

LENDING CLUB CASE STUDY

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PROBLEM STATEMENT AND APPROACH

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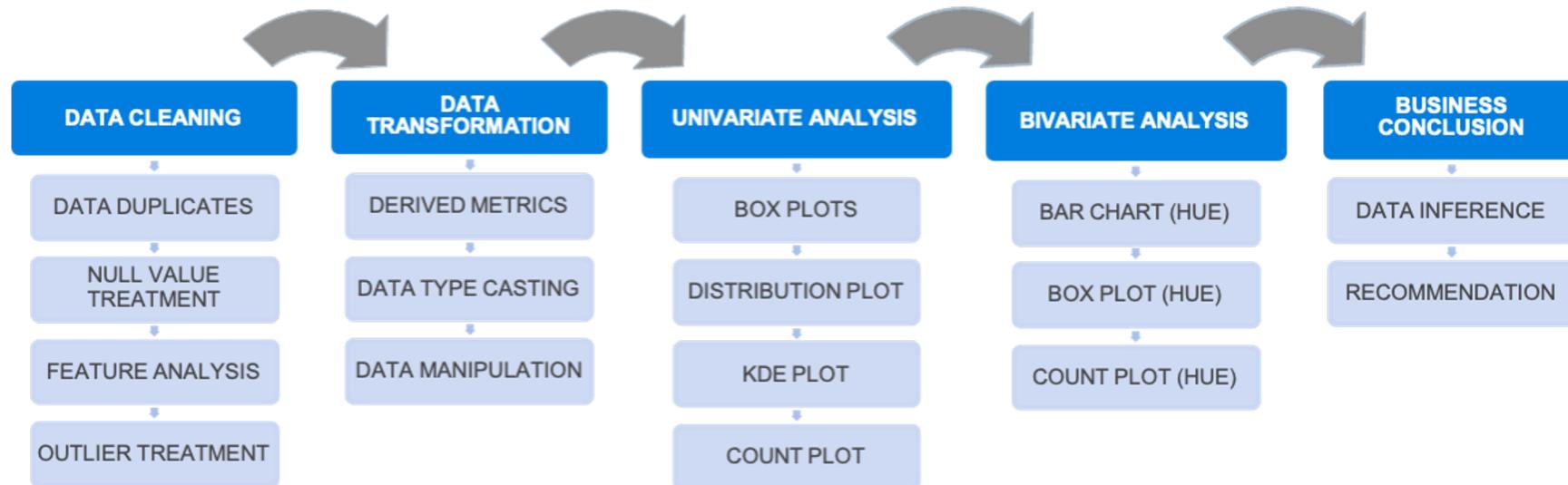
PROBLEM STATEMENT

You work at a consumer finance company which specialises in lending various types of loans to urban customers.



The company wants to understand 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.

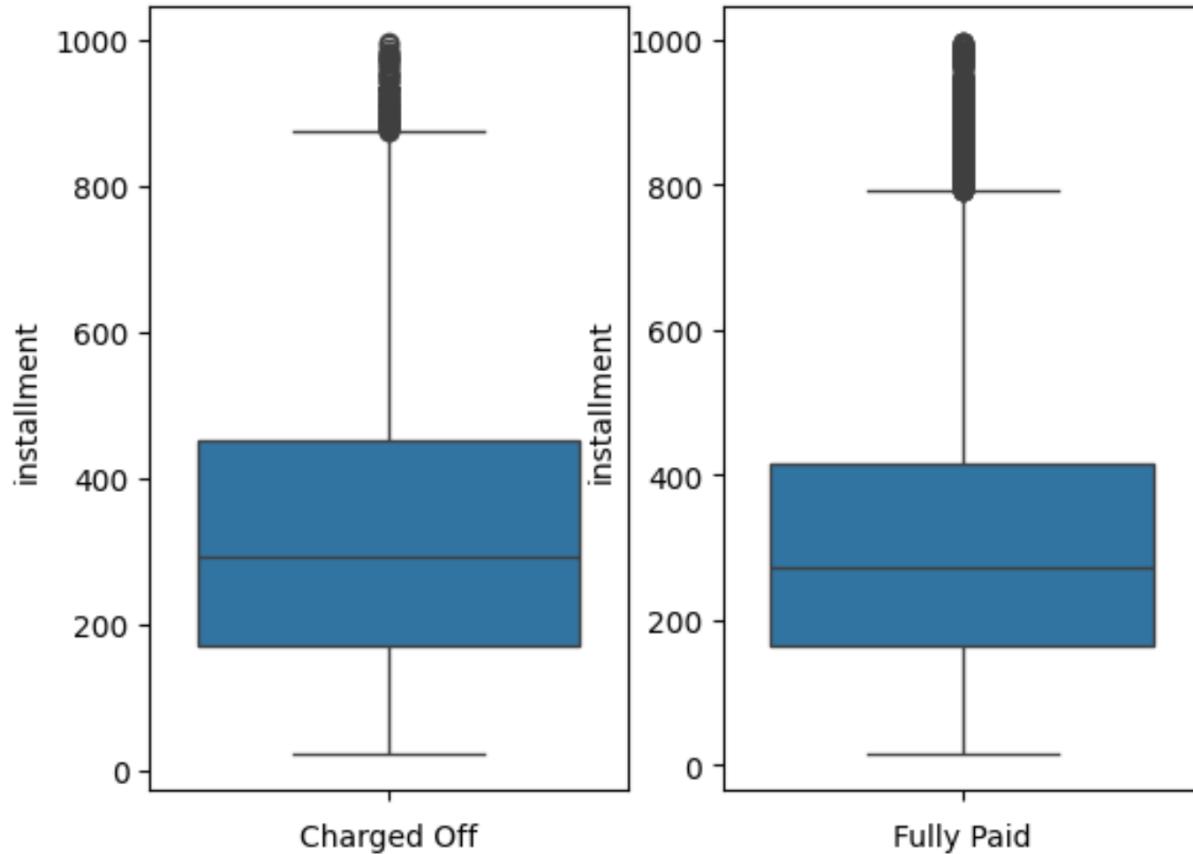
APPROACH



2 UNIVARIATE ANALYSIS

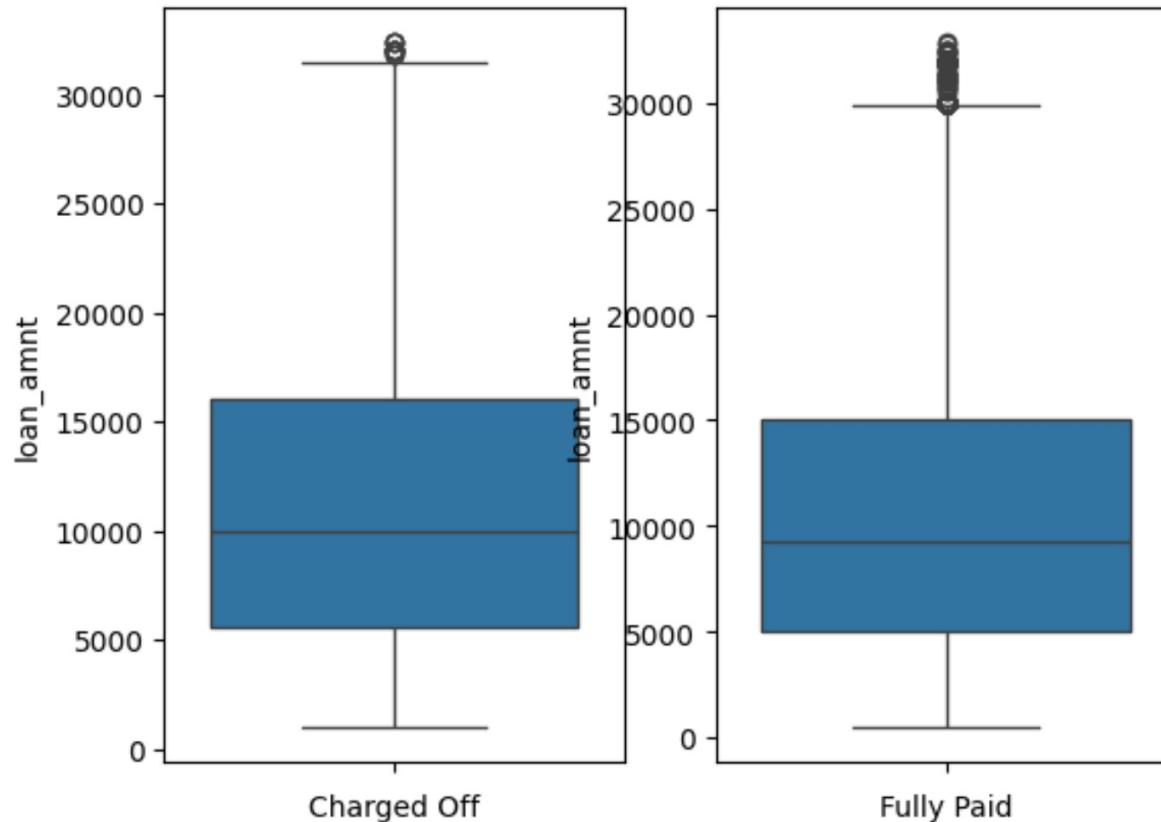
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The 25th Percentile is almost the same for the borrowers in both categories, the 75th Percentile and the fence for Fully paid is lower than Borrower's who were charged off.

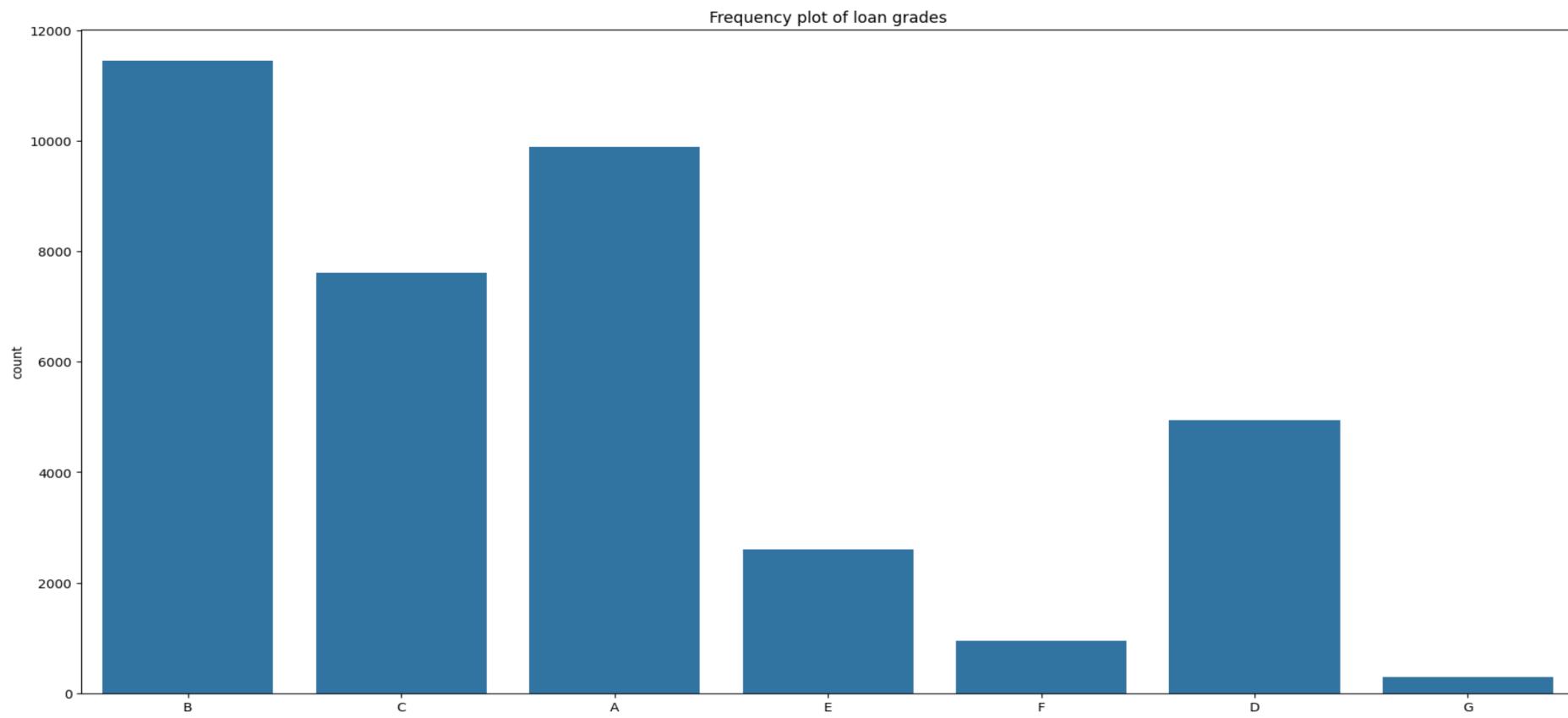
Higher Instalment values increase risk of default, this could be because higher instalments might not be sustainable for a many people

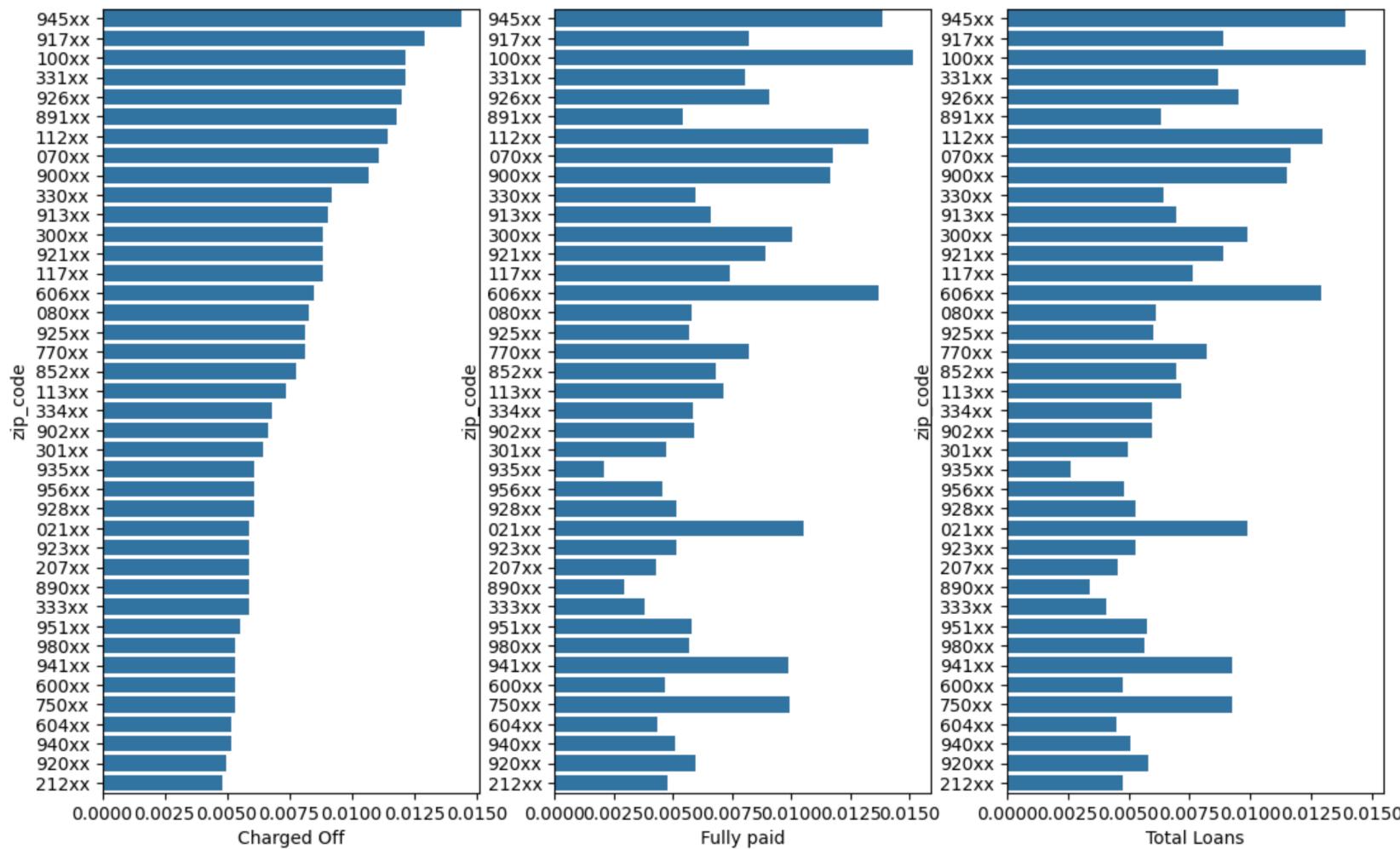


While not very significant, there seems to be a small relation between `loan_amnt` and being Charged Off.

The values at the 25th percentile, 50th percentile and the 75th percentile are all higher in the case of Charged Off, versus the Fully Paid section. This could be because the larger loan amount is harder to close/takes longer to close and opens it up to uncertainty.

Majority of loans were given to grade-b followed by grade a and c



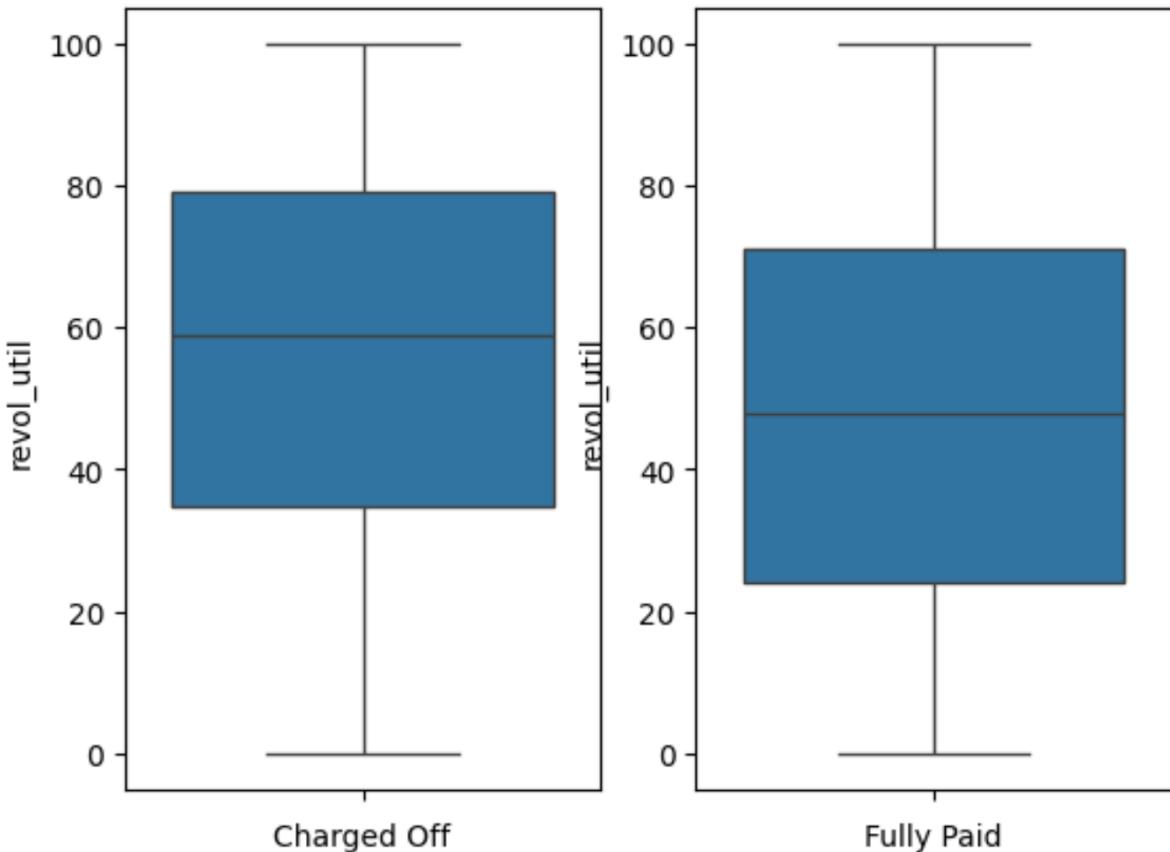


Some of the locations seem to be more riskier than others because even though the total number of loans that have been taken are lower than other indexes they feature in the top 20 Charged off loan lists.

Zip codes like 301xx, 890xx, 891xx, 330xx are high risk because they seem to have disproportionate number of charge offs compared to the percentage of loans that are given/fully paid.

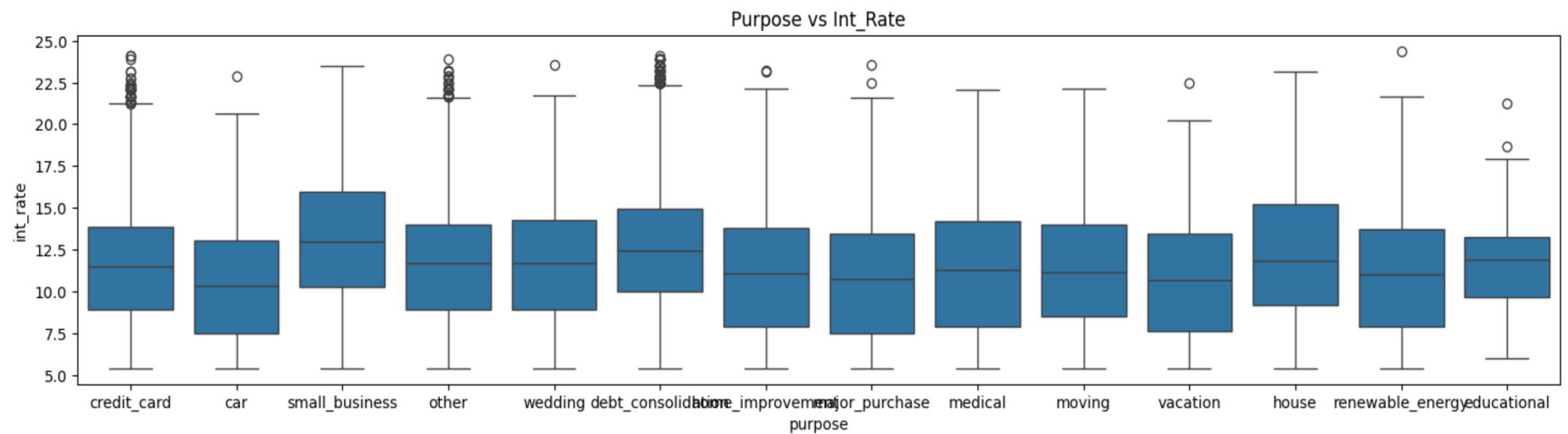
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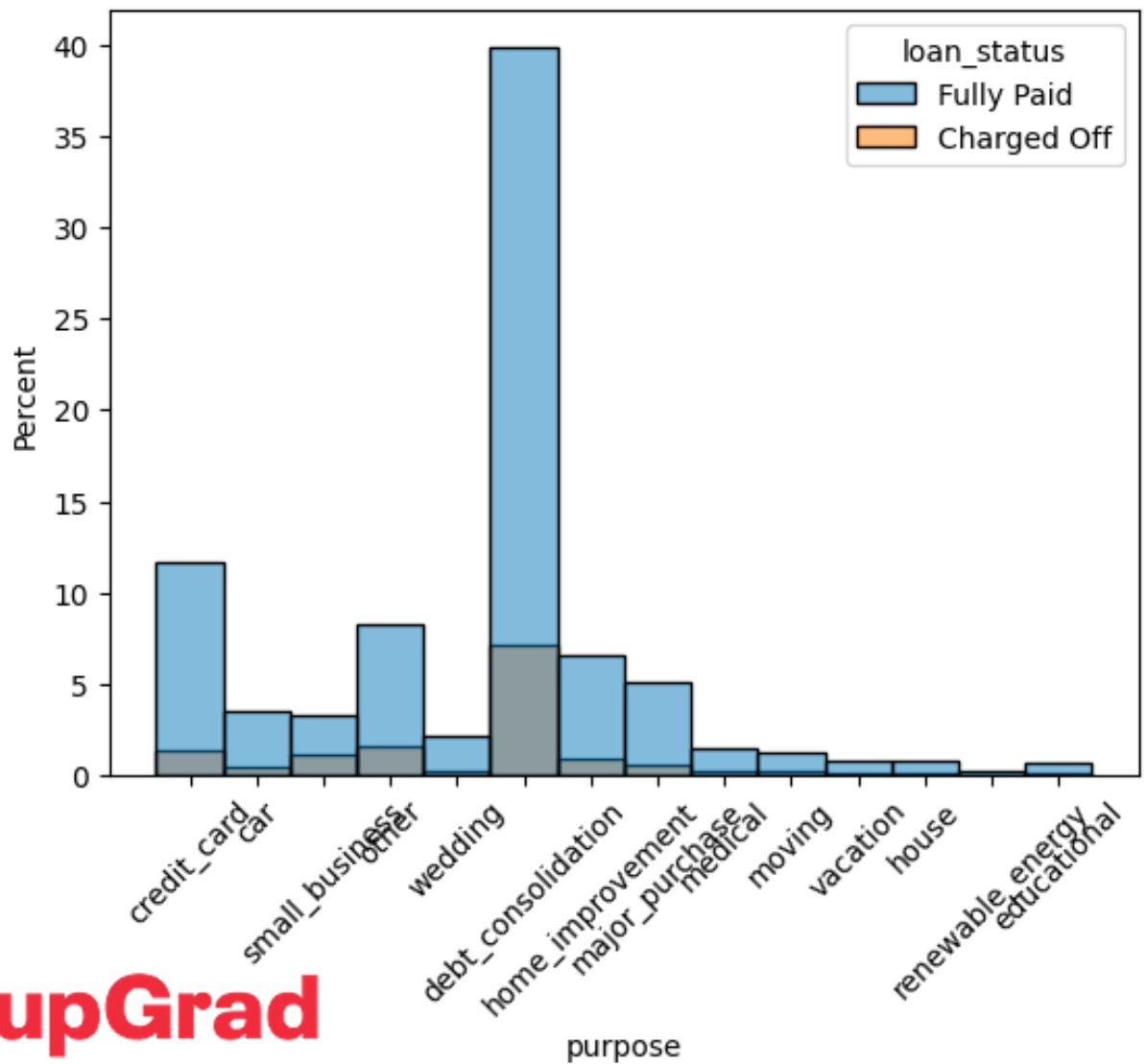




Loans that were charged off have a higher percent utilisation of the revolving balance. This is probably due to people already having a high revolving utilisation percent were likely to reach the 100% line and not have any bandwidth to rotate the credit available to them

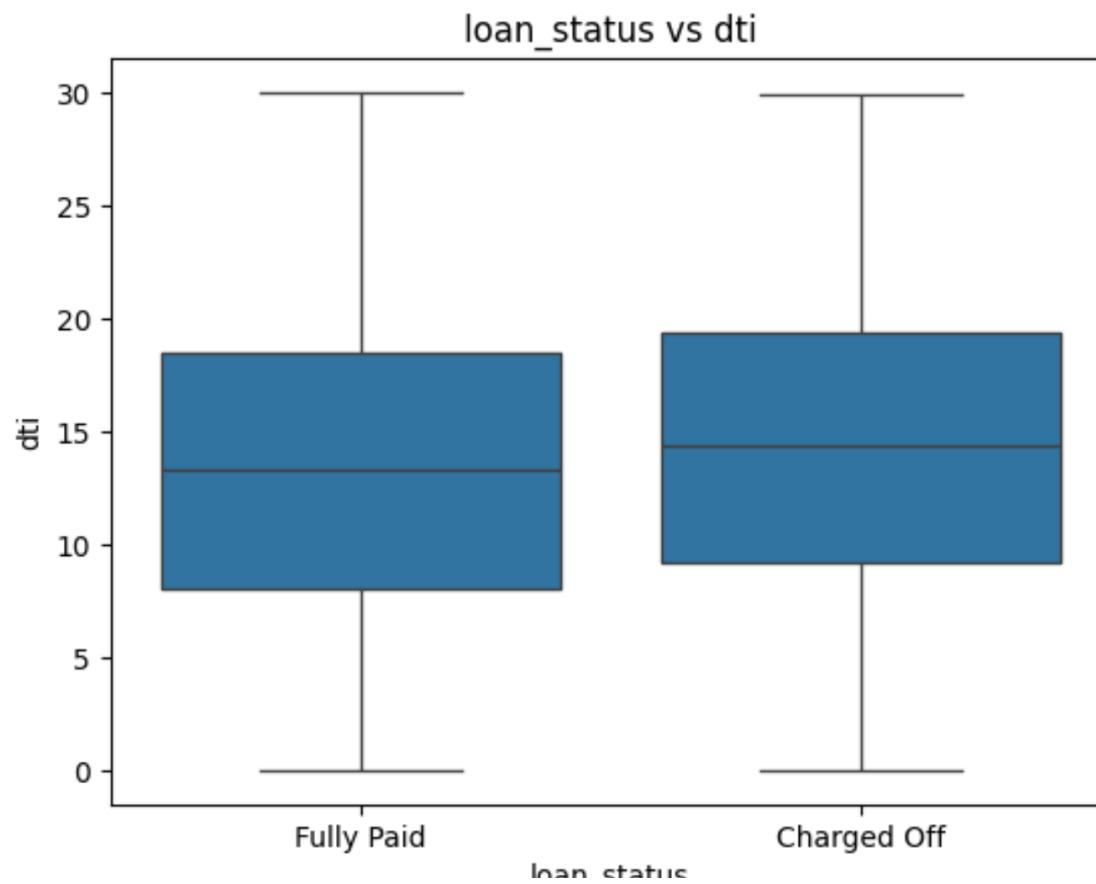
small_business , debt_consolidation and house are higher interest rate





Debt Consolidation is the highest contributor to the number of Charged Off loans, followed by Small Business and Credit cards

Higher the DTI higher the chance of defaulting



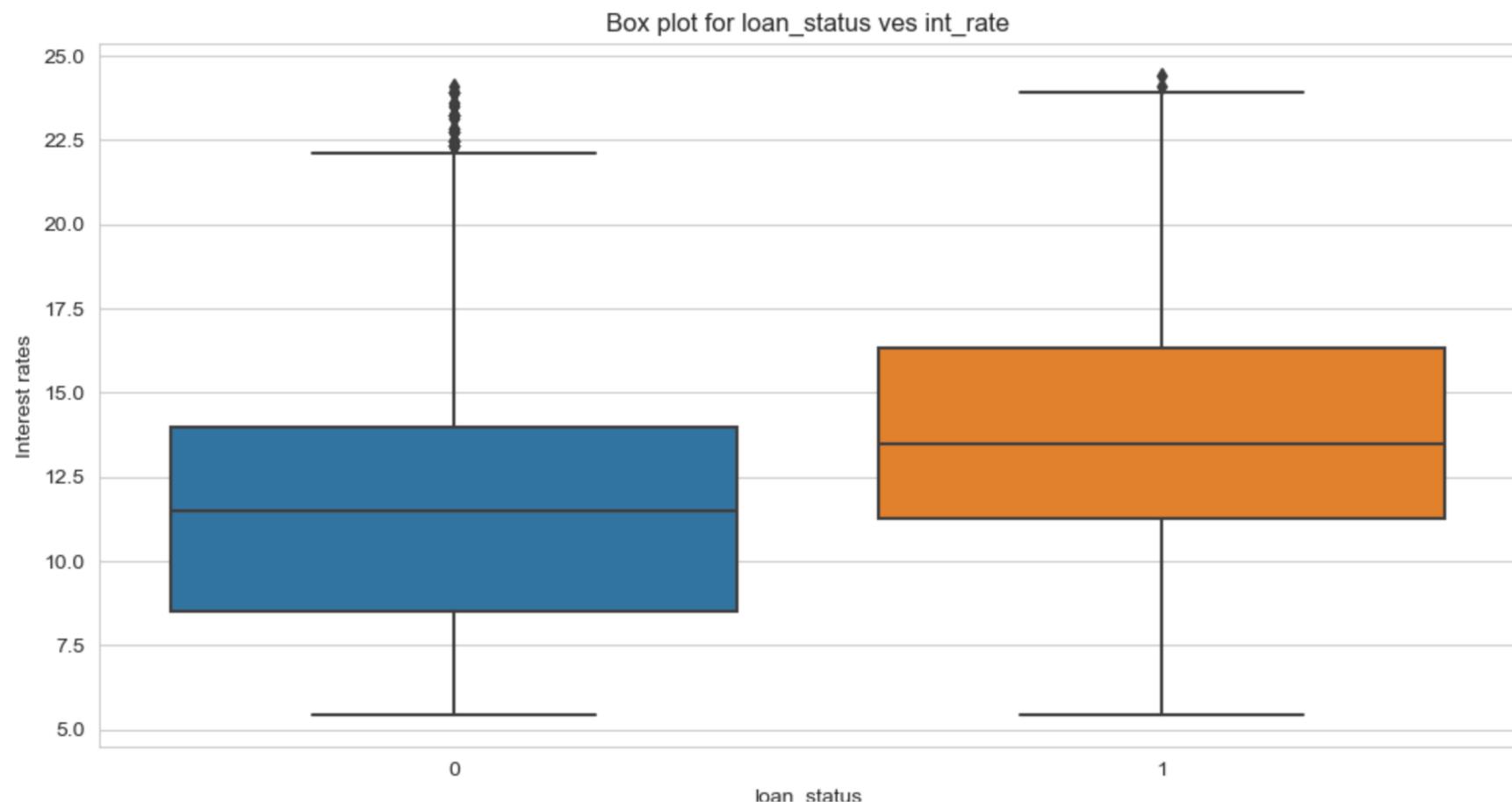
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BIVARIATE ANALYSIS

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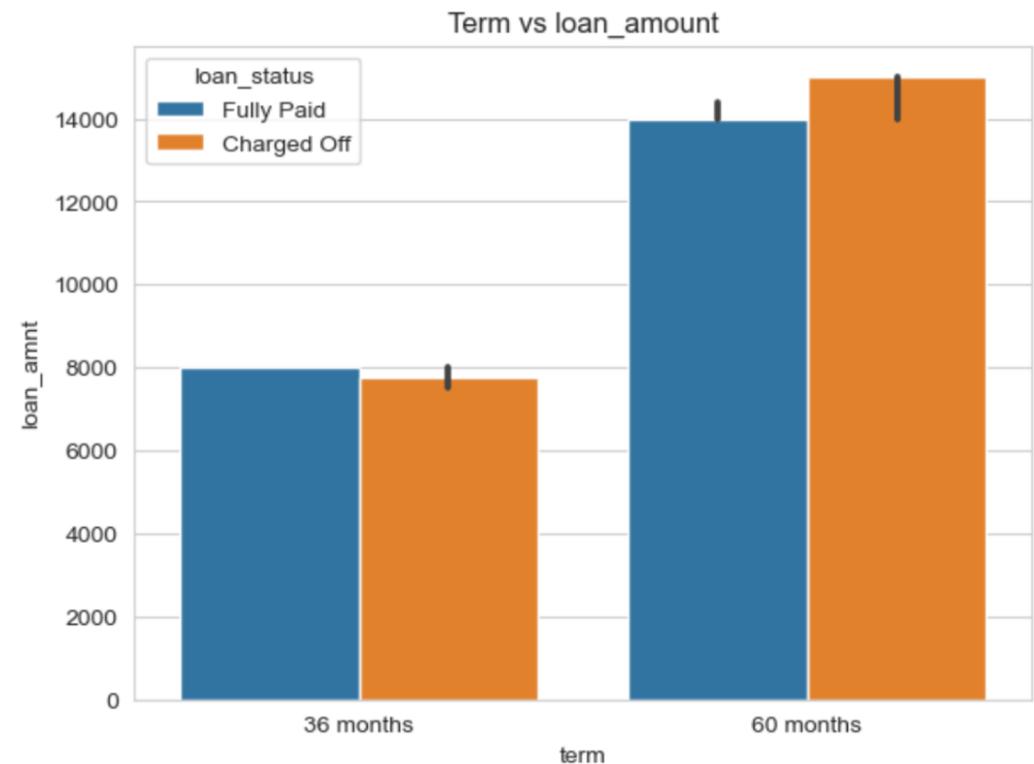
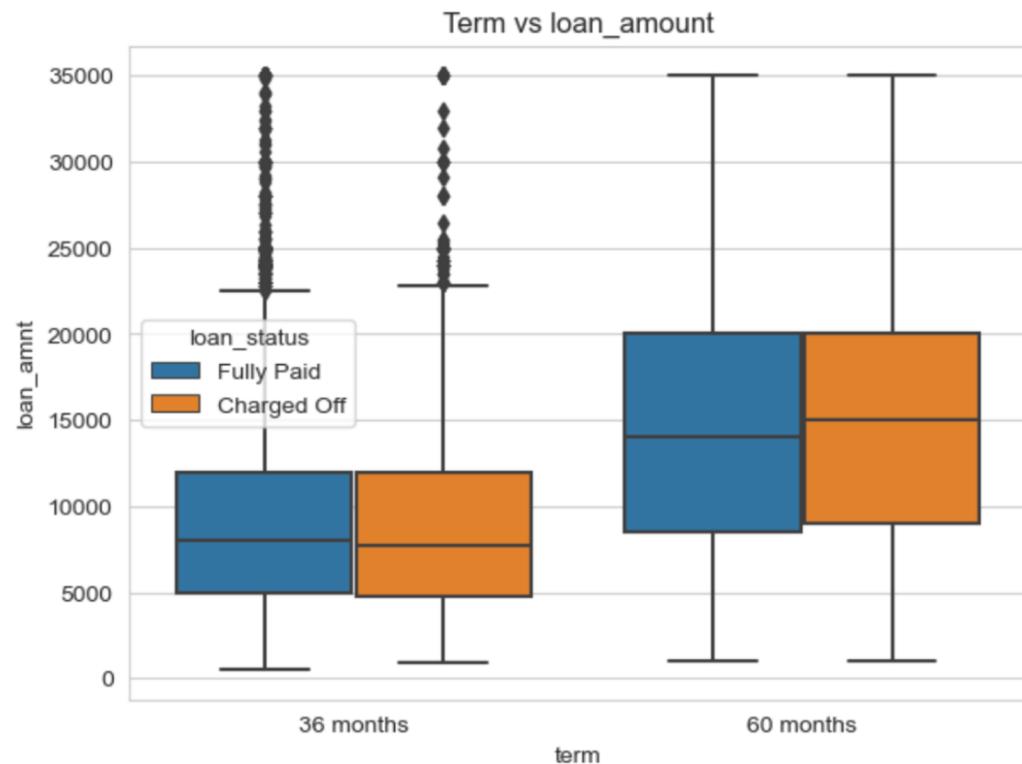


We can see that higher the interest rate more the chances of loan getting charged_off



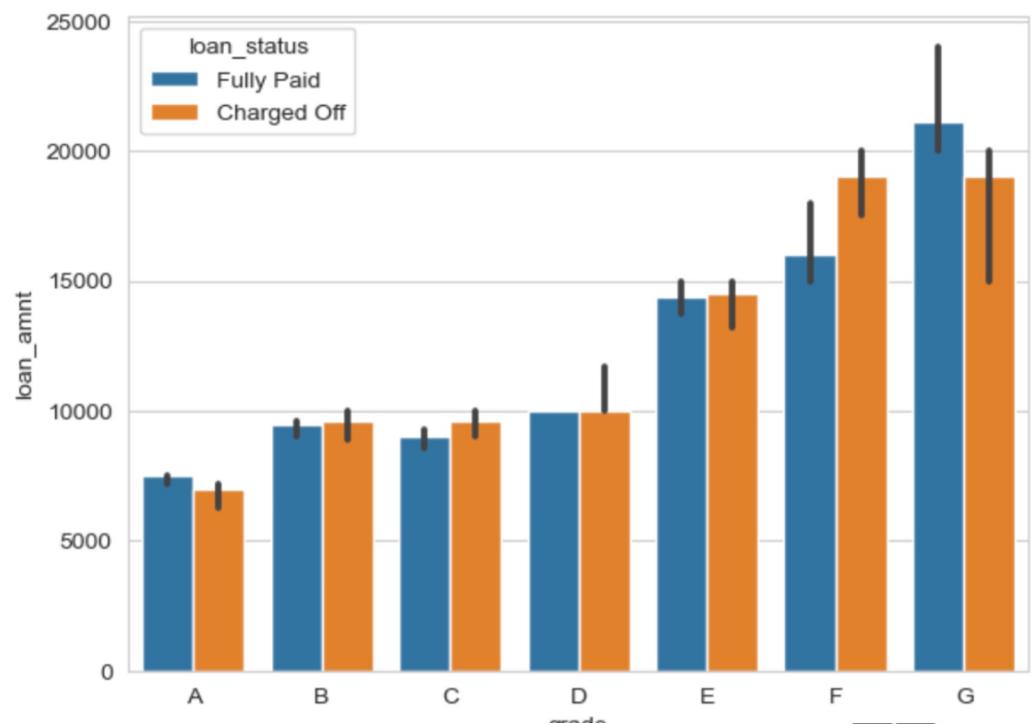
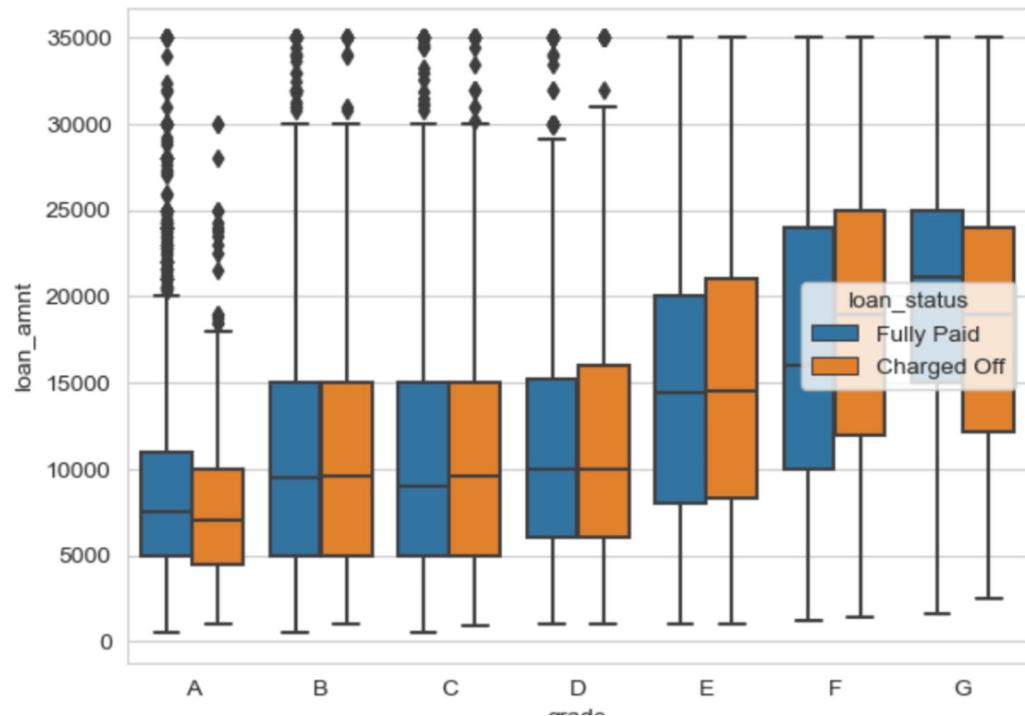
Loan amount be in 36 or 60 months is not a decider for defaults.

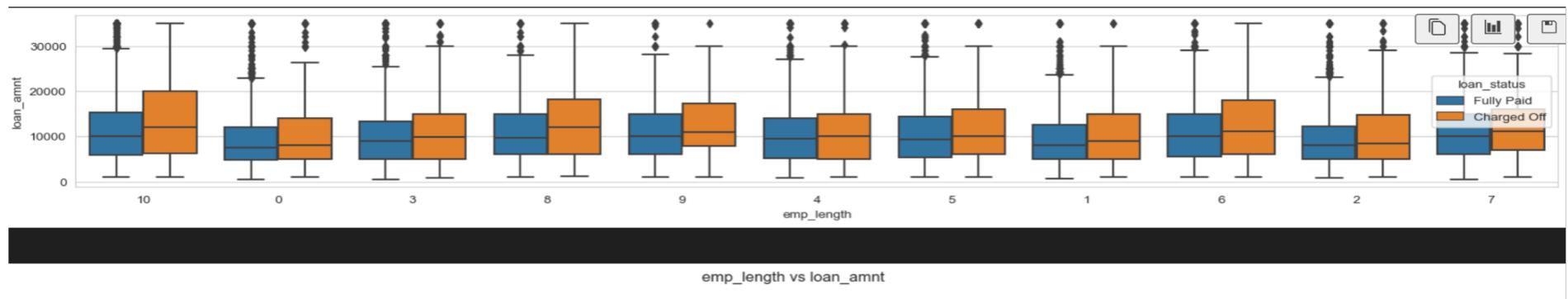
Borrowers have equal distribution in both



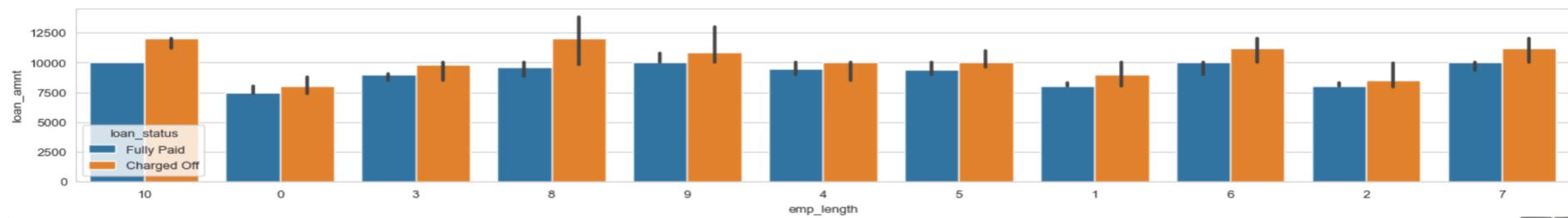
Lower grade people have higher loan and are prone to more chances of defaulting

Term vs loan_amnt





Borrowers having higher months of employment followed taking higher loans are likely to default. This may be due to higher experience employees finding it harder to move to jobs in case of job issues



5 CONCLUSION

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Driving Factors

1. Interest Rate
2. Debt to Income
3. Revolving Credit Utilization
4. Tenure of loan
5. Amount Funded to customer

Business Suggestions

1. Reduce loans given to lower grade consumers
2. Reduce Loan amount approved to lower grade consumers, best to keep it under \$15000.
3. Small Businesses and Debt Consolidation has the highest interest rates and they are the highest charged off ones as well. Reduce number of loans approved for Debt Consolidation and more loans can be given under house purpose as it seems to have high interest rates and pay off rates
4. Push for longer tenure and reduce installment value as tenure seems to not affect if the loan is charged off, but higher the installment value greater is the chance of the loan being charged off.
5. Lower the ceiling of loans provided to customers who have greater than 10 years experience. They may not be able to pay in case they face any issues in their company etc.

6 THANK YOU

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