LENDING CLUB CASE STUDY

Ranjitha R & Ram Yadav

upGrad

iit-b
ज्ञानमुत्तमम्

Table of Contents

upGrad

iimt-b ज्ञानमुत्तमम्

1 PROBLEM STATEMENT AND APPROACH

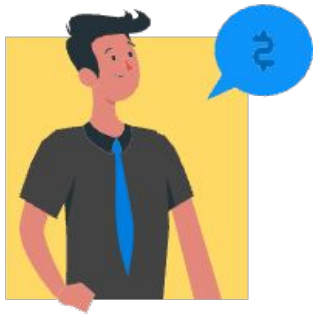
PROBLEM STATEMENT AND APPROACH.

upGrad

iit-b
ज्ञानमुत्तमम्

PROBLEM STATEMENT

Lending Club is a marketplace for personal loans that matches borrowers who are seeking a loan with investors looking to lend money and make a return.

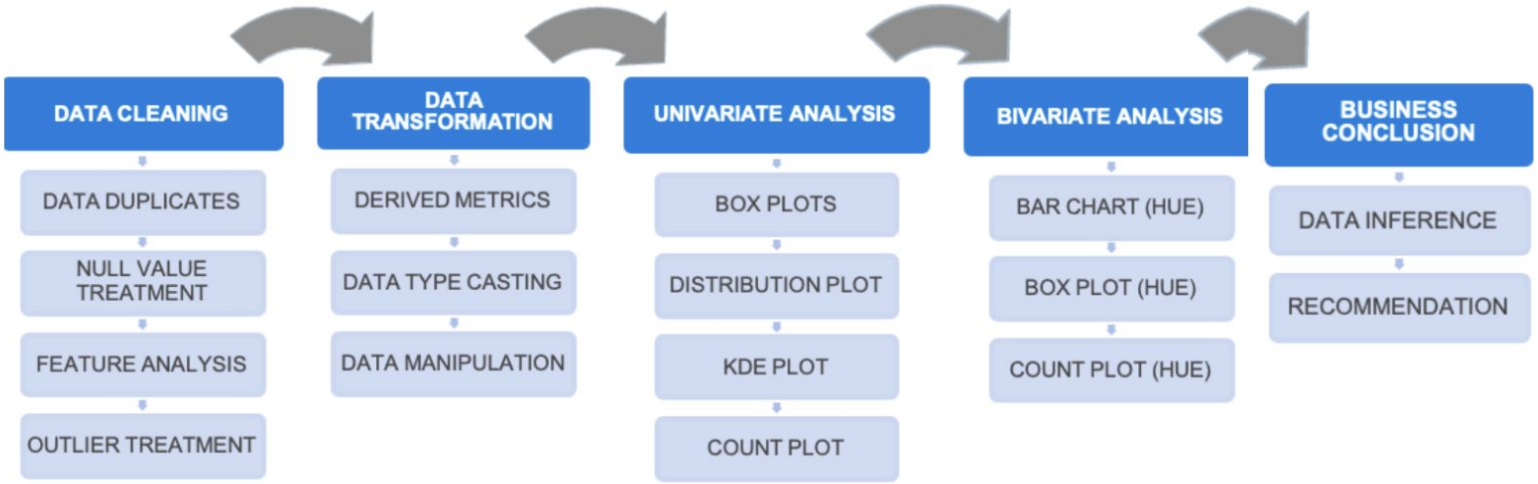


The company wants to understand the **driving factors (or driver variables)** behind loan default, i.e. the variables which are strong indicators of default. The company can utilize this knowledge for its portfolio and risk assessment.

upGrad

iimt-b
ज्ञानमुत्तमम्

APPROACH



upGrad

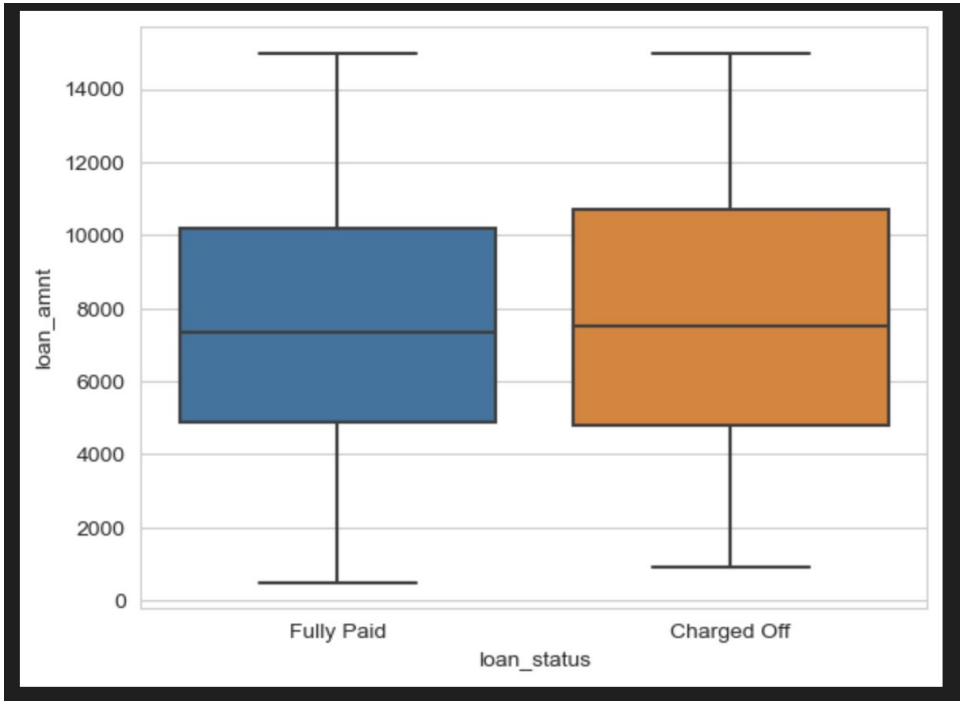
iit-b
ज्ञानमुत्तमम्

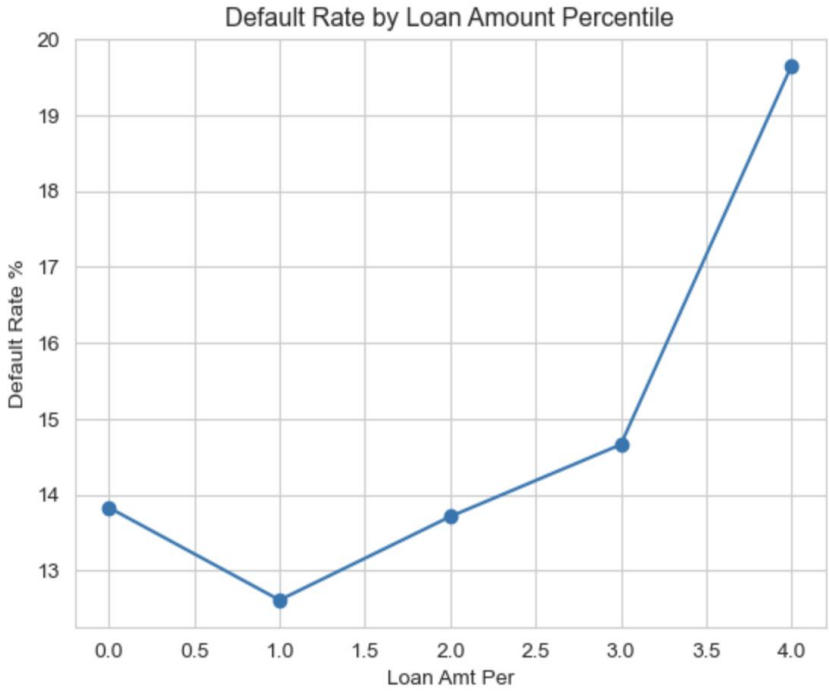
2 UNIVARIATE ANALYSIS

upGrad

iit-b
ज्ञानमुत्तमम्

Inference: Higher the amount higher the chances of default

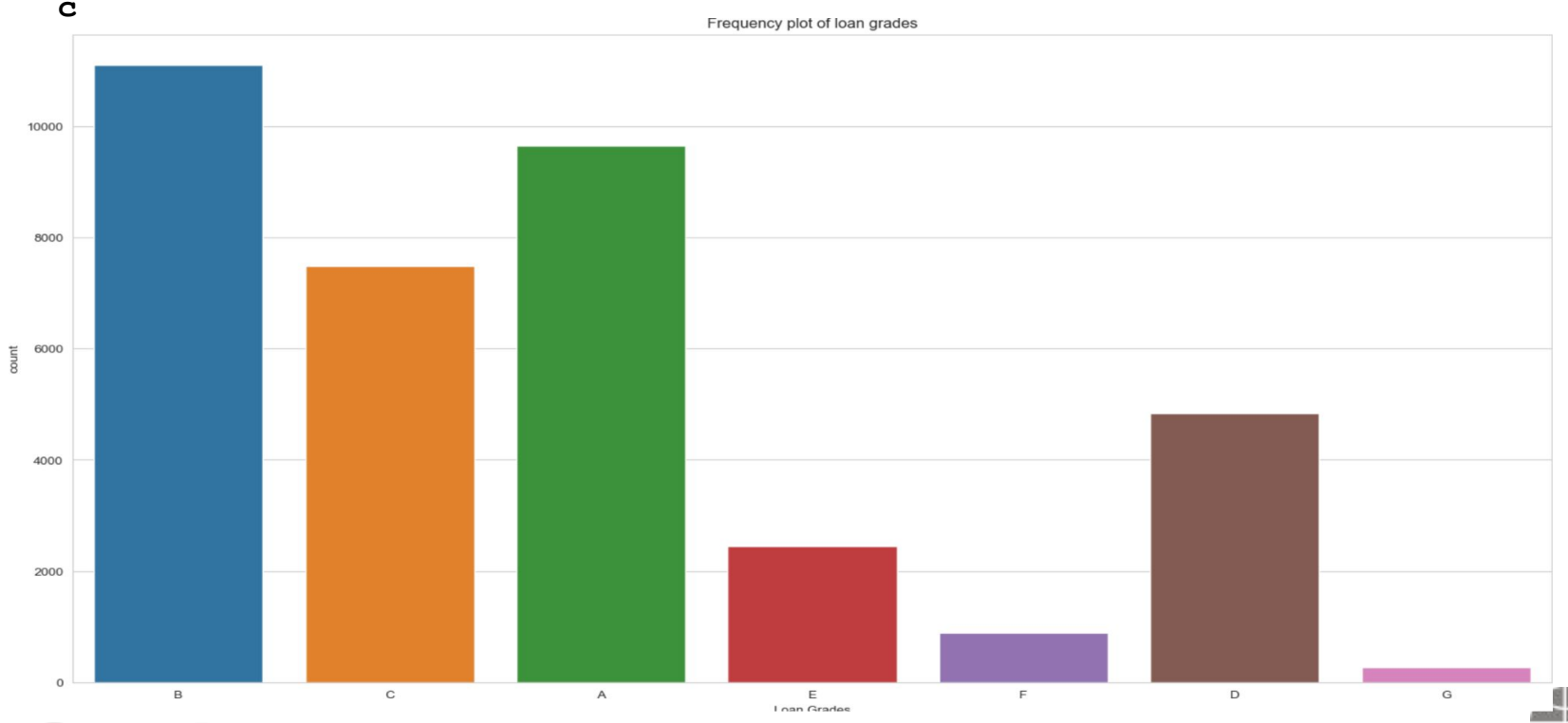




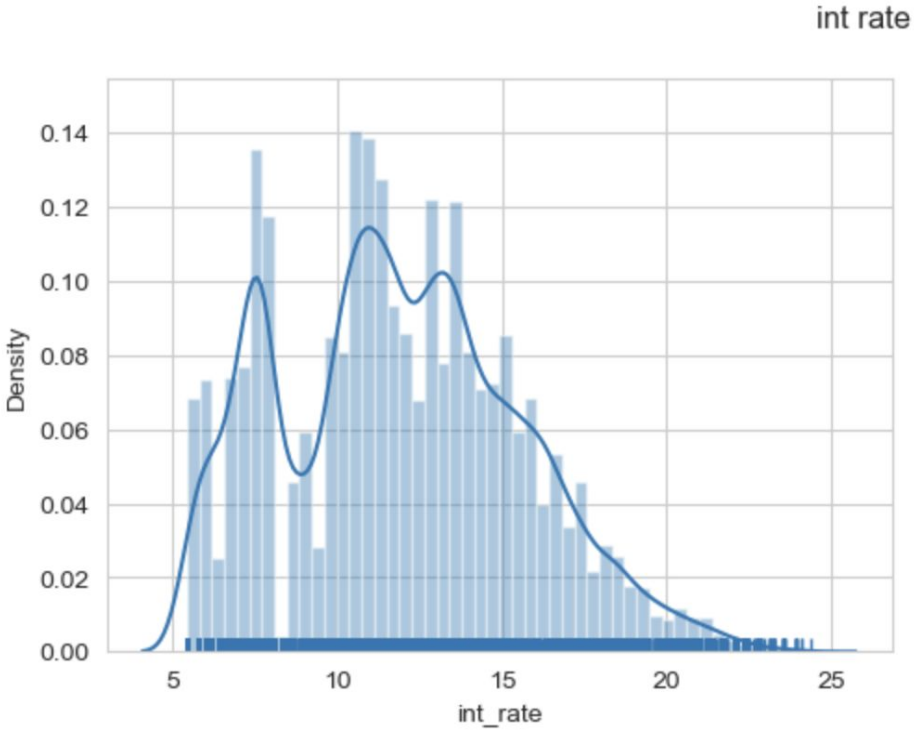
upGrad

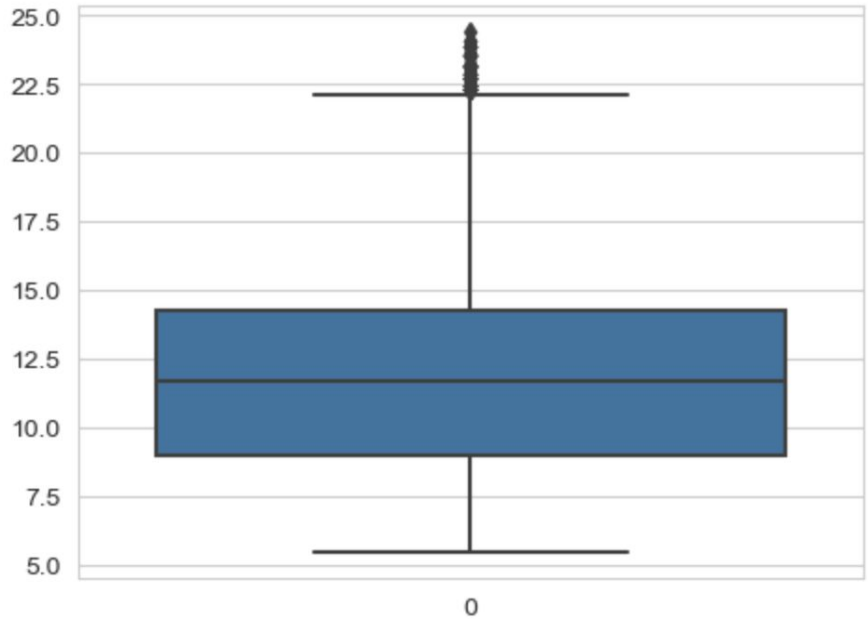
iit-b
ज्ञानमुत्तमम्

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



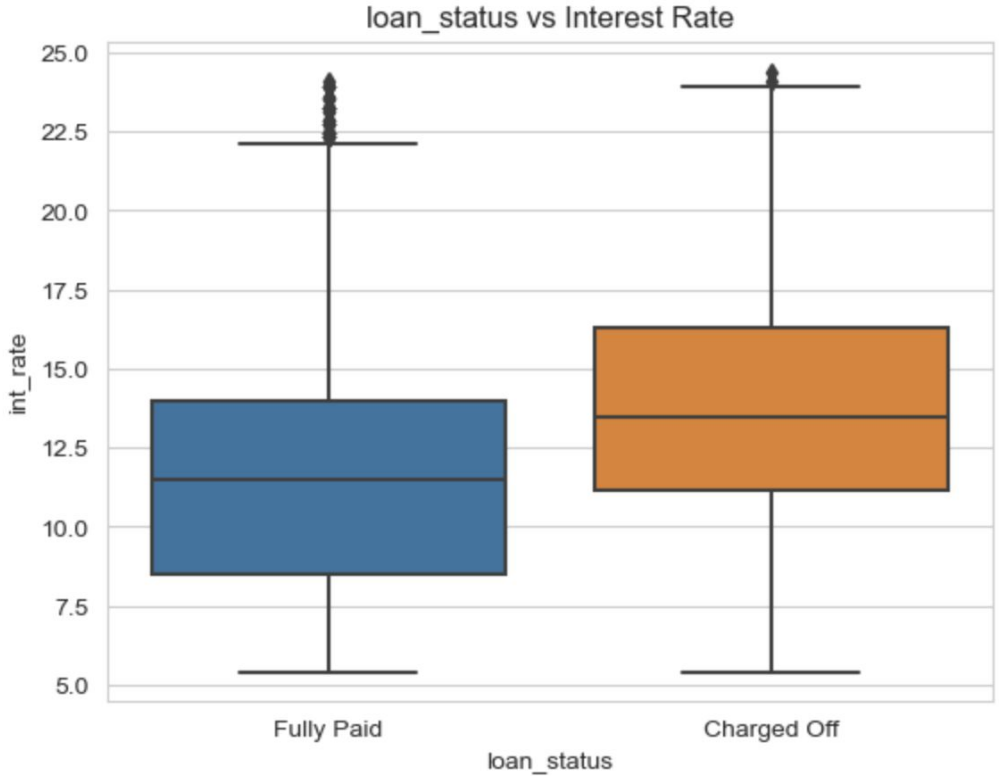
Inference:Most of the interest lies in between 9-14%, couple of them did take 22%





upGrad

iimt-b
ज्ञानमुत्तमम्



Inference:

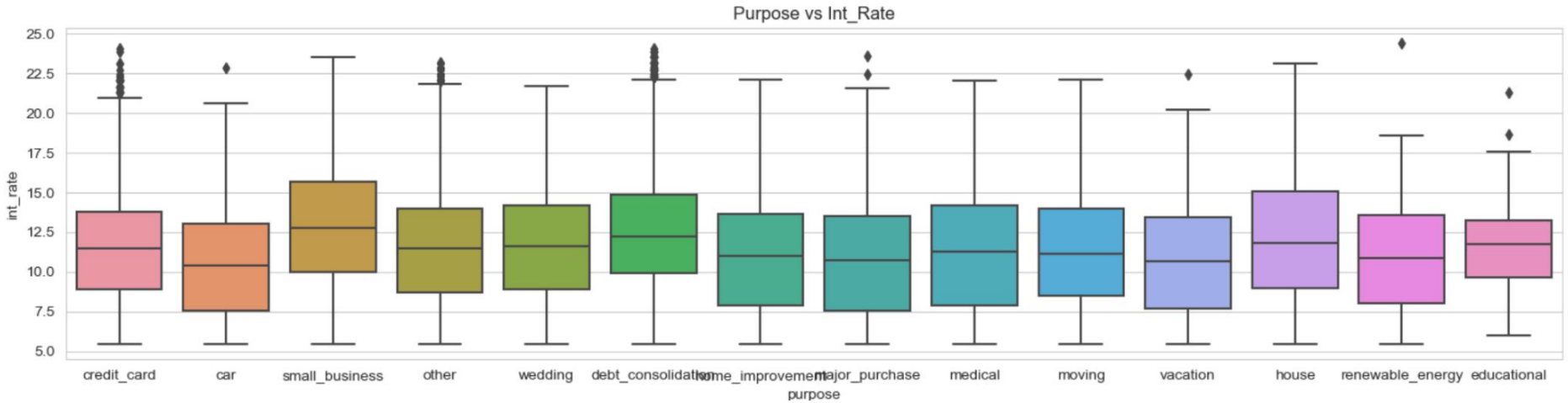
This clearly tells us the there is a great chance of defaulting with higher interest rate

upGrad

iit-b
ज्ञानमुत्तमम्

Inference:

small_business , debt_consolidation and house are higher higher int_rate

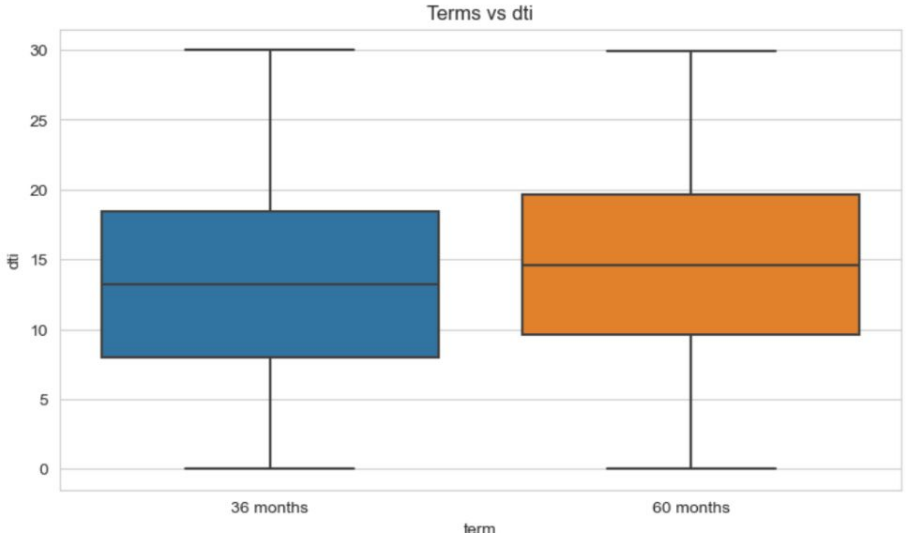


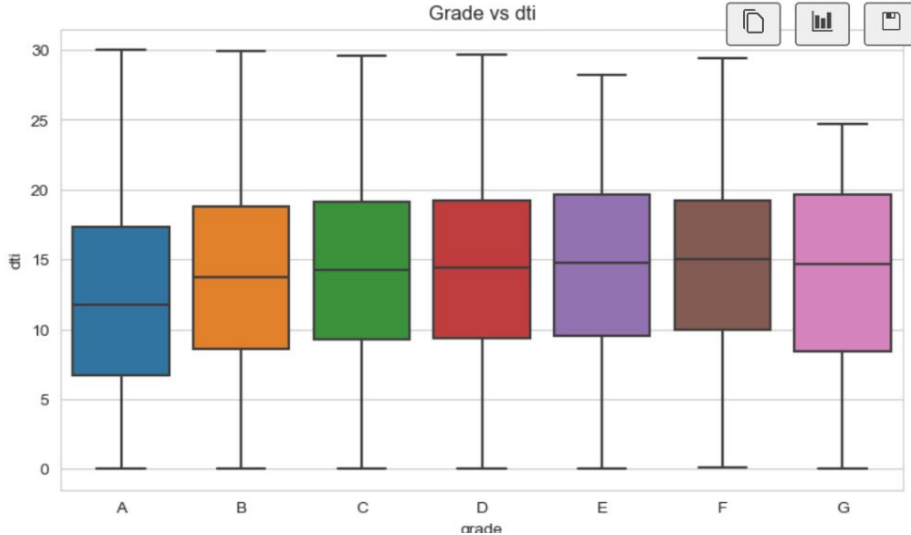
upGrad

iit-b
ज्ञानमुत्तमम्

Inference:

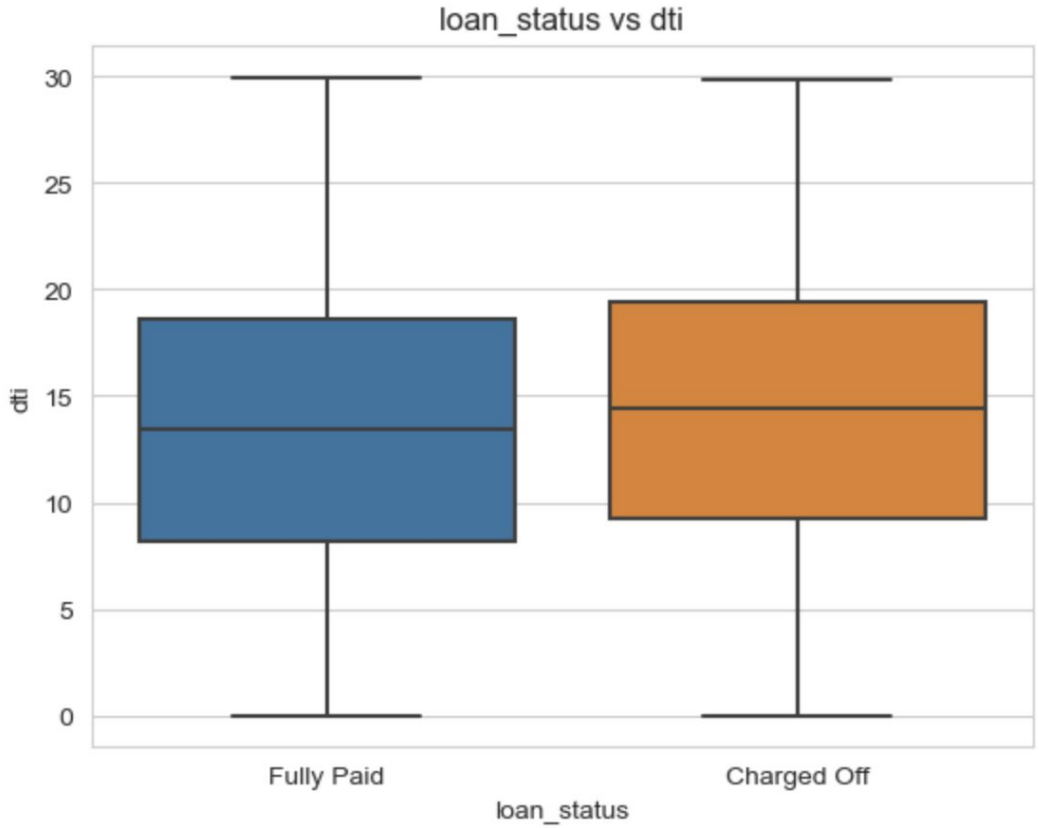
DTI is higher for folks who get more tenure & except for Grade A with higher DTI all other have more chances of default given DTI is high





upGrad

iit-b
ज्ञानमुत्तमम्



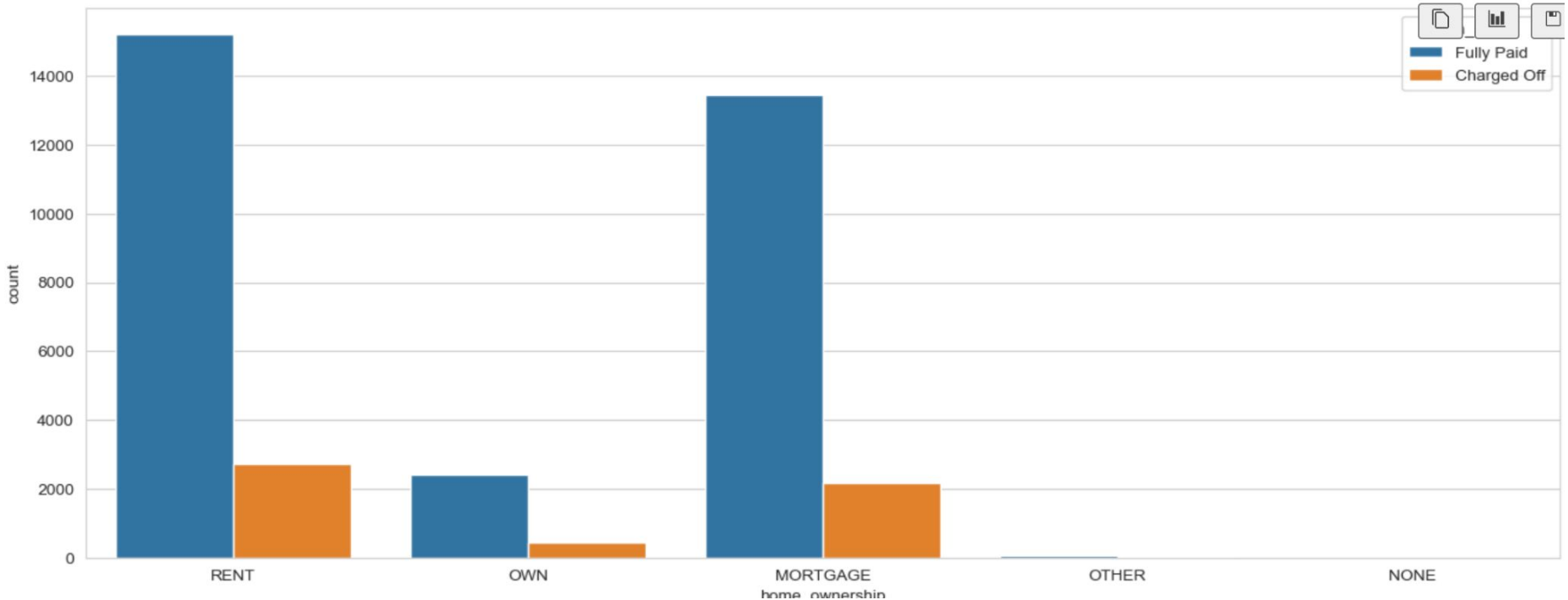
Inference:

Higher the DTI higher the chance of defaulting

upGrad

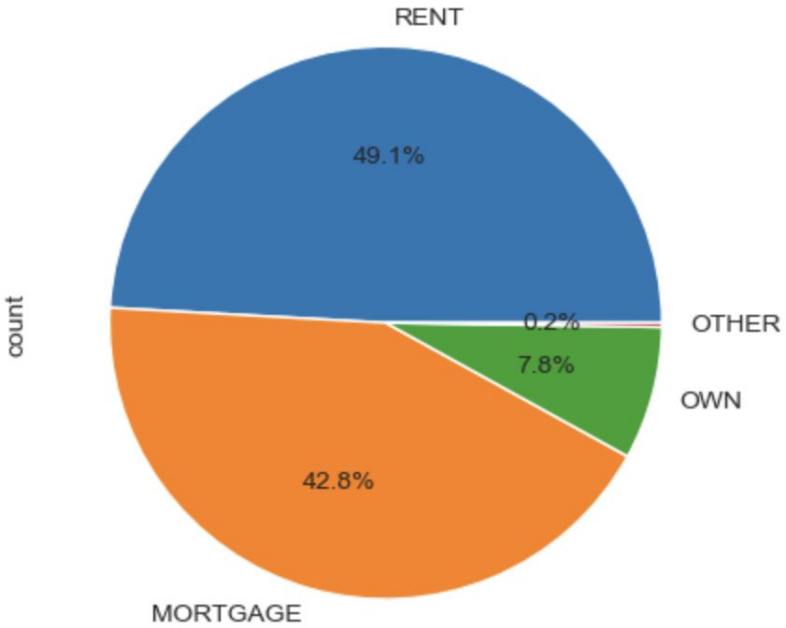
ज्ञानमुत्तमम्

The feature Home Ownership reflect an interesting insights



upGrad

imt.b
ज्ञानमुत्तमम्



Inference:

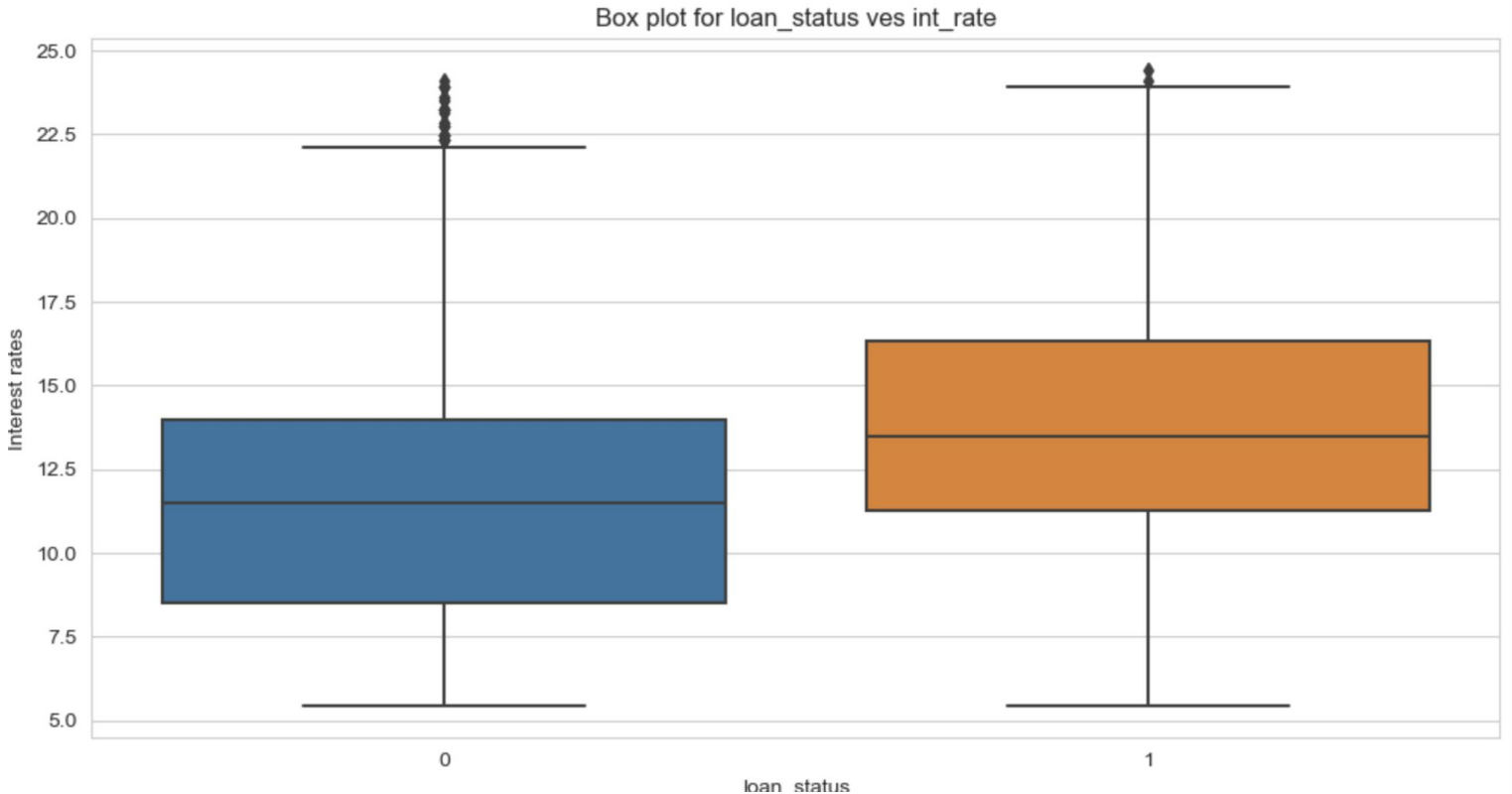
From previous and present slide we can conclude that most of the borrower who stays in Rent or Mortgage are the loan applicants and out of these two who stays in Rent is having higher percentage of Fully Paid.

3 BIVARIATE ANALYSIS

upGrad

iit-b
ज्ञानमुत्तमम्

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

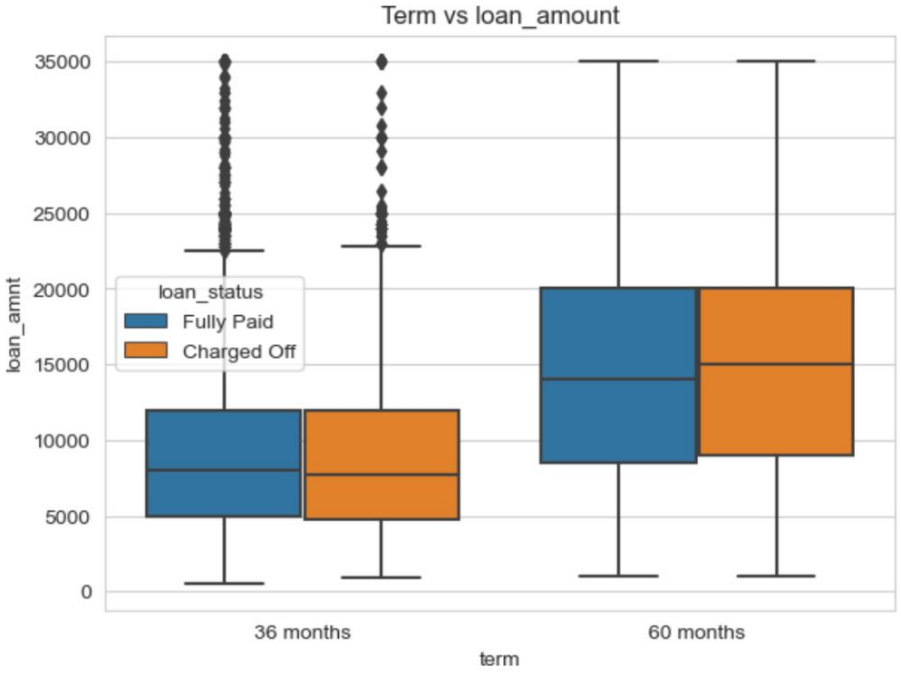


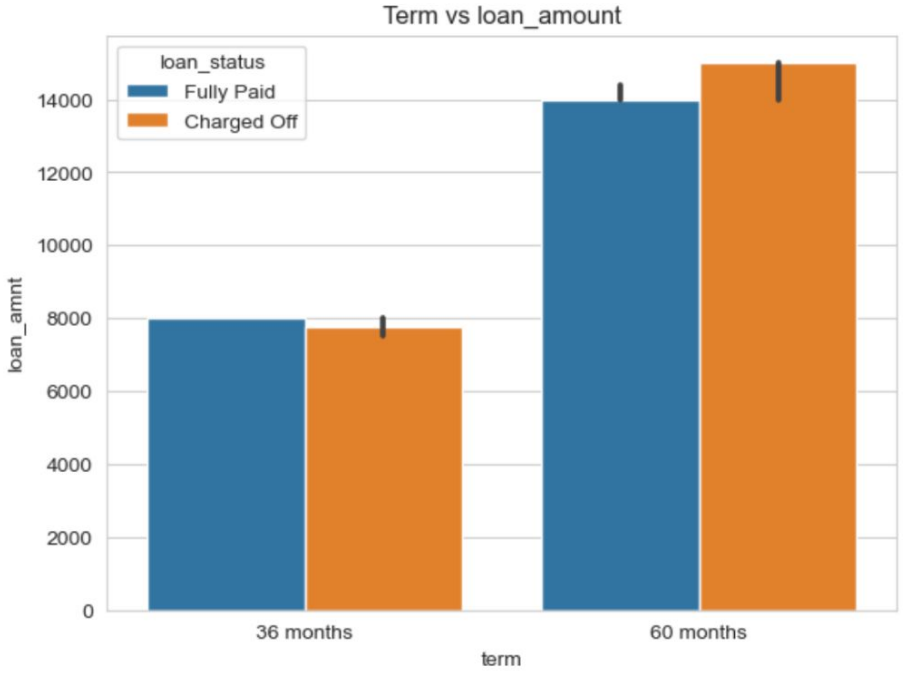
upGrad

iimt-b ज्ञानमुत्तमम्

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

Borrowers have equal distribution in both

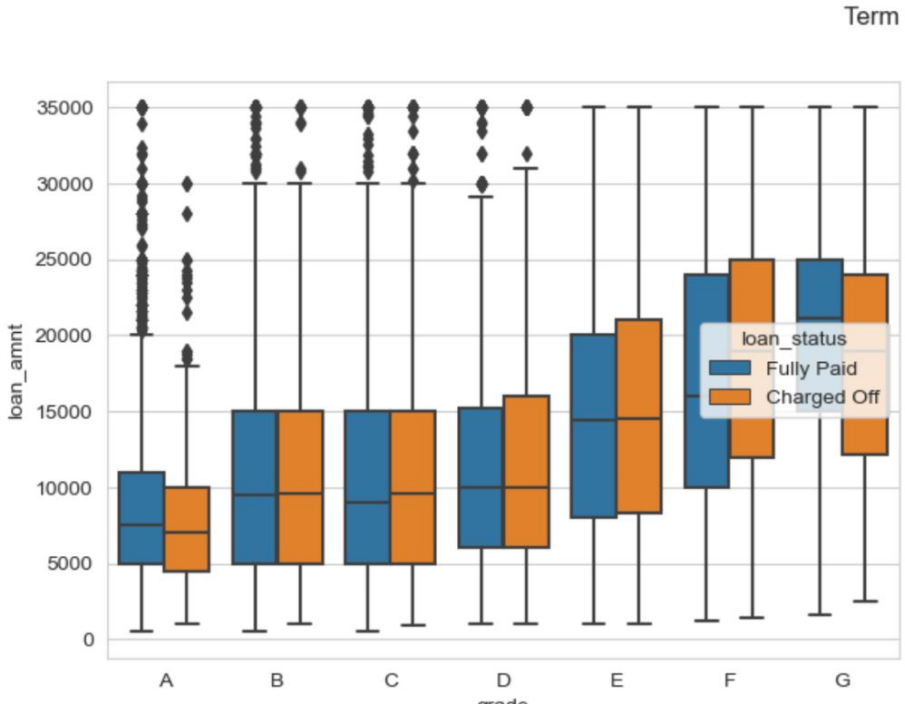


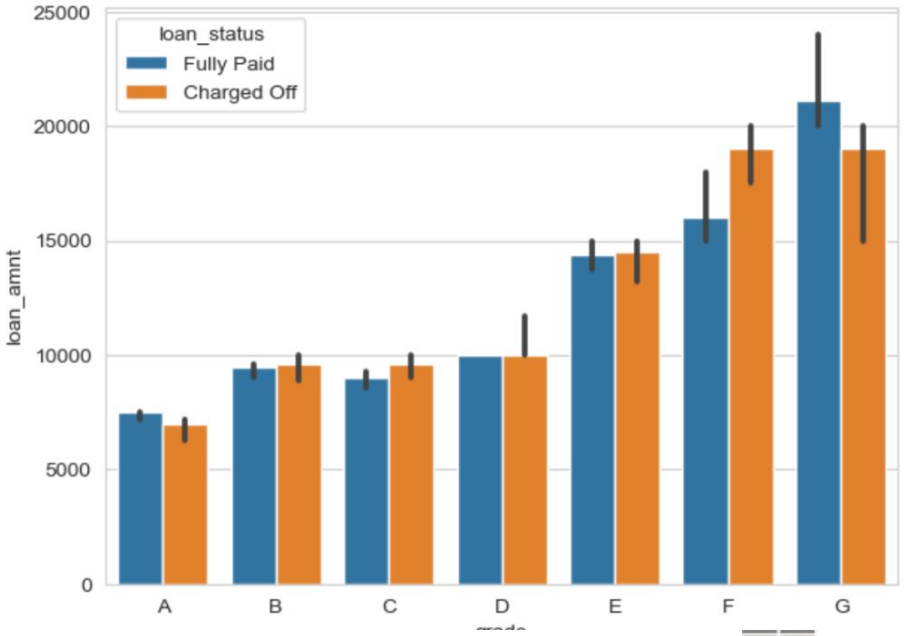


upGrad

iimt-b
ज्ञानमुत्तमम्

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

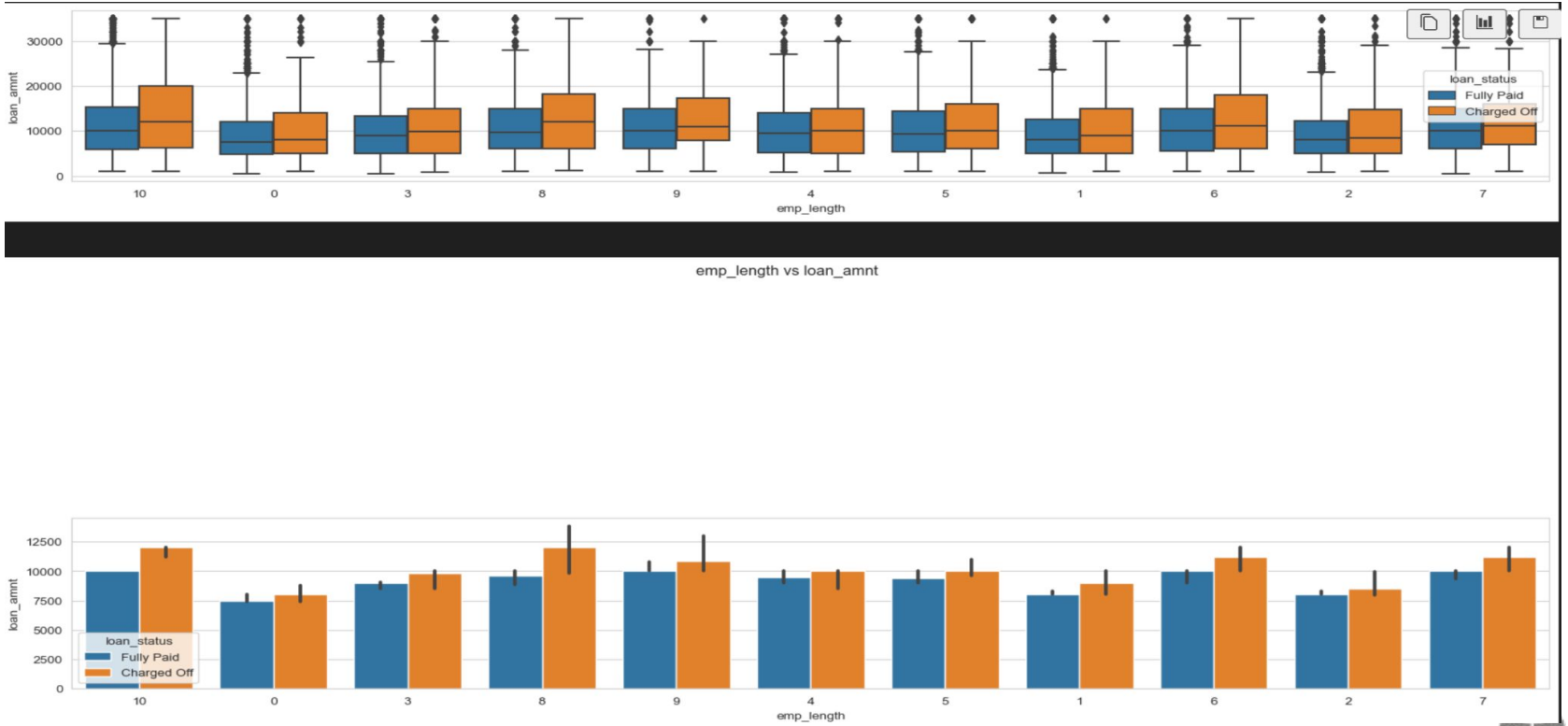




upGrad

iimt-b
ज्ञानमुत्तमम्

Inference: Borrowers having higher months of employment followed taking higher loans are likely to default



upGrad

iit-b
ज्ञानमुत्तमम्

5 CONCLUSION

CONCLUSION

As per the above slides following conclusions can be drawn from this case study

- Analysis indicates a strong correlation between loan amount and default probability , revealing increased chances of default.
- The distribution of loans across credit grades highlights a trend where Grade B recipients receive highest proportion of loans , followed by A and C.
- Interest rates fall within 9-14% range with few outliers reaching 22%, within the range this indicates markets norms whereas outliers signify potential risk factors
- Data also suggests direct relationship between higher interest rates and increased loan default.
- Loans associated with small businesses , debt consolidation and housing tend to have a higher interest rates.
- Borrowed with higher DTI ratios especially Grade A , exhibit default probabilities , this signifies DTI as one of the predictive indicators
- Analysis also reveals that majority of loan applicants reside in rented or mortgaged accommodations, with rents exhibiting a higher percentage of fully paid loans.
- Data also demonstrates clear association between higher interest rates and increased instances instances of loans being charged off
- The duration of loan term, whether 36 or 60 months, does not significantly influence default rates. Hence loan term alone is not a decisive factor in predicting loan defaults
- Lower grade borrowers tend to receive higher loan amounts and exhibit a higher chance for default.
- Borrowers with longer employment tenures and higher loan amounts are more susceptible to default

upGrad

iit-b ज्ञानमुत्तमम्

DRIVING FACTORS

- Loan amount: Strong indicator of default probability
- Credit grades: Higher likelihood of default for lower grades
- Interest rates: Correlated with increased default instances
- Loan purposes: Certain types (small businesses, debt consolidation, housing) associated with higher default rates
- DTI ratios: Higher ratios, particularly among Grade A borrowers, predictive of default
- Applicant residences: Rented or mortgaged accommodations may impact default rates
- Loan status: Fully paid vs. charged off loans
- Loan term: Not a decisive factor in predicting defaults
- Borrower characteristics: Grade, loan amounts, employment tenures all play a role in default likelihood

RECOMMENDATION

- Implement stricter evaluation criteria for higher loan amounts, particularly for lower grade borrowers.
- Monitoring of interest rates closely and adjusting lending accordingly to mitigate default risks.
- Provide financial education to borrowers, especially those with higher DTI ratios, to improve financial management skills.
- Diversify loan portfolio to include safer investment options alongside high-risk ventures like small businesses.
- Develop targeted risk management strategies for specific loan purposes such as debt consolidation and housing.
- Offer incentives or discounts for borrowers with shorter employment tenures to encourage timely repayment.
- Continuously review and update lending policies based on evolving market trends and risk analysis.
- Consider alternative credit scoring models to complement traditional methods and improve predictive accuracy.
- Collaborate with housing agencies or rental platforms to explore innovative payment solutions for borrowers residing in rented accommodations.

6 THANK YOU

upGrad

iit-b
ज्ञानमुत्तमम्