LENDING CLUB CASE STUDY

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PROBLEM STATEMENT

AIM

- Identify patterns in data which indicate if a potential loanee is likely to default, identification of which will enable the investors to apply suitable risk avoidance/mitigation strategy

OBJECTIVE

- Based on data provided, understand the driving variables available at the time on application and historic data to identify strong indicators of default

APPROACH

DATA CLEANING – REMOVE DATA DUPLICATES, NULL VALUE HANDLING

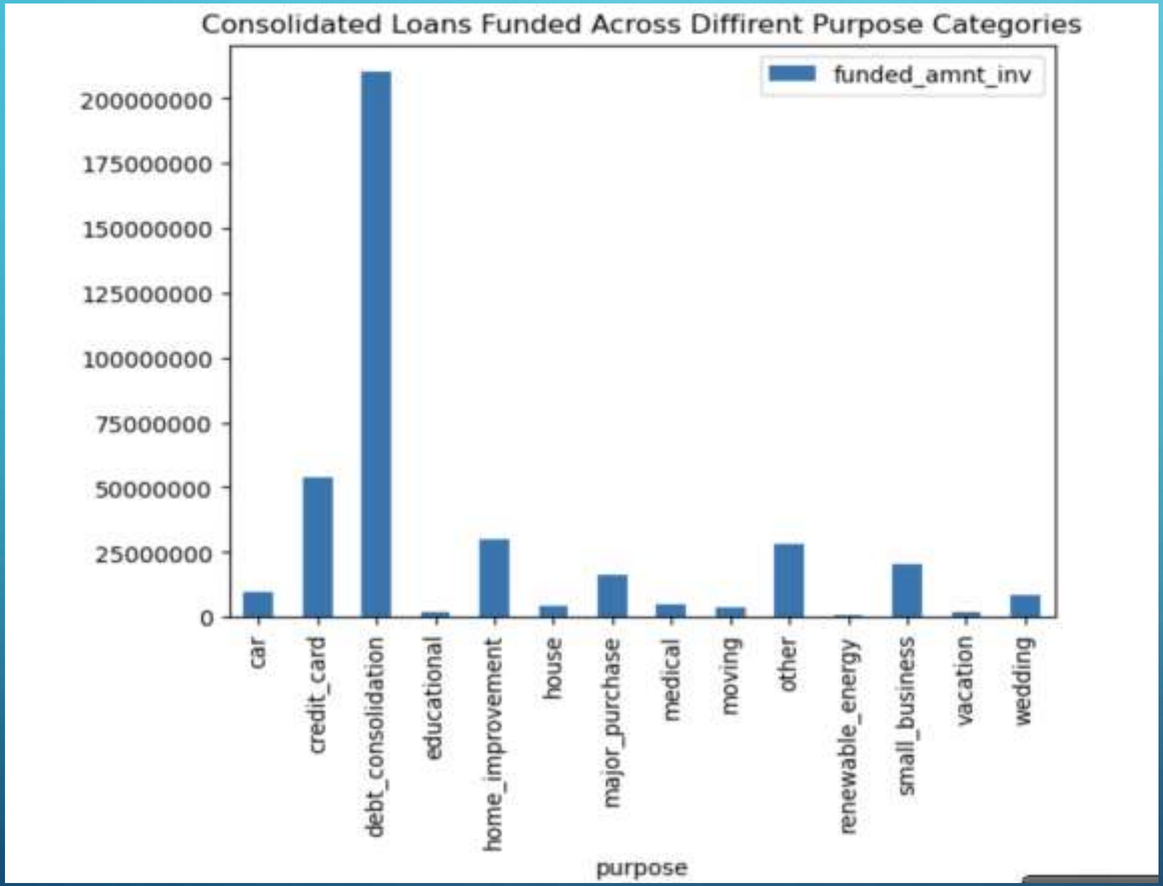
DATA TRANSFORMATION – DERIVED METRICS, DATA MANIPULATION

UNIVARIATE ANALYSIS

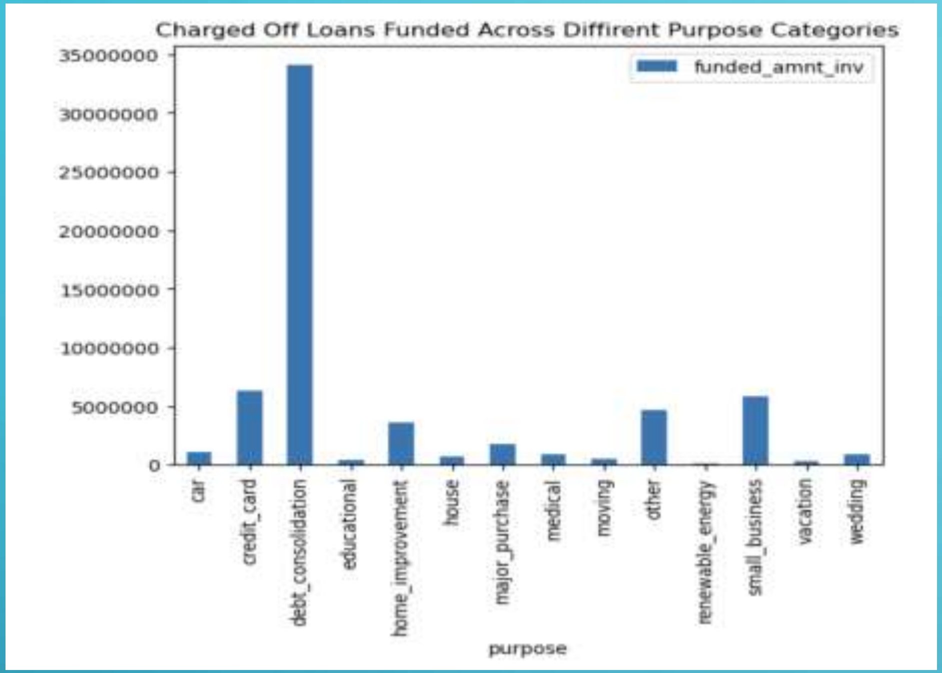
BIVARIATE ANALYSIS

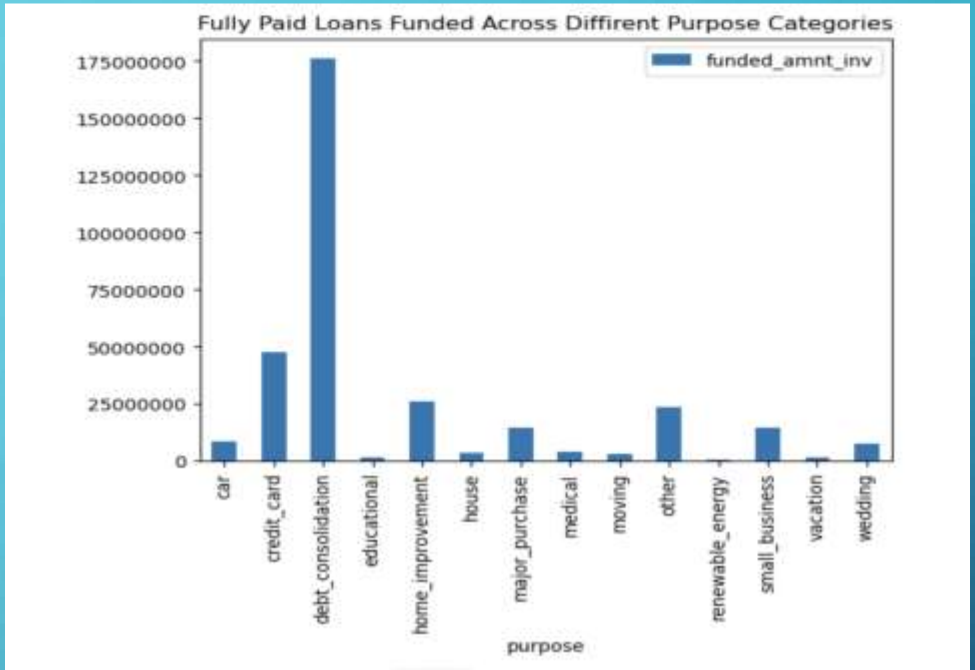
CONCLUSION

UNIVARIATE ANALYSIS

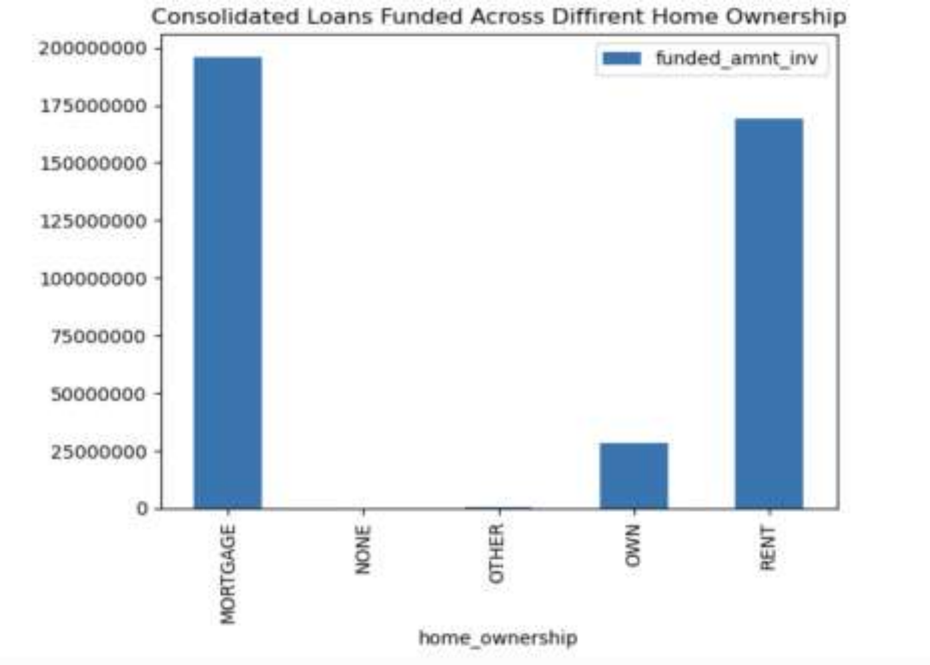


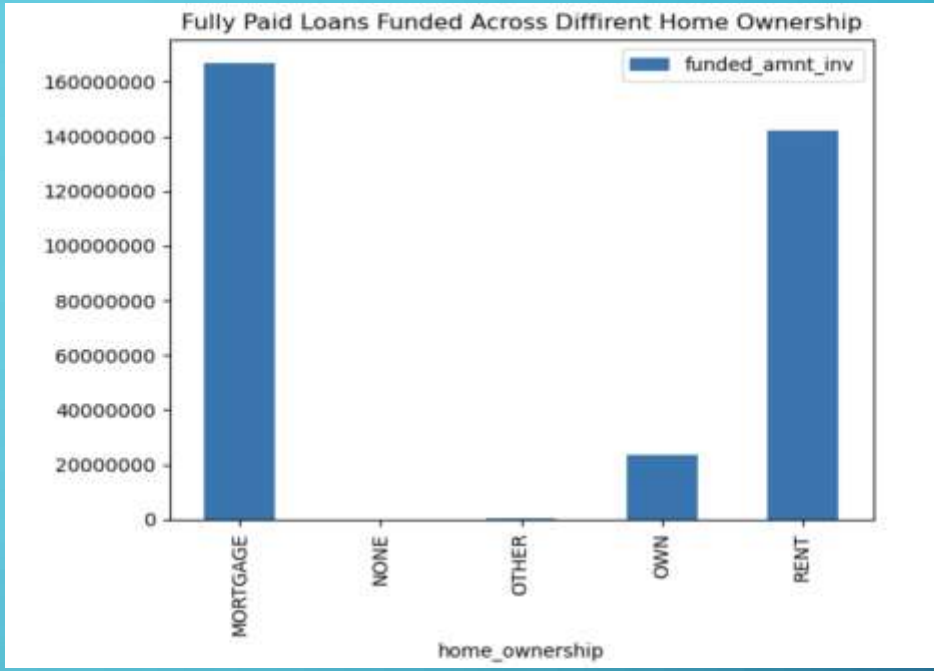
The graph shows the total funded amount across different loan purpose categories. The category ‘debt consolidation’ stands out significantly, indicating that majority of loans are funded for consolidating debts compared to other purposes like credit cards, home improvement or small businesses

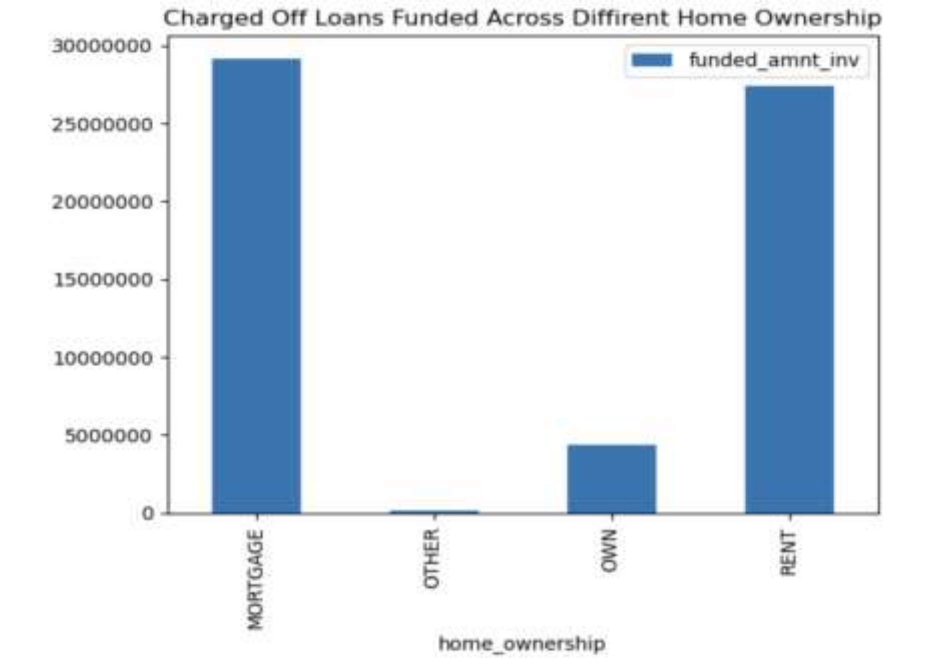




While debt consolidation accounts for the highest funded amounts in both charged-off and fully paid loans, it also poses the greatest risk of default which highlights the need for strict risk assessment

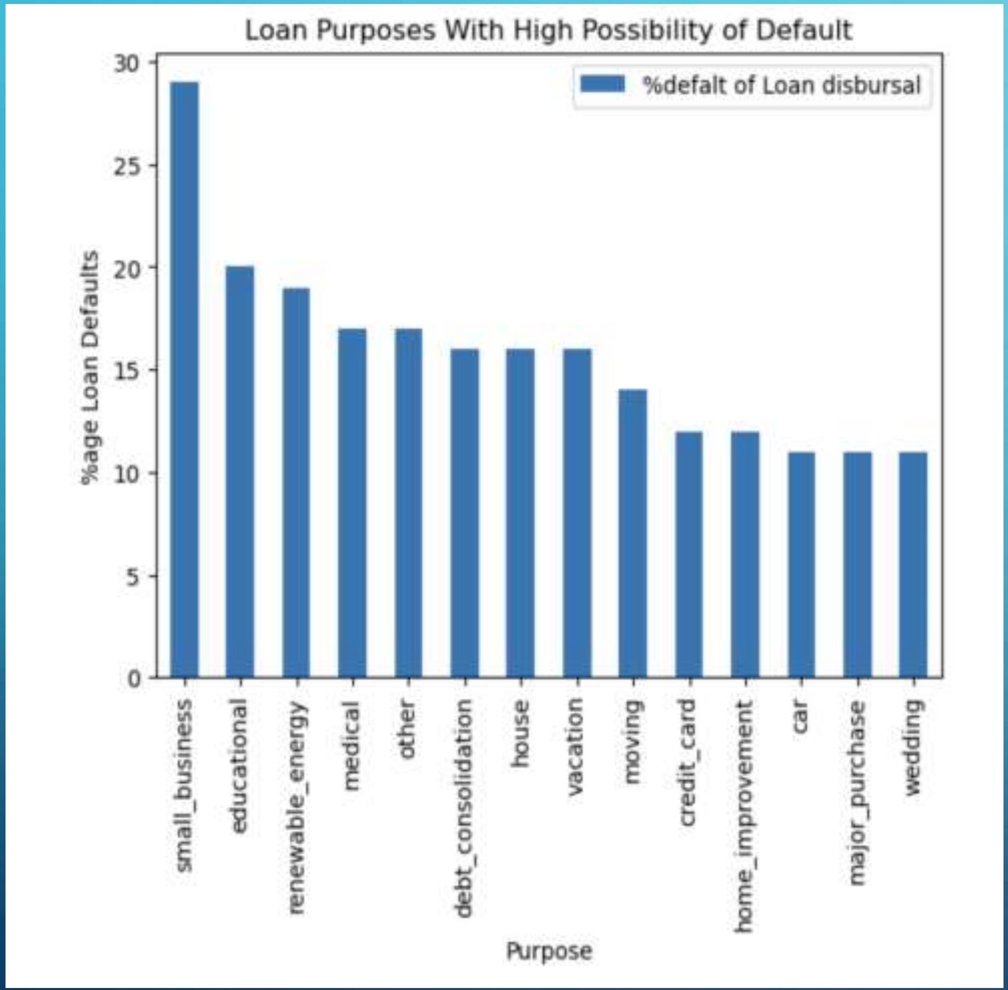




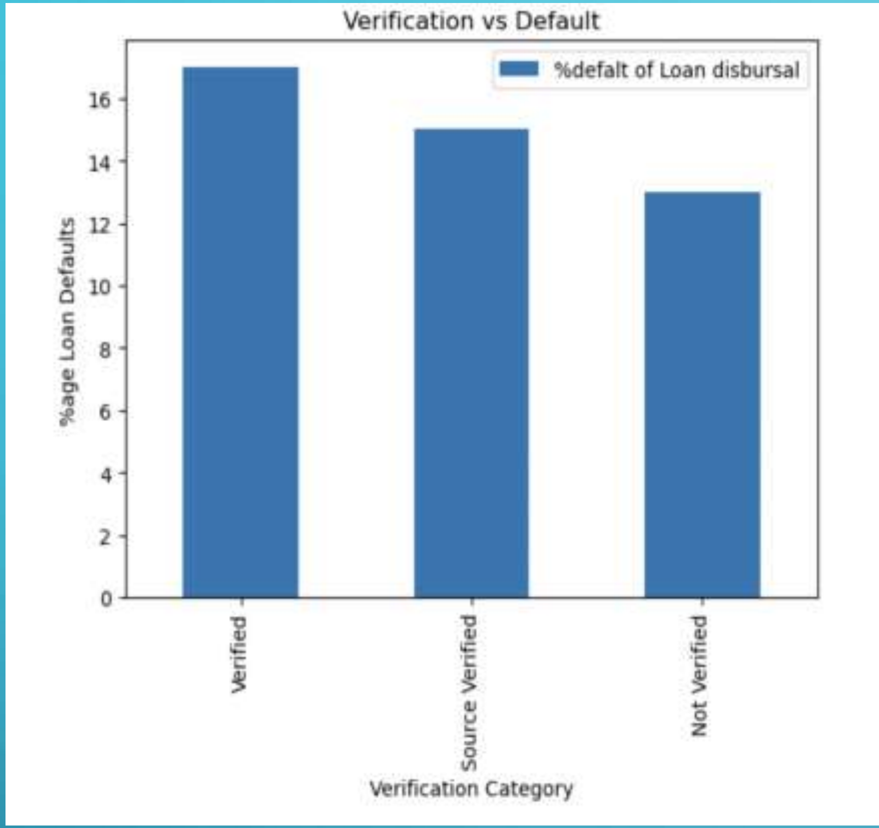


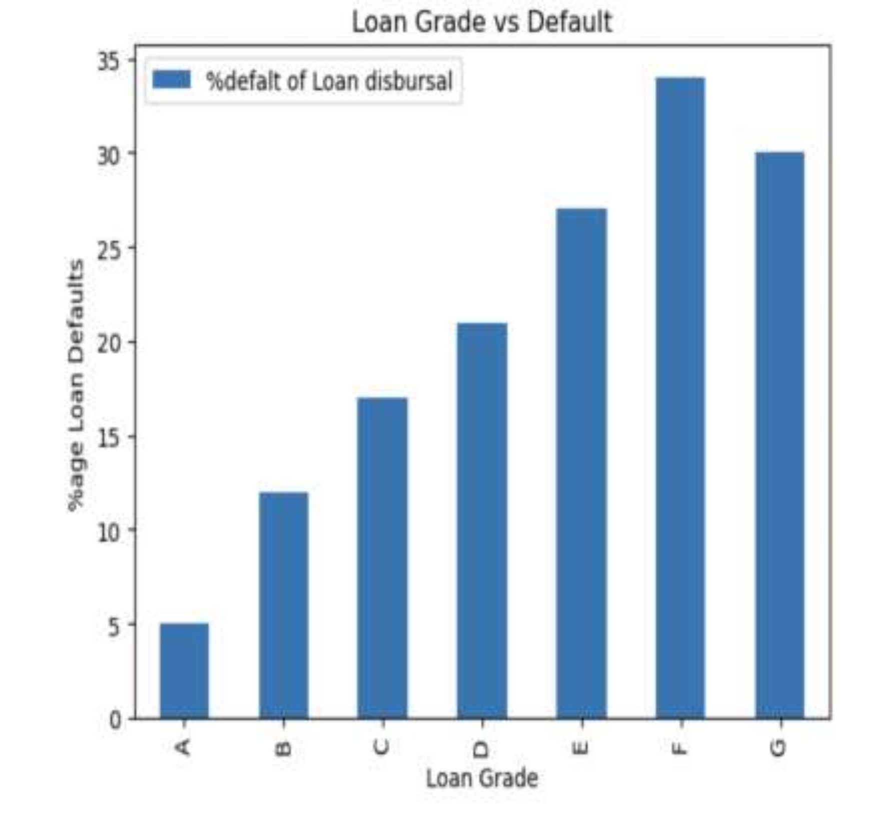
Borrowers with a mortgage or those renting consistently form the largest portion of loan funding, regardless of repayment status. However, these groups also pose the highest risk of defaults, suggesting to focus on risk assessment for these categories

BIVARIATE ANALYSIS



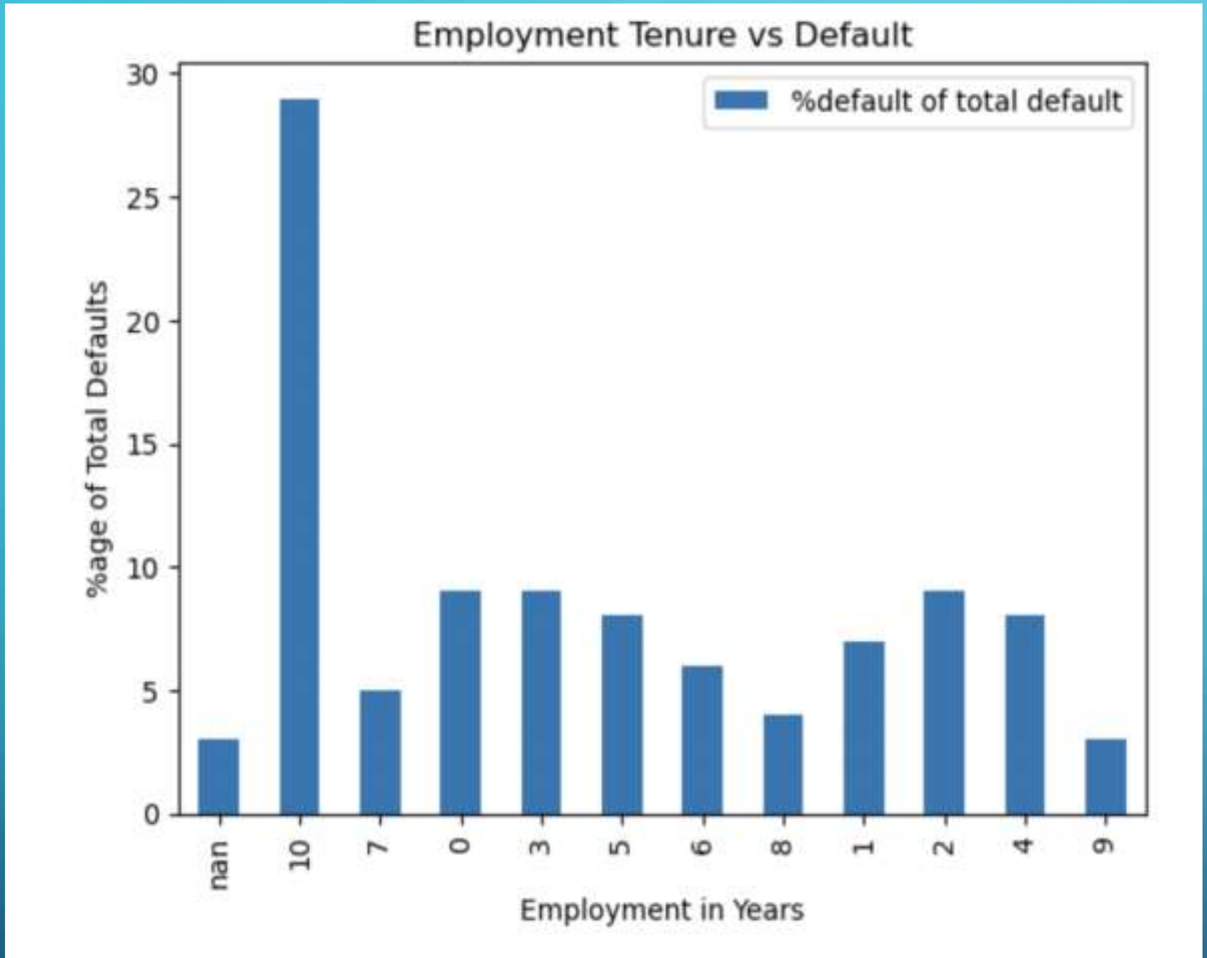
Loan purposes related to higher financial risks (like small business or education) are more likely default compared to purposes like weddings or home improvement, which might involve smaller or more manageable loans





Loans that are verified have slightly higher percentage of defaults compared to those that are source-verified or not verified. This suggests verification alone may not reduce default rates.

Default rates increase as the loan grade worsens, with grade A loans having the lowest default rates and grade G loans the highest. This indicate a strong correlation between loan grades and the likelihood of default.



- Borrowers with 10 years of employment tenure have highest percentage of loan defaults, possibly due to higher loan amounts or other financial commitments
- Borrows with employment tenure 1,2 and 3 years also contribute significantly to loan defaults due to job instability or lower income levels.
- Borrowers with 7+ years of employment (excluding 10 years) have relatively lower default rates, likely due to consistent income.

CONCLUSION

- The category ‘debt consolidation’ stands out significantly, indicating that majority of loans are funded for consolidating debts compared to other purposes.
- While debt consolidation accounts for the highest funded amounts in both charged-off and fully paid loans, it also poses the greatest risk of default which highlights the need for strict risk assessment.
- Borrowers with a mortgage or those renting consistently form the largest portion of loan funding, regardless of repayment status. However, these groups also pose the highest risk of defaults, suggesting to focus on risk assessment for these categories.
- Loan purposes related to higher financial risks (like small business or education) are more likely default compared to purposes like weddings or home improvement, which might involve smaller or more manageable loans.
- Loans that are verified have slightly higher percentage of defaults compared to those that are source-verified or not verified. This suggests verification alone may not reduce default rates.
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THANK YOU