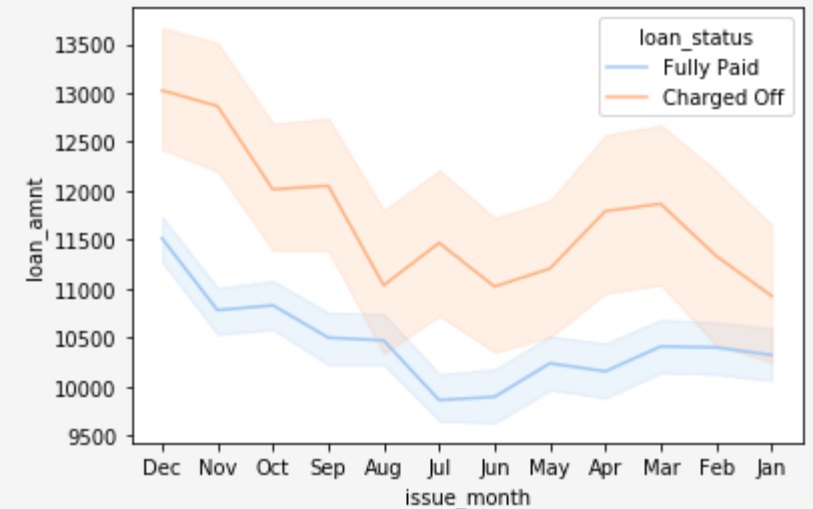
Exploratory Data Analysis

- Customers where loan purpose small business and the loan amount is greater than 14k
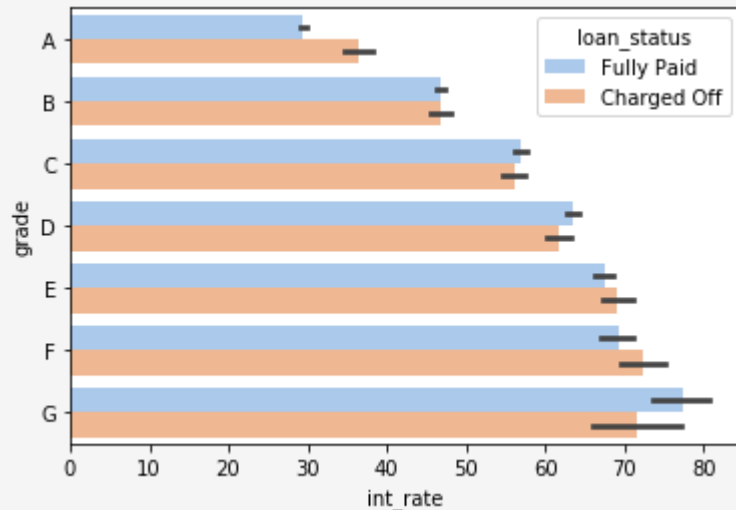
Exploratory Data Analysis

- Higher Income groups have received higher ticket loans have higher default propensity

- Loans issues in 4Q have higher default which is due to surge in credit requirement in Nov/Dec due to festive season
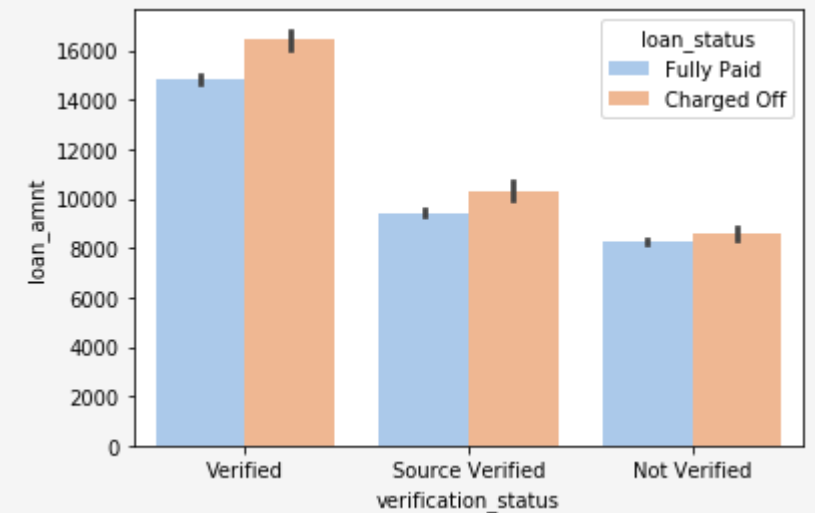
Exploratory Data Analysis

- Grade G loans with highest interest rates have higher default chances

- Verified Application with big loan sizes have higher chances of default. Possibility of willful default is high in this case as big-ticket loans are issued to customers with higher income and credit worthiness

Conclusion

Some of the Key drivers for default:

➢ DTI
➢ Loan Interest Rates
➢ Term of Loan
➢ Purpose
➢ Income segment
➢ Timing of application [4Q]
➢ Customer with 10yr experience