

Lending Club Case-study

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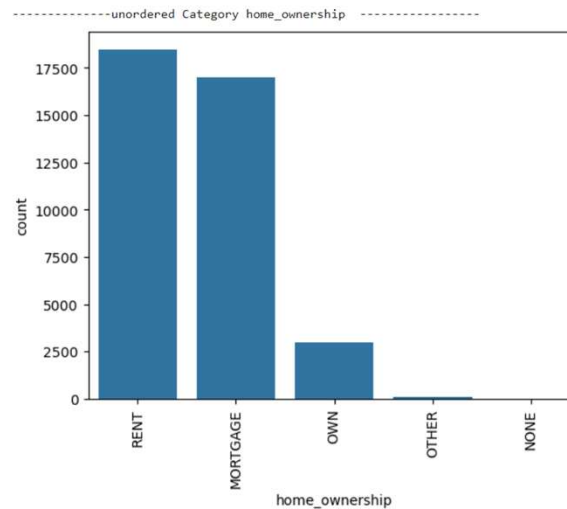
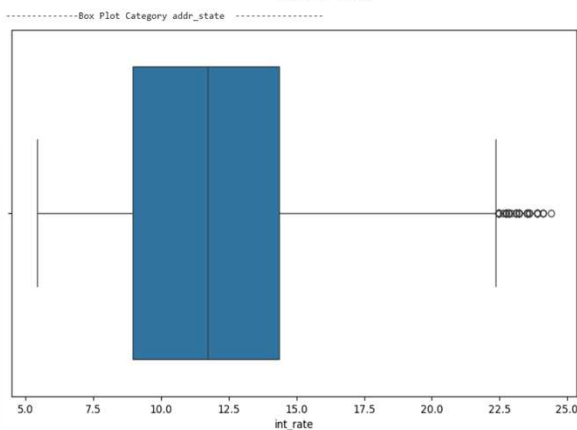
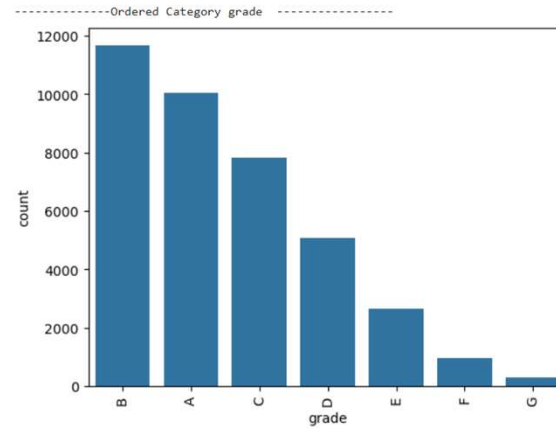
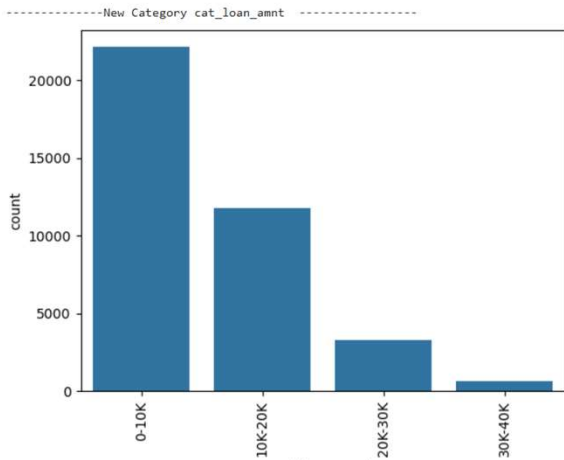
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Problem Statement

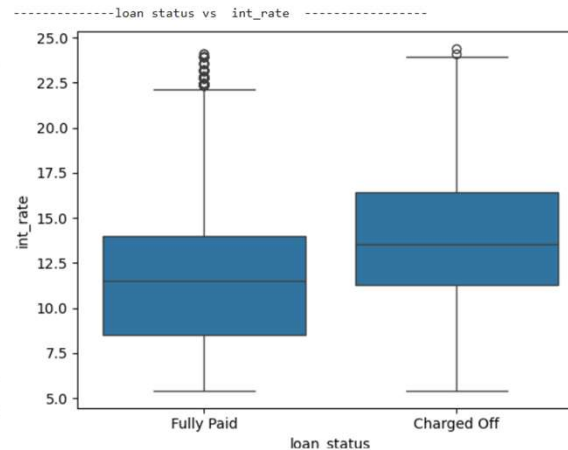
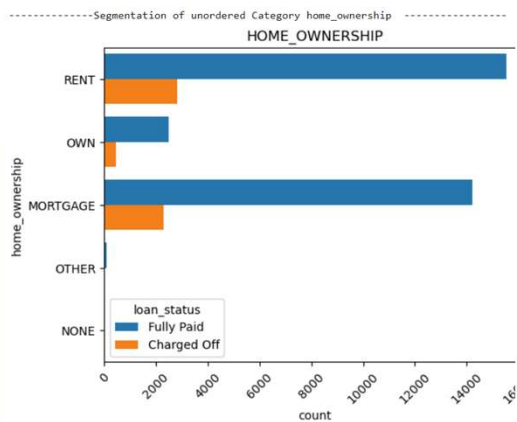
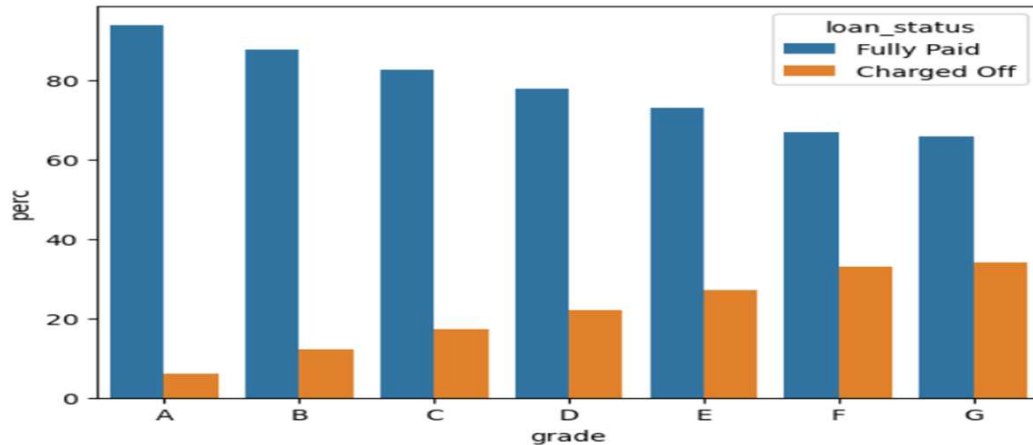
- ▶ Company who services retail loans wanted to identify default driver in Customers, loan booking model or during payments
- ▶ Dataset with details of all loans including fully paid, Charged off and Current are shared for exploratory Data Analysis
- ▶ Expected Output: Identify/Recommend key drivers for Customer Default

Univariate Analysis



- ▶ 50% of the loan amount provided to customers in the range of 10K
- ▶ Interest Rate varies for each customer during the time of loan opening falling between 6% to 25%
- ▶ Loans approval are high when customer grades are better
- ▶ Most Customers have their house mortgaged or in rental house

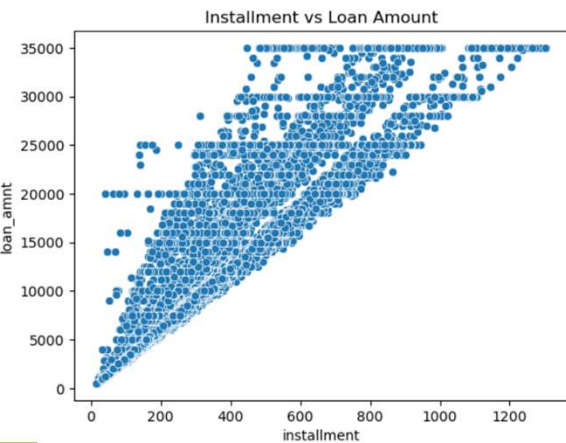
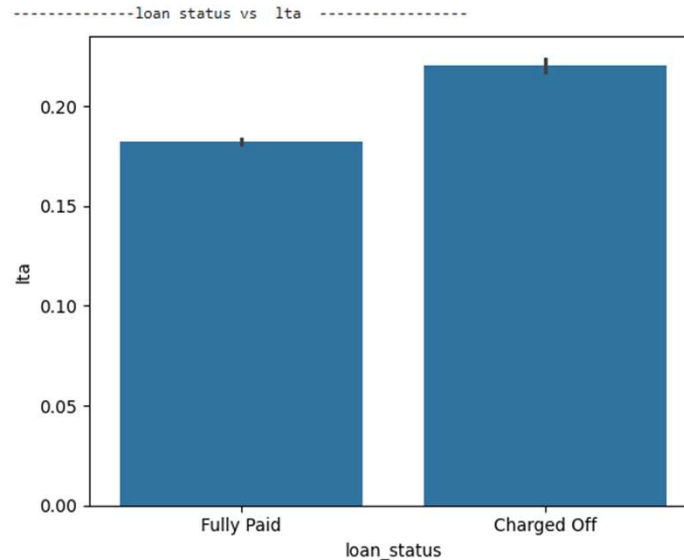
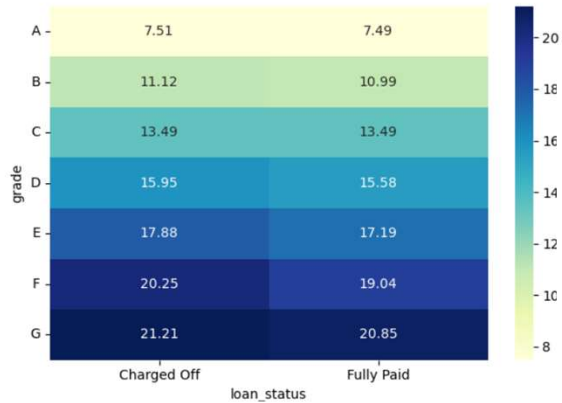
Bivariate Analysis



- ▶ As customer grades gets worse, Chances of loan default increases
- ▶ Customers who are in rental house/mortgages are probable to default more than customers in own house
- ▶ As Interest rate increases, the probability of default increases as well (>13%)

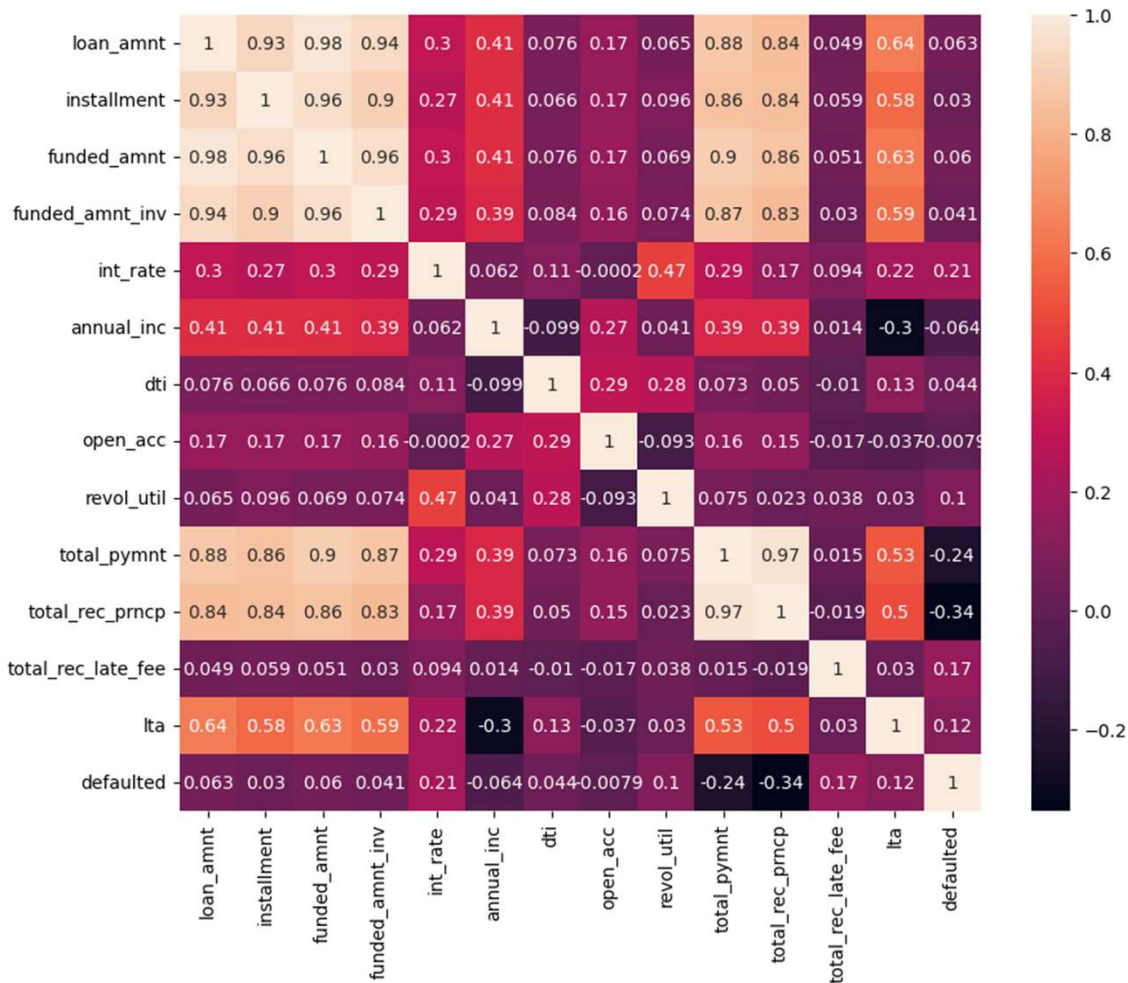
Multivariate Analysis

Graph No.:8 Median Values of (int_rate) by Loan Status and grade



- ▶ Higher the interest rate, higher the chances of default
- ▶ Higher the loan amount, higher the number of instalments of the loan
- ▶ Any dis-propionate increase in loan amount compared to customer's annual income (lta^*) increases the loan defaults (>18%)

Heat Map



► Direct Co-relation to Loan Default

- Higher Interest Rates
- More number of instalments
- Disproportionate Loan Amount to Annual Income (lta*)
- Delayed Loan Payments (Late_fees*)
- High Revolving Credit Utilization

► Direct Co-relation to Full Payment

- Increased Principal Payment
- On-time Payments of dues
- Interest Rate < 13%

Conclusion

- ▶ Following are analysed to be the drivers of Customer defaults
 - ▶ Customer Loan Amount to Annual Income ratio
 - ▶ Higher Interest Rate
 - ▶ High number of instalments
 - ▶ Customer's delay in instalment payments
 - ▶ Loan sanctioned to bad Customer credit grades
 - ▶ Customers who do not own a retail property