

## EXP 7. Finance Data Report

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Dataset	Finance
Experiment no.	7

### Dataset link-

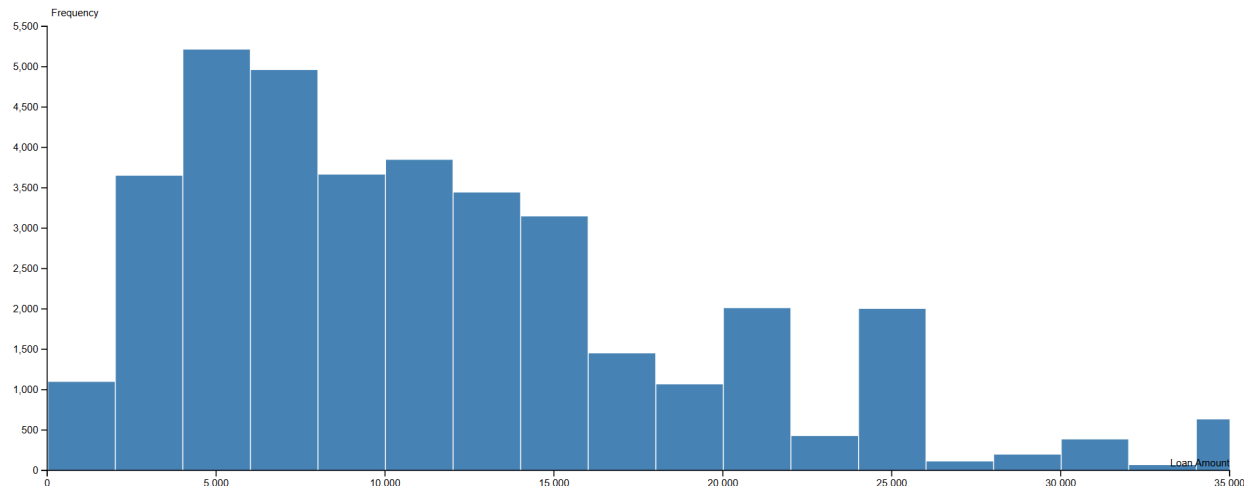
<https://www.kaggle.com/datasets/joebeachcapital/loan-default>

### Dataset Description-

Anonymised Loan Default data, including loan amount, term, Interest rate, installment, employment length, home ownership, annual income, loan status and purpose, etc. as well as the binary repay\_fail (1 or 0).

### Report-

#### 1. Loan Amount Distribution



#### Question:

What does the distribution of loan amounts suggest about the most common loan sizes?

The distribution shows that most loan amounts are concentrated between \$5,000 and \$15,000, with fewer loans as the amount increases beyond \$15,000. This suggests that smaller loan amounts are more common.

## 2. Loan Term Distribution

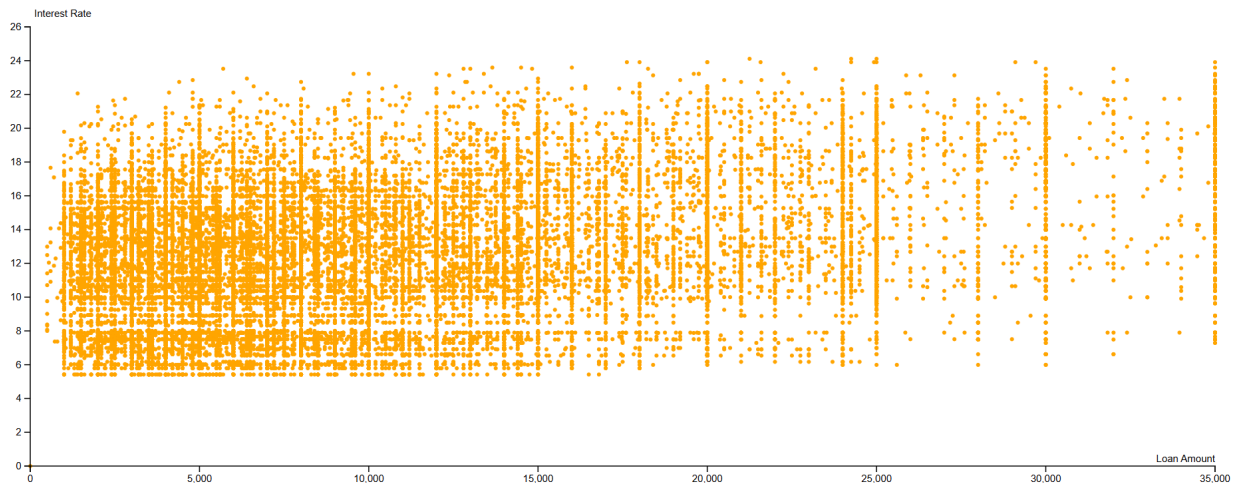


### Question:

What can be inferred about borrowers' preferred loan terms based on this distribution?

The majority of borrowers prefer a 36-month loan term over a 60-month term, indicating that borrowers might favor shorter-term loans, possibly to reduce interest over time.

## 3. Interest Rate vs Loan Amount

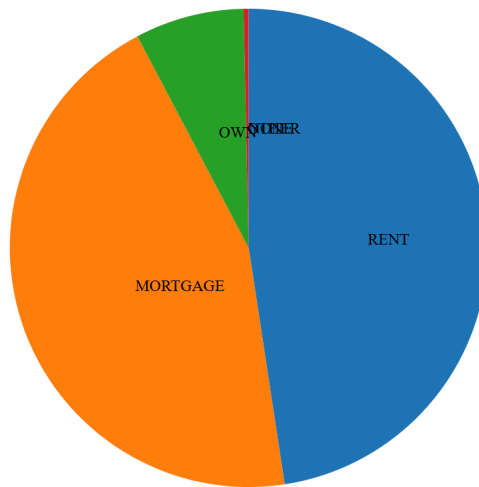


### Question:

Does the loan amount correlate with the interest rate?

The scatter plot shows no clear linear correlation between loan amount and interest rate, as interest rates are spread across various loan amounts. This suggests that factors other than loan size (such as creditworthiness) might play a significant role in determining interest rates.

#### 4. Home Ownership Distribution

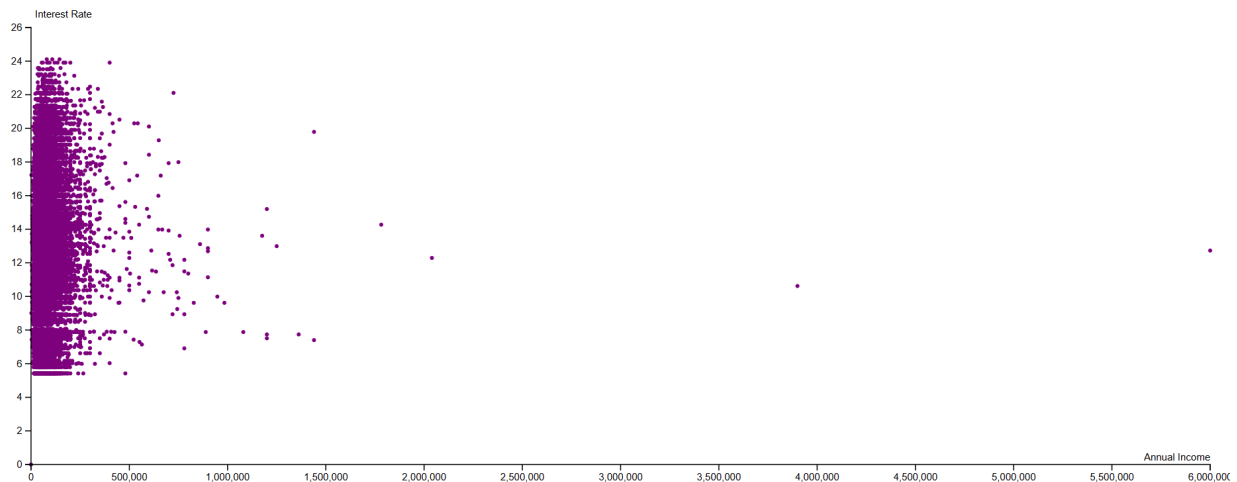


#### Question:

What does the distribution of home ownership types among borrowers indicate?

The pie chart shows that most borrowers either rent or have a mortgage, with very few owning a home outright. This suggests that a majority of loan applicants are in stages of paying off property or do not own property, potentially reflecting on their financial stability or creditworthiness.

#### 5. Annual Income vs Interest Rate



#### Question:

Is there a visible relationship between annual income and interest rate among borrowers?

The scatter plot indicates that most borrowers have annual incomes below \$200,000, but there's no clear pattern that shows higher incomes result in lower interest rates. This could imply that income alone is not a strong determinant of the interest rate, and other factors like credit score likely play a larger role.

**Pearson Coefficient**

Pearson Correlation Coefficient: 0.05328615295019776

P-Value: 6.59391106081299e-25