



# **Lending Club Case Study**

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**Rahul Verma**

# Agenda

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- Univariate Analysis
- Bi-variate Analysis
- Co-relation Analysis



# Univariate Analysis

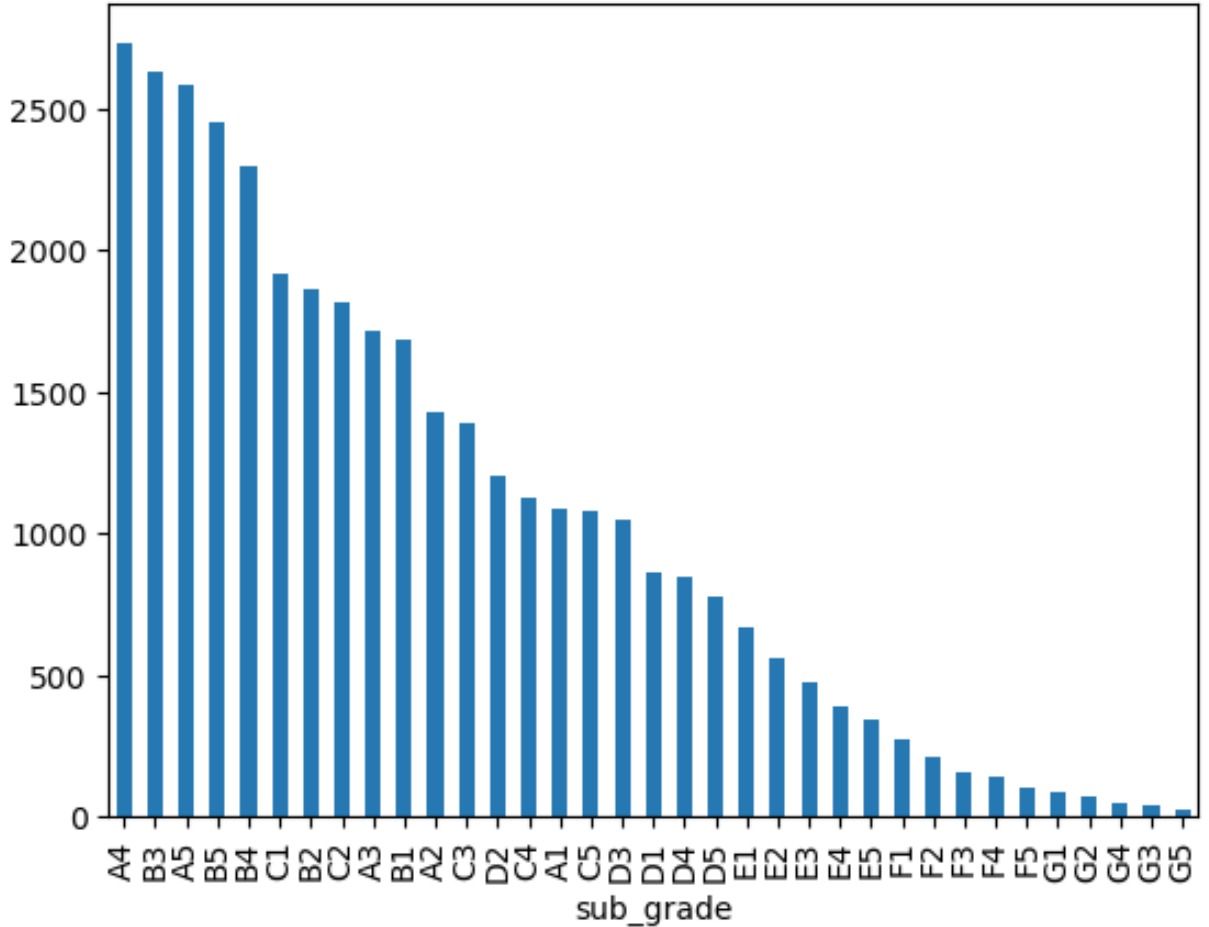
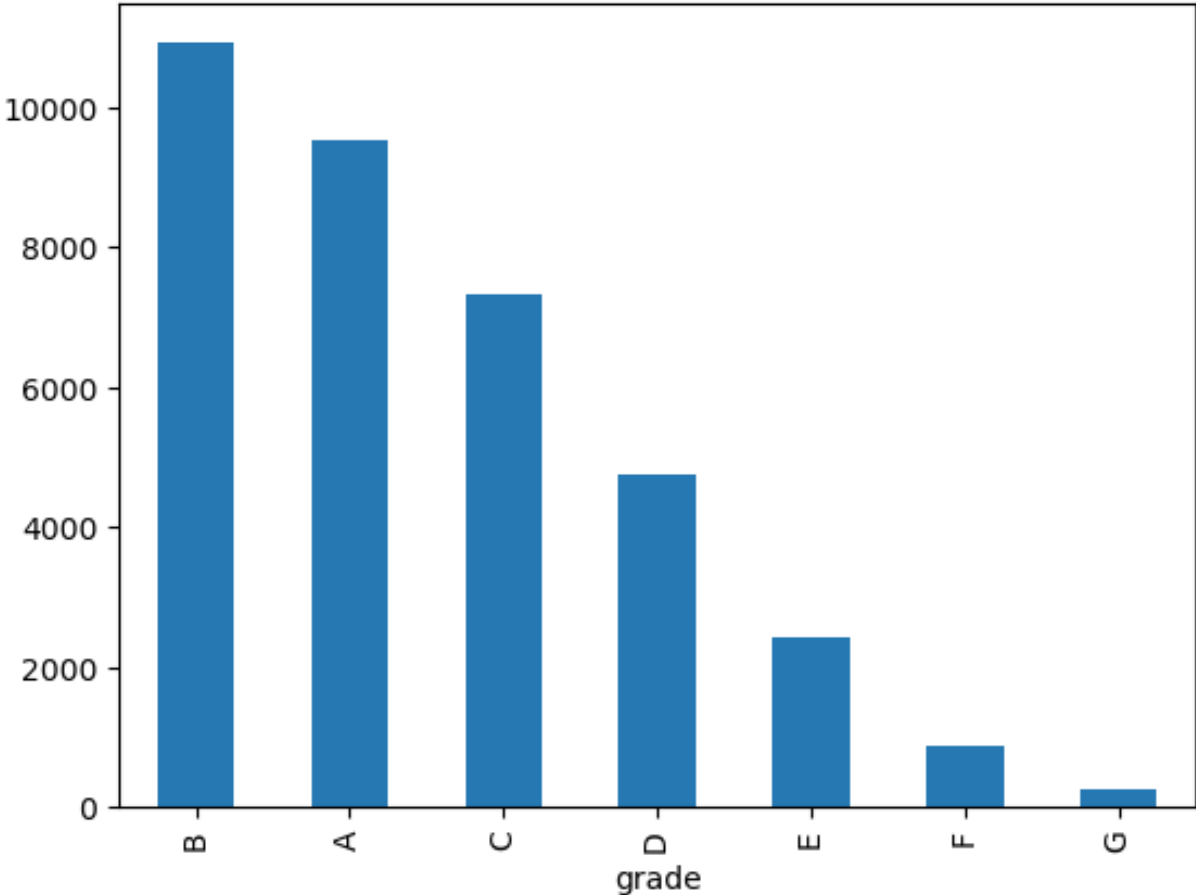


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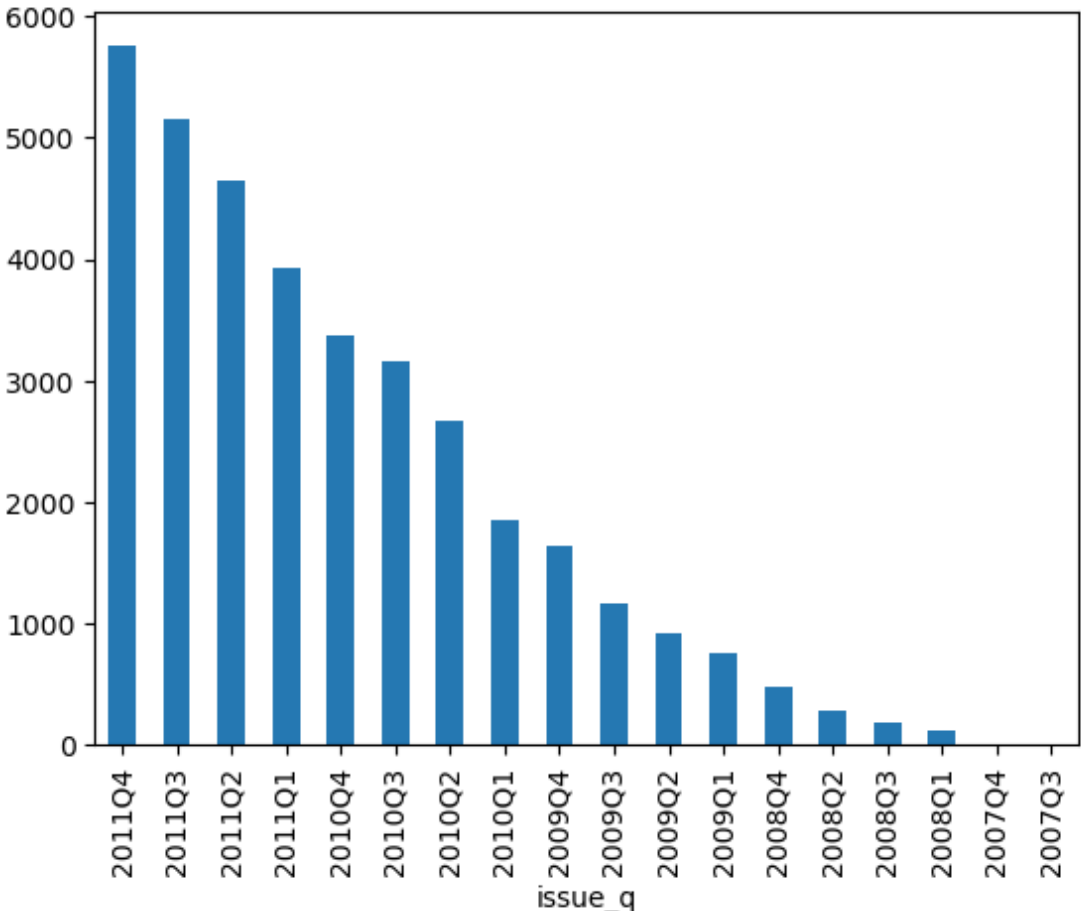
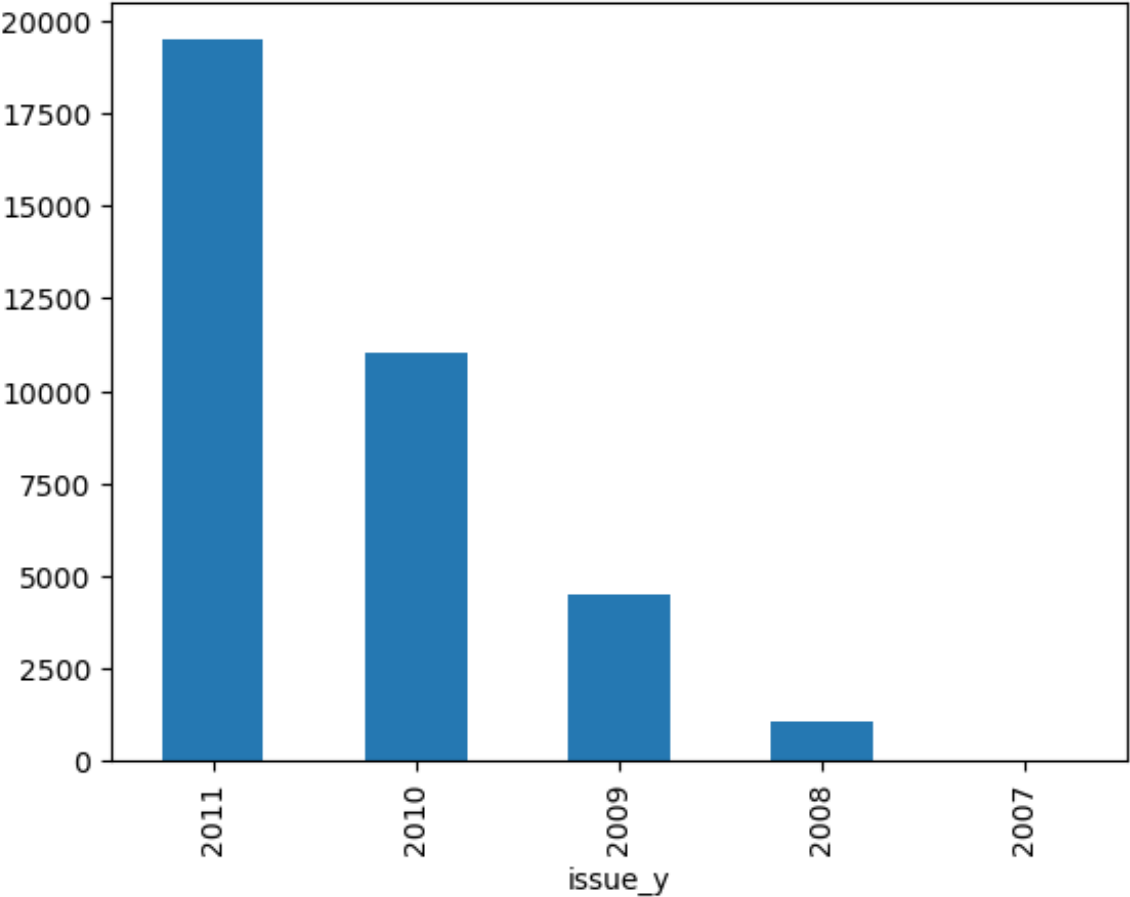
## Analysis

- For overall and not paid loan, 36 months term is higher than 60 months
- Grade B is the highest contributor in not paid loans
- 2011Q4 has the highest amount of not paid loans and overall loans
- Within Grade B, sub-grade B5 is the highest contributor in non paid loans

# Loan Vs Grade/Sub-Grade

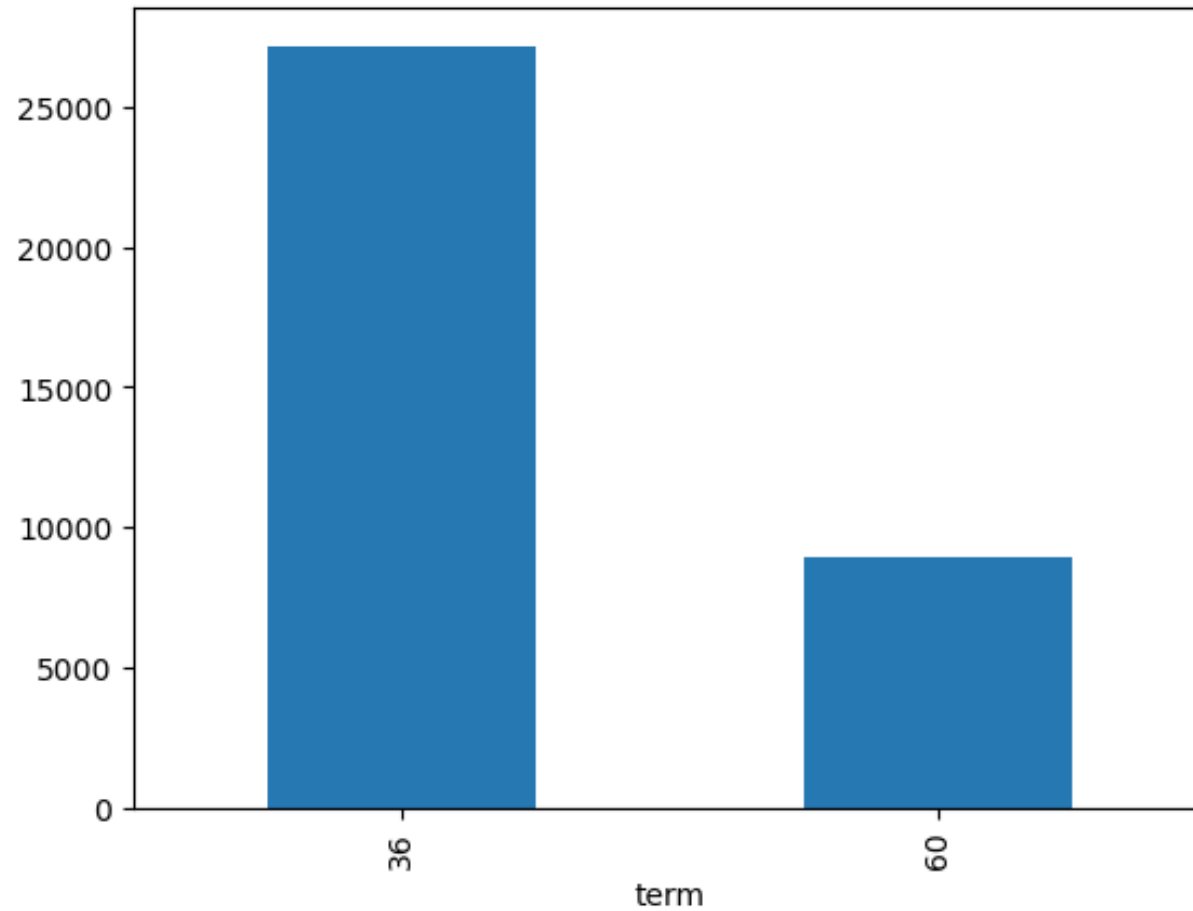


# Loan Vs Year/Quarter



# Loan Vs Term

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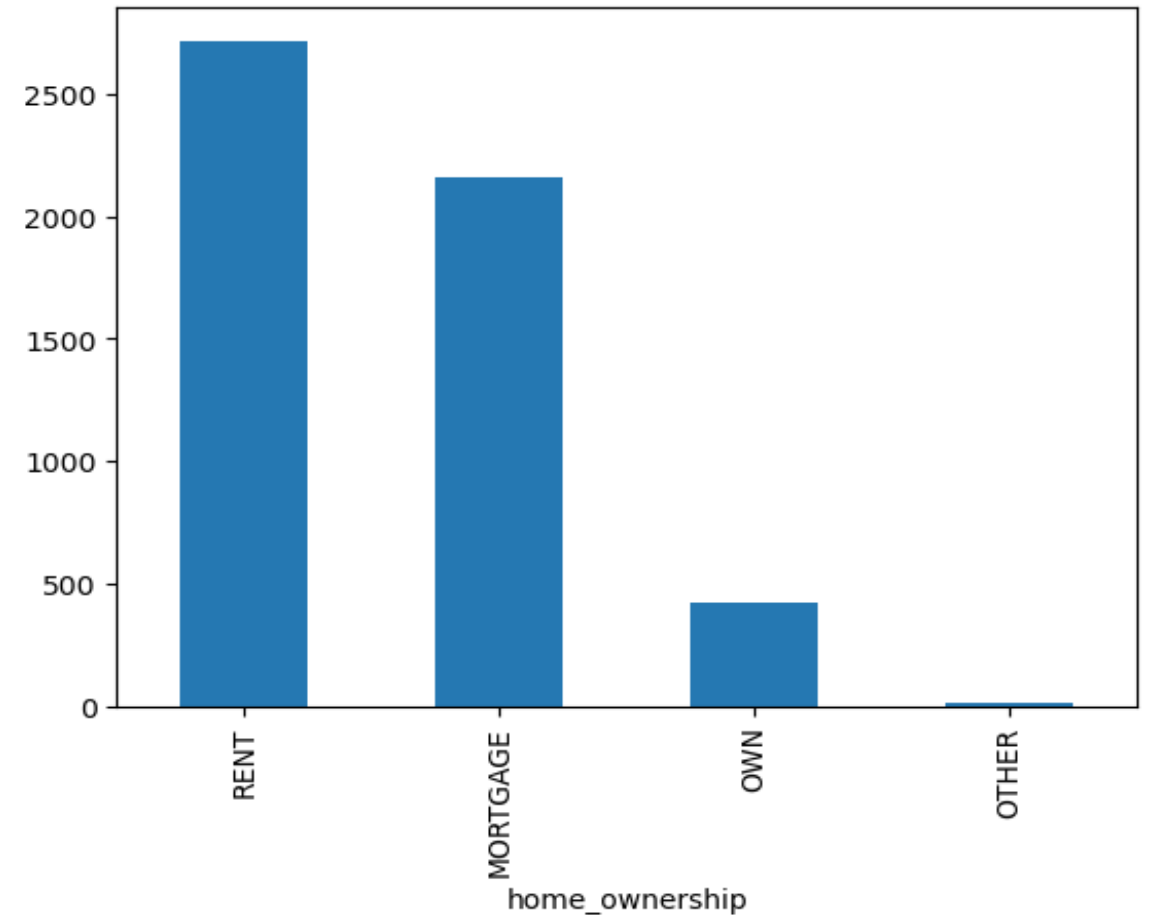
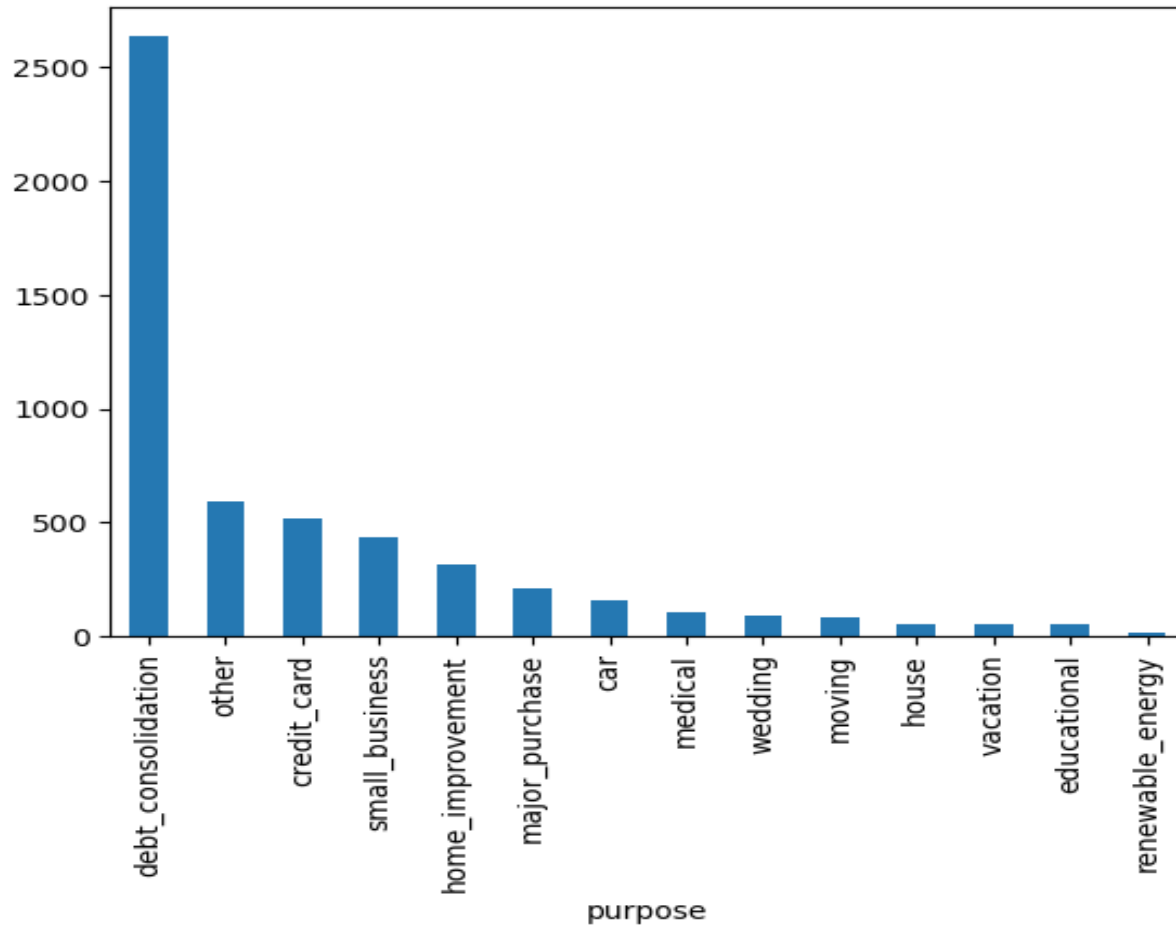
# Univariate Analysis – non ordered parameters

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## Analysis

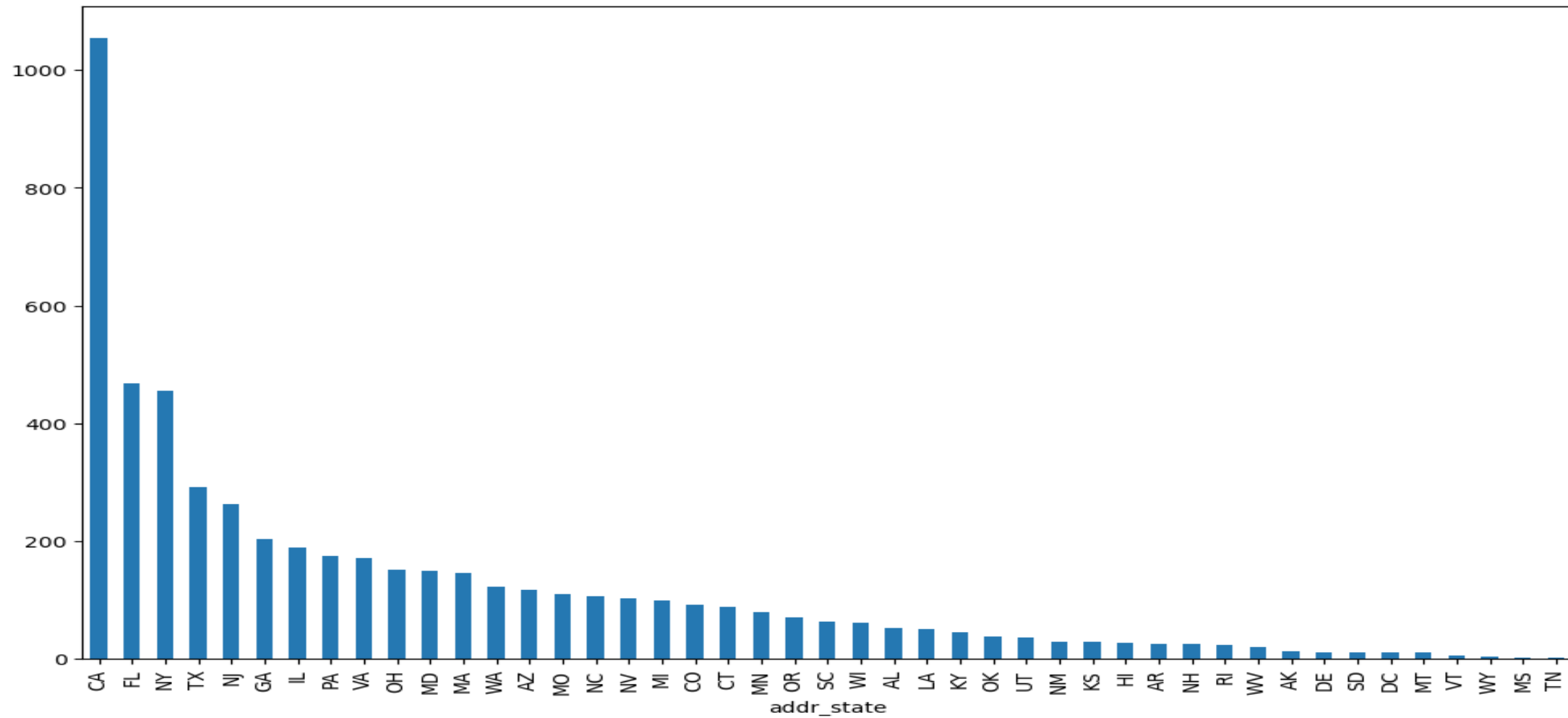
- Debt Consolidation is the biggest contribution of not paid loans.
- Among homeowners, one on Rent are the highest contributors in not paid loans.
- State of CA has the highest number of not paid loans.

# Loan defaulters Vs Purpose/Home-Ownership





# Loan Defaulters vs State



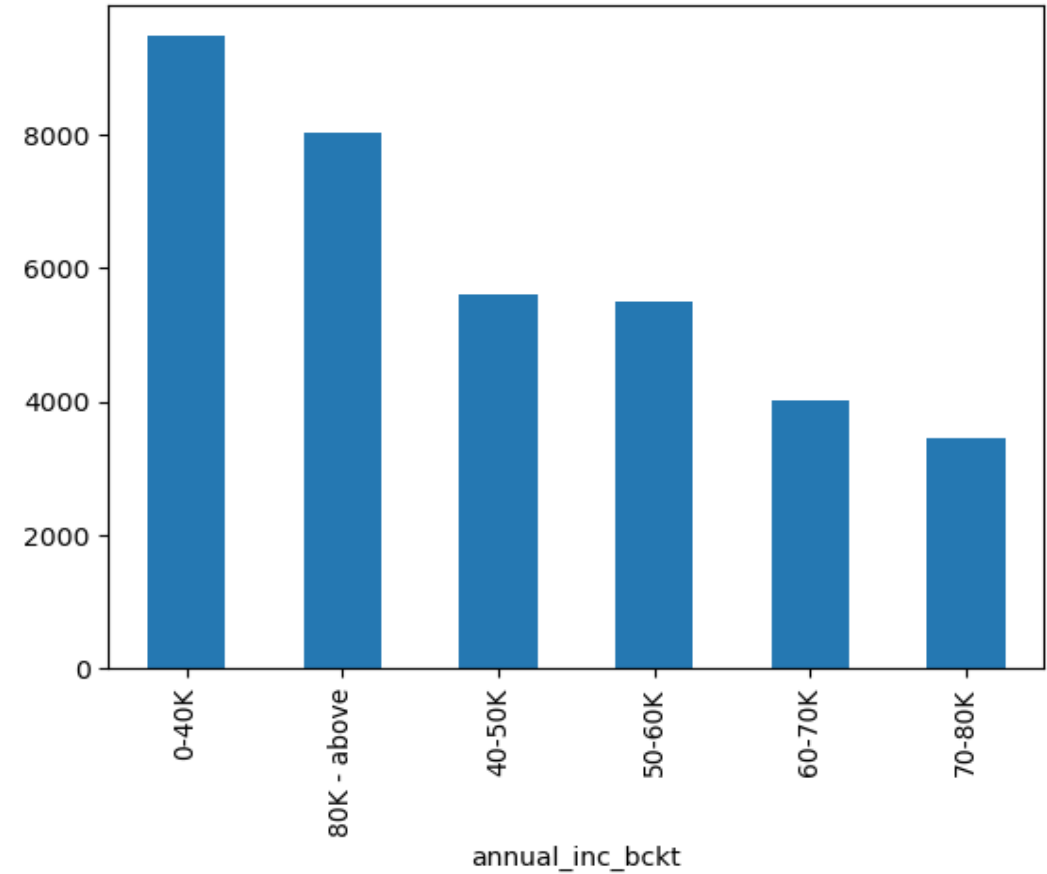
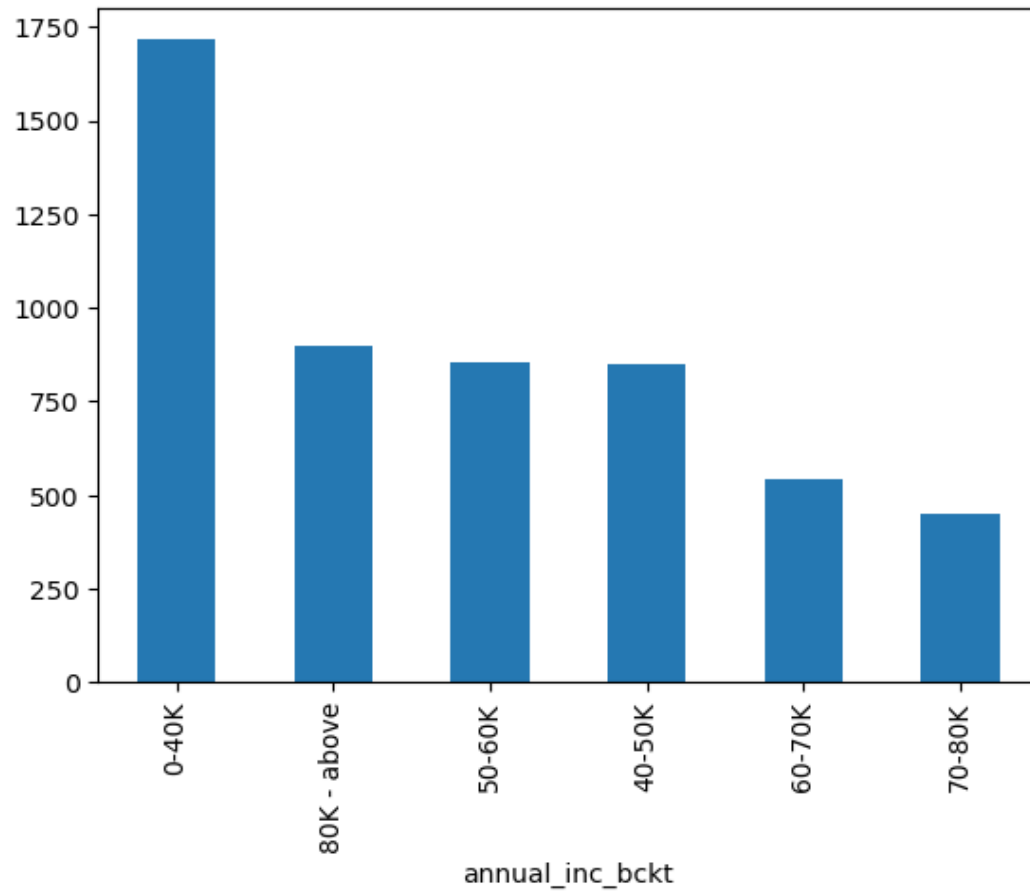
# Univariate Analysis – Bucketed Parameters

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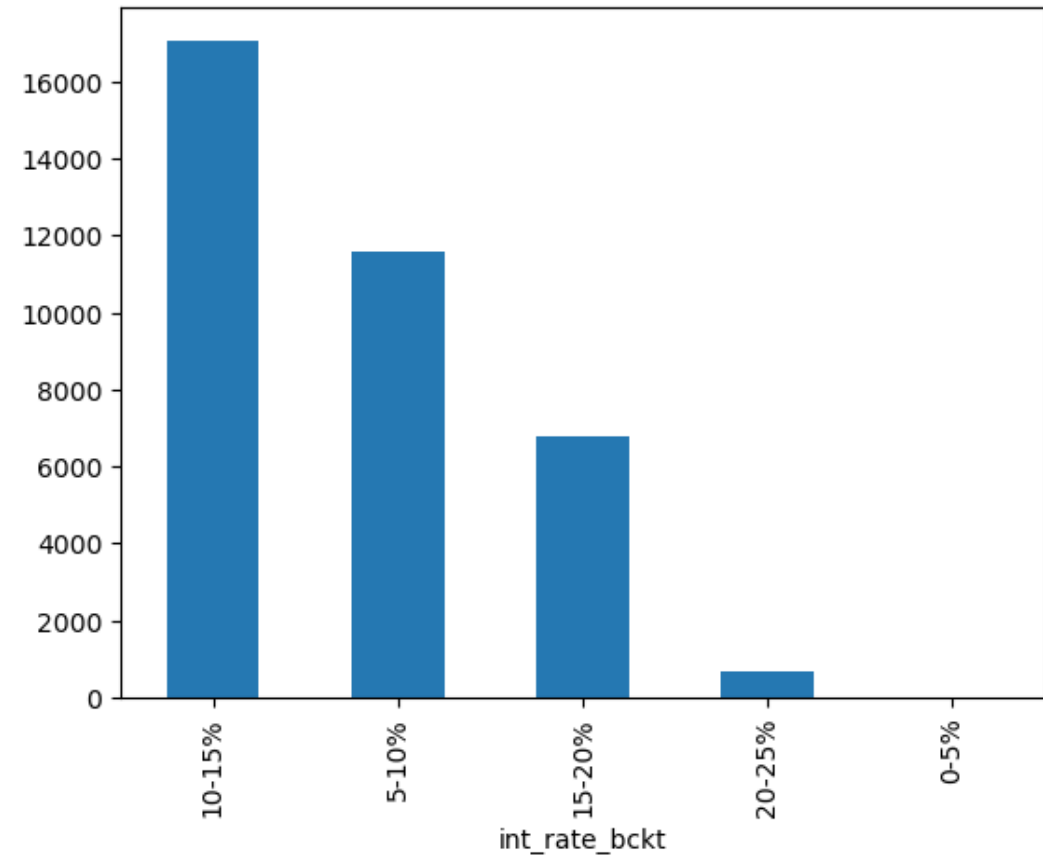
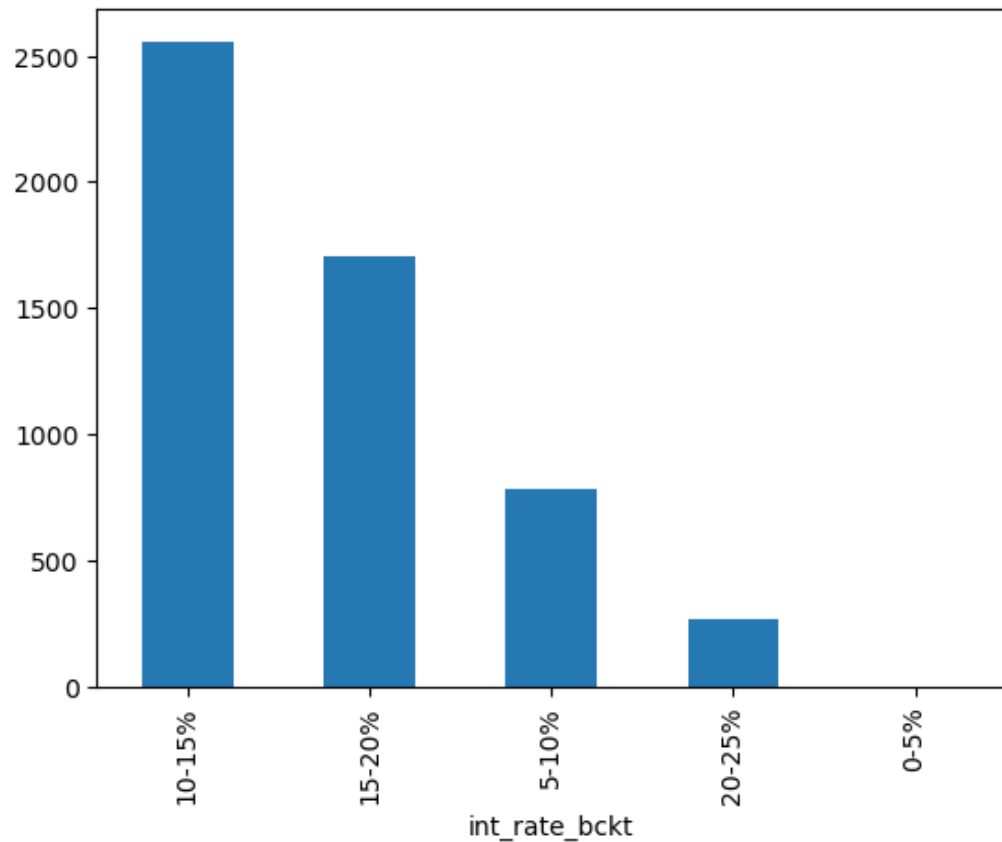
## Analysis

- For both fully paid and charged off loans
  - 0-40K is the highest bucket
  - 10-15% is the most seen interest rate
  - DTI buckets don't see major variations
  - people with 5-10K loan amount is the highest

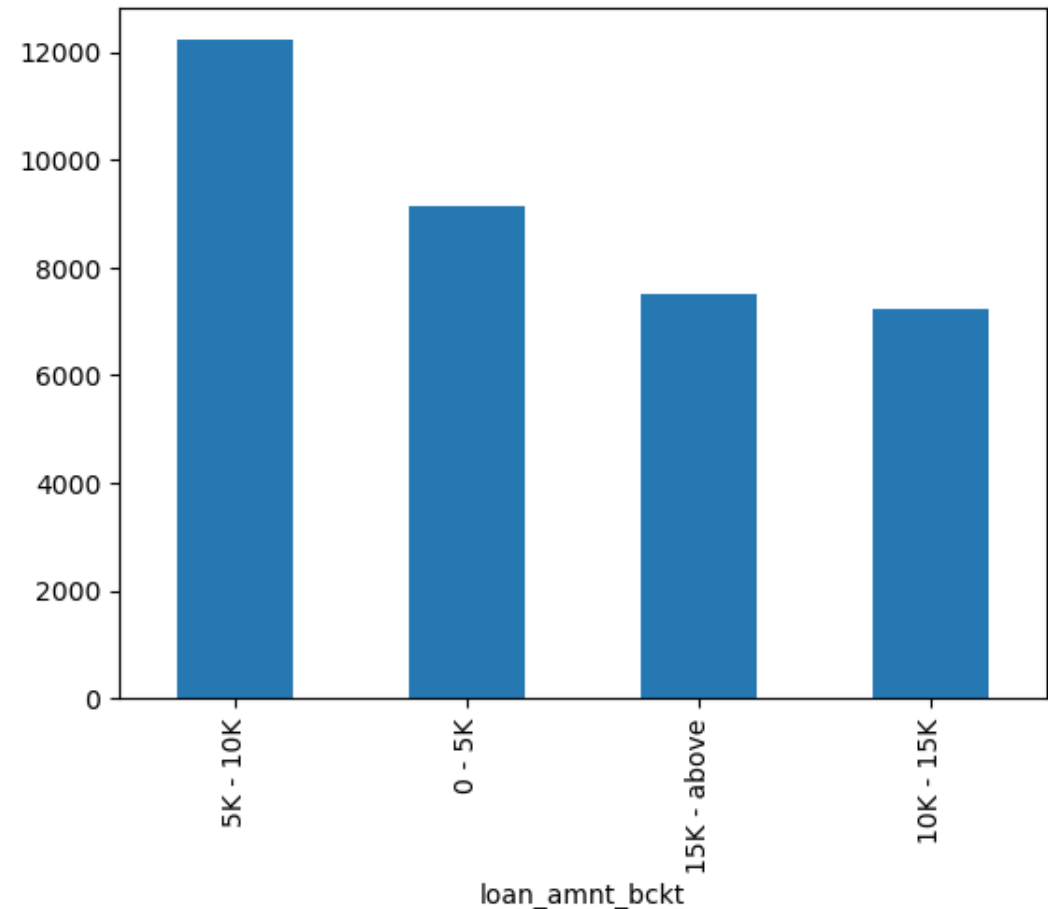
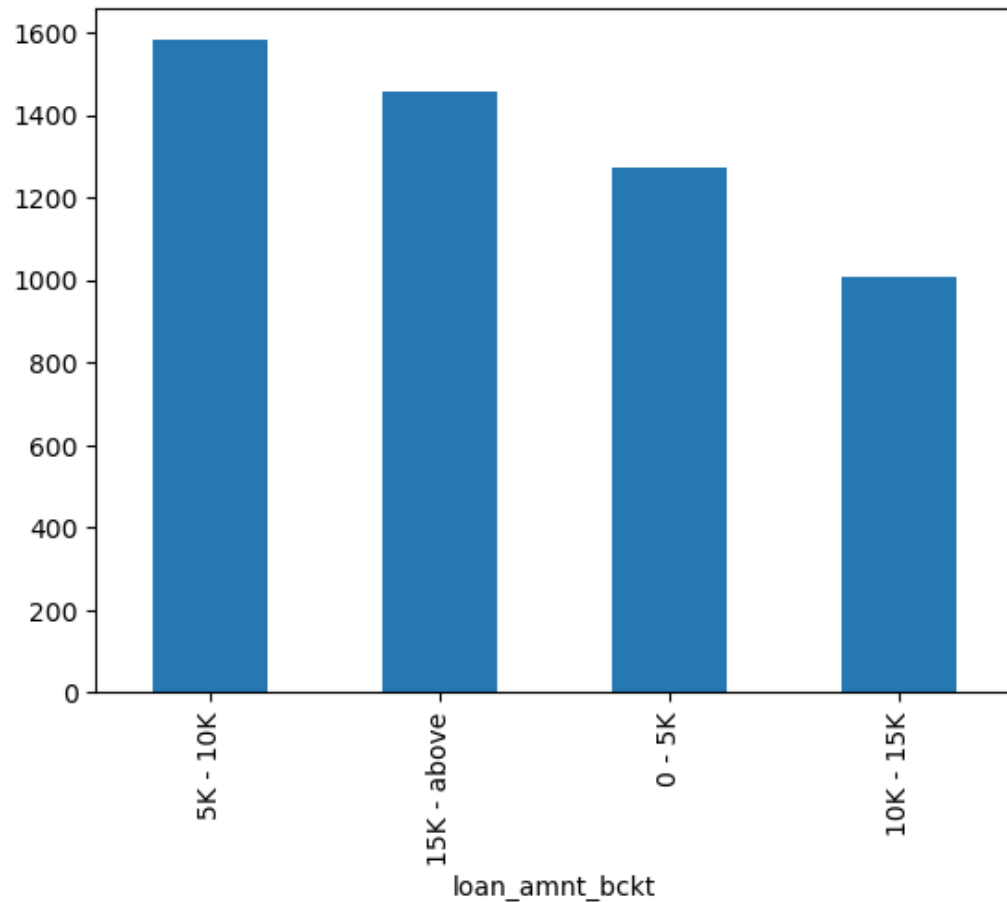
# Annual Inc vs Loan/Defaulters



# Interest Rate vs Loan/Defaulters



# Loan Amount vs Loan/Defaulters



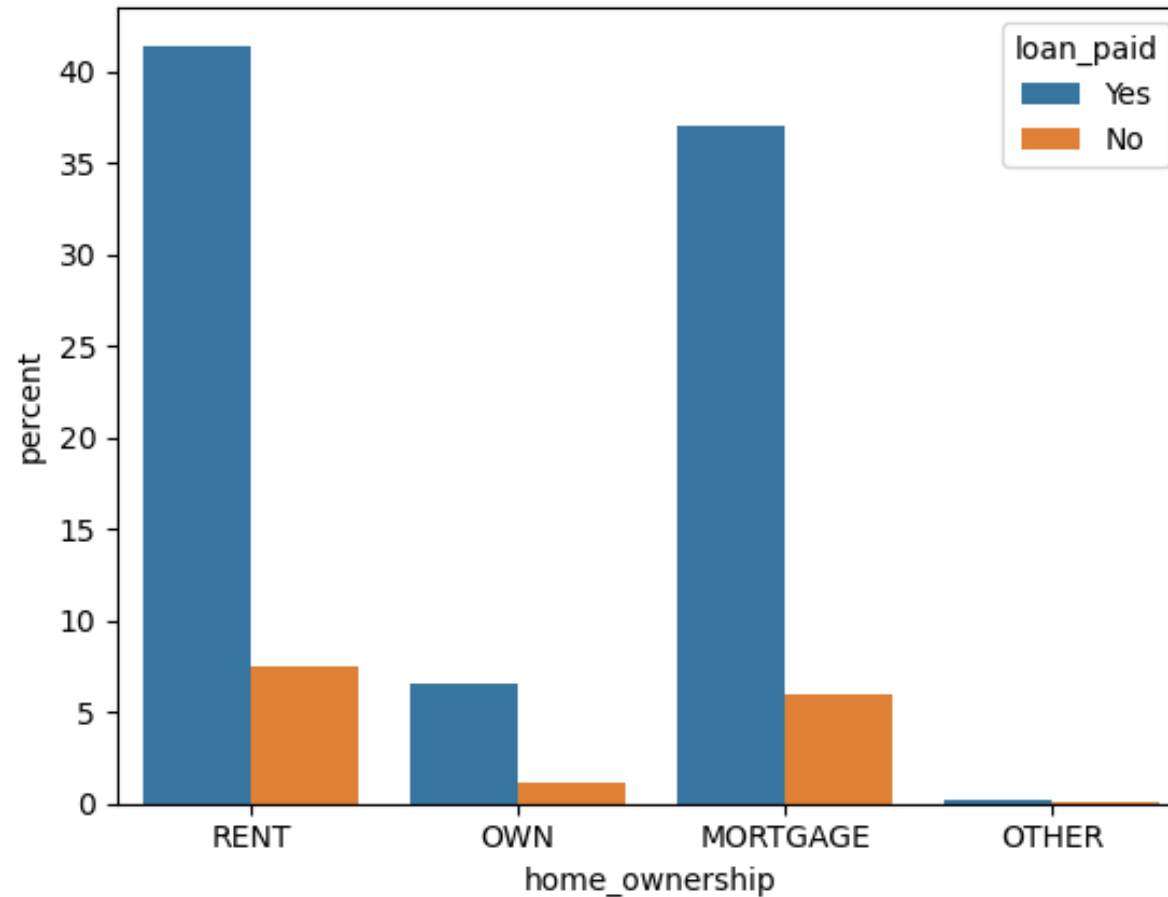
# Bivariate Analysis

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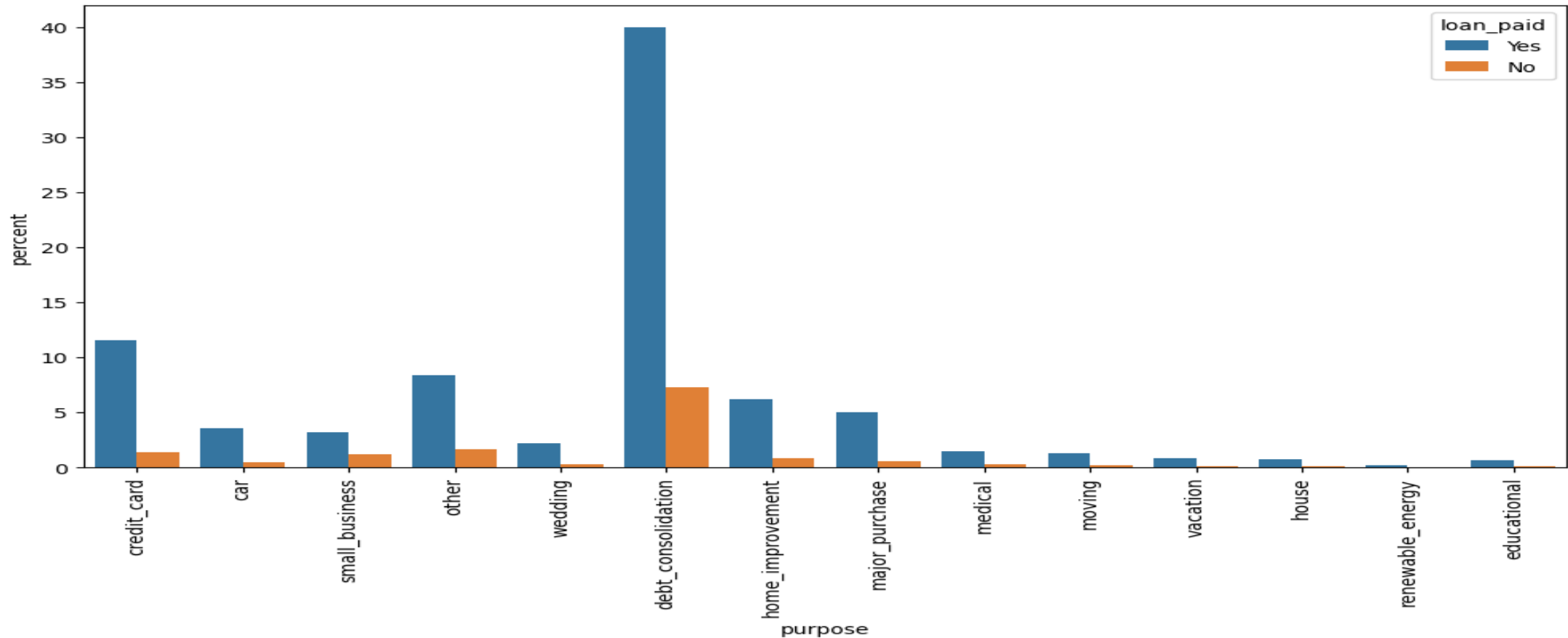
## Analysis<sup>1</sup>

- People with Rental home ownership are on the higher side not paying the loan off.
- Debt consolidation is the highest purpose of loans and also for not paying off loans.
- Short term loans have higher chances of not doing loan repayment.
- Quarter 4 has the highest percentage of loan defaulters, mostly during the holiday season.
- Employee of experience > 10+ years are most likely to default.
- Grade B, sub-grade B3, B4, B5 are the highest contributors of loan defaulters.
- Annual income group 0-40K has the highest defaulting percentage.

# Home Ownership Vs Loan Status



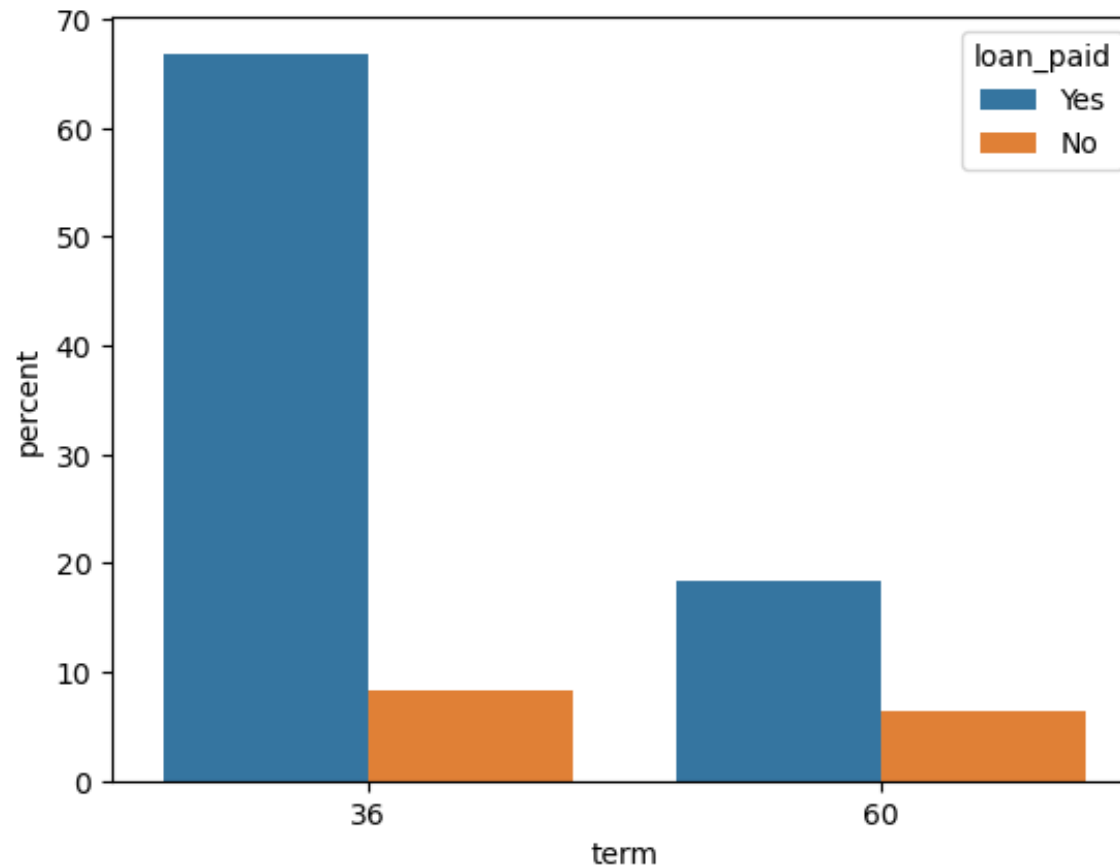
# Purpose Vs Loan Status



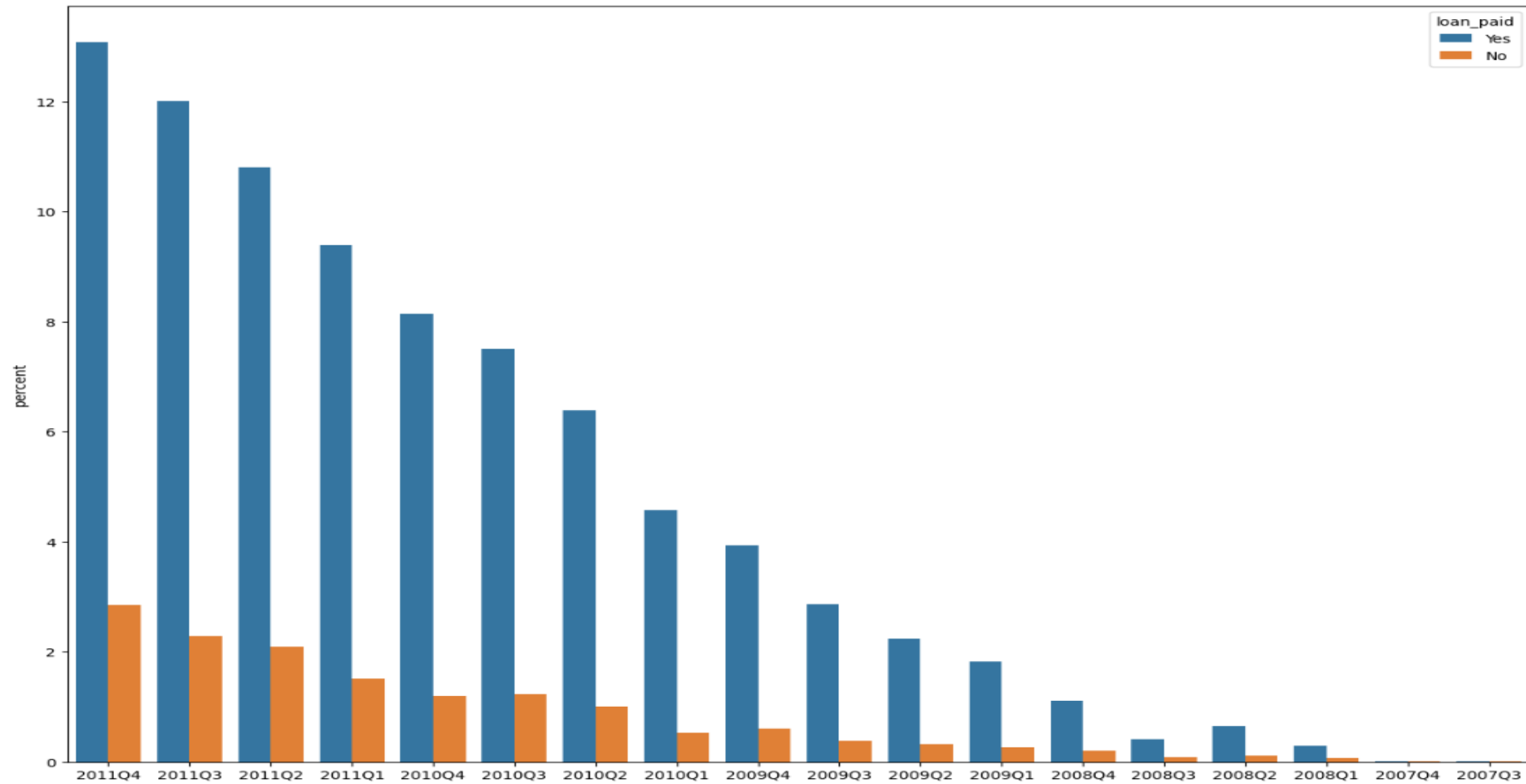


# Loan Term Vs Loan Status

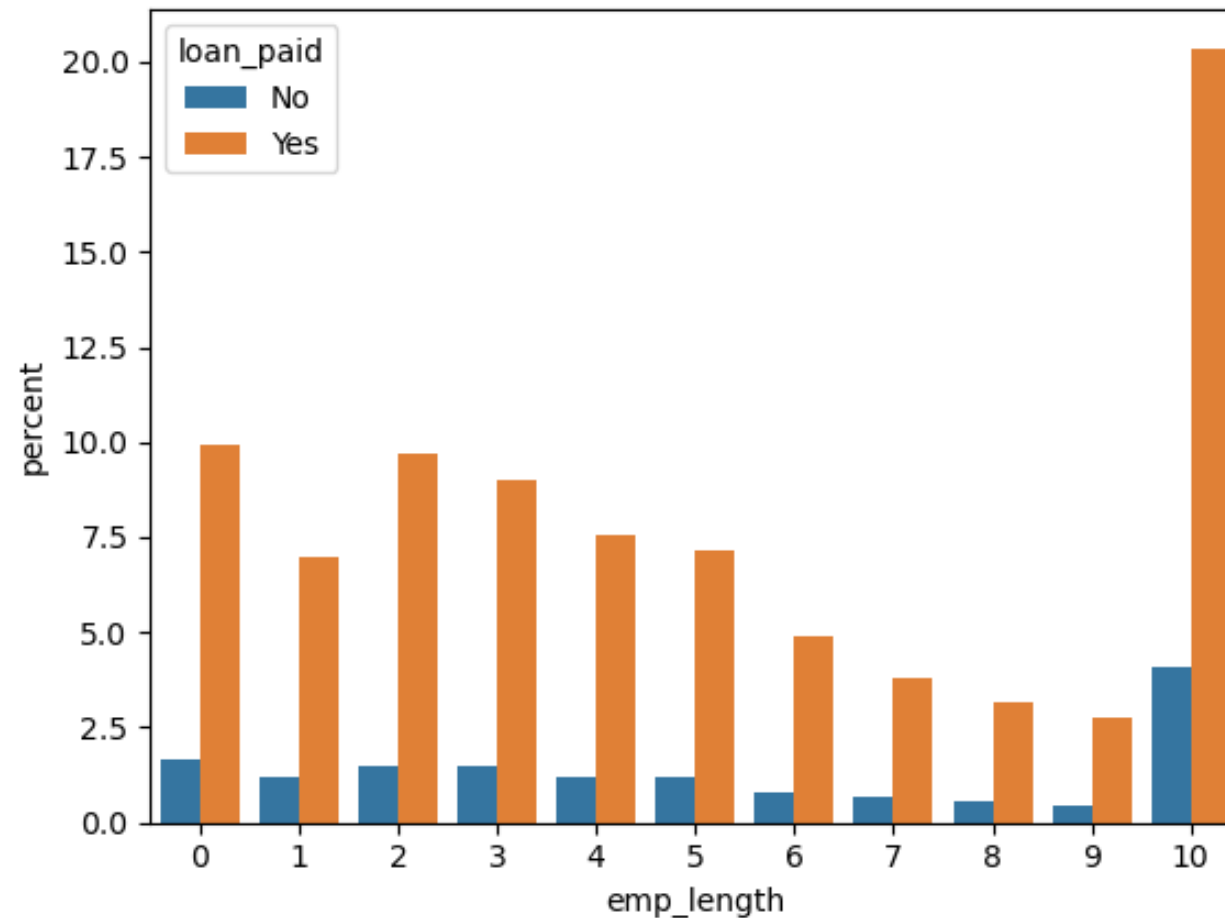
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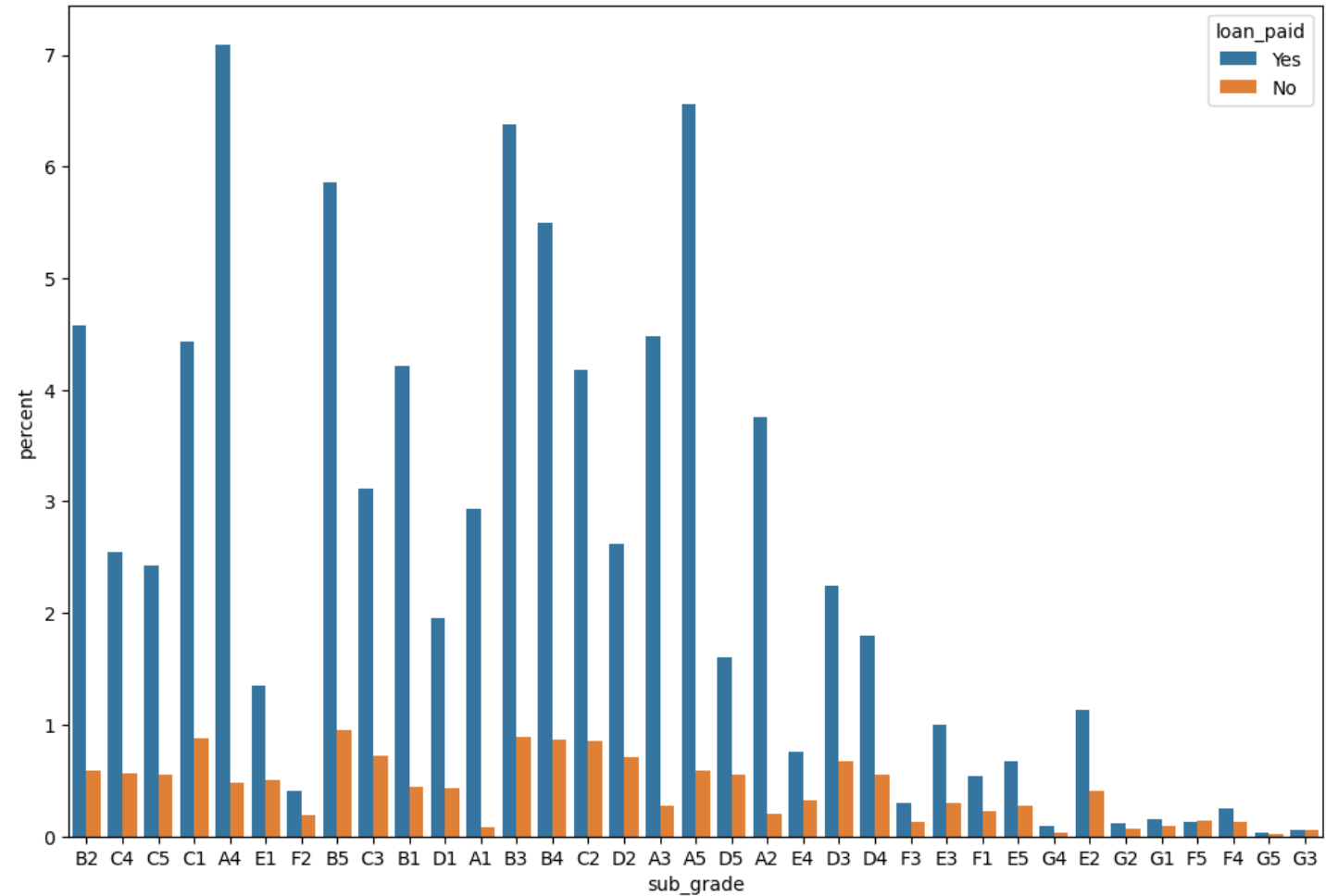
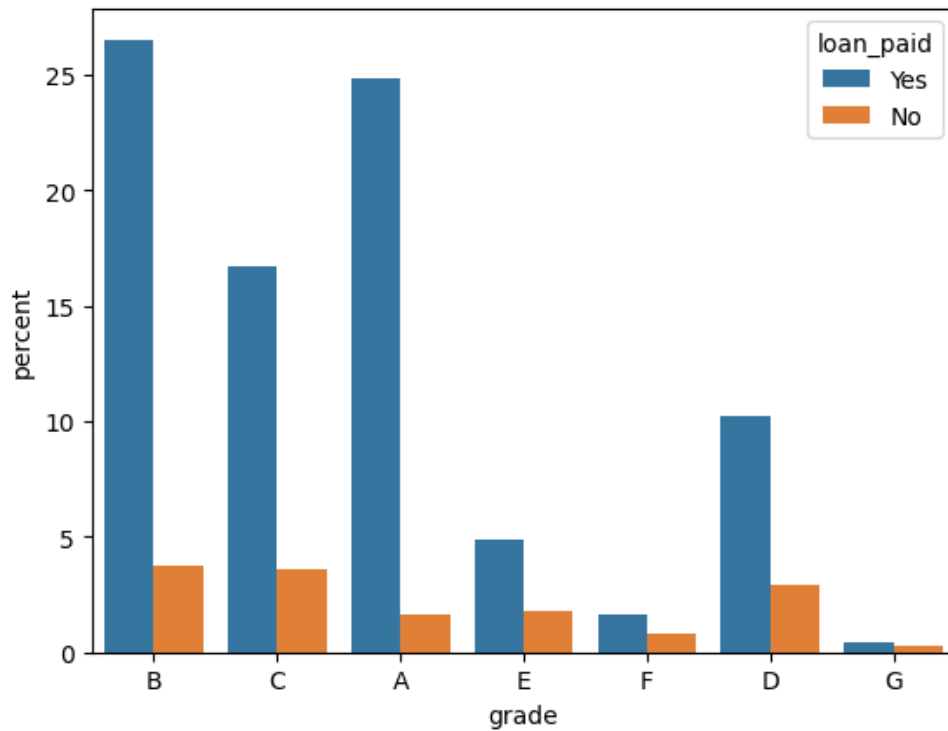
# Quarter Vs Loan Status



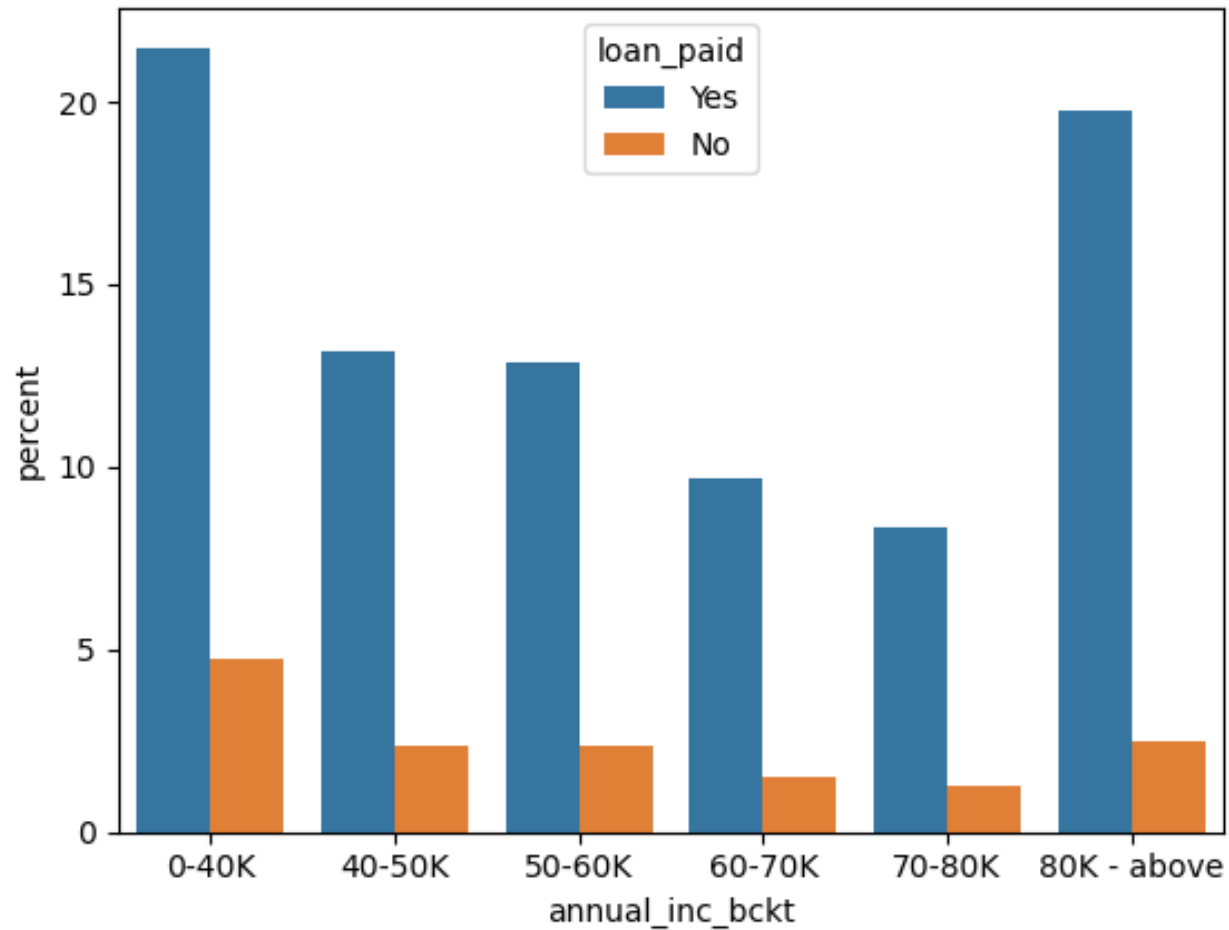
# Emp Experience Vs Loan Status



# Grade/Sub Grade Vs Loan Status



# Annual Income Vs Loan Status



# Correlation Analysis

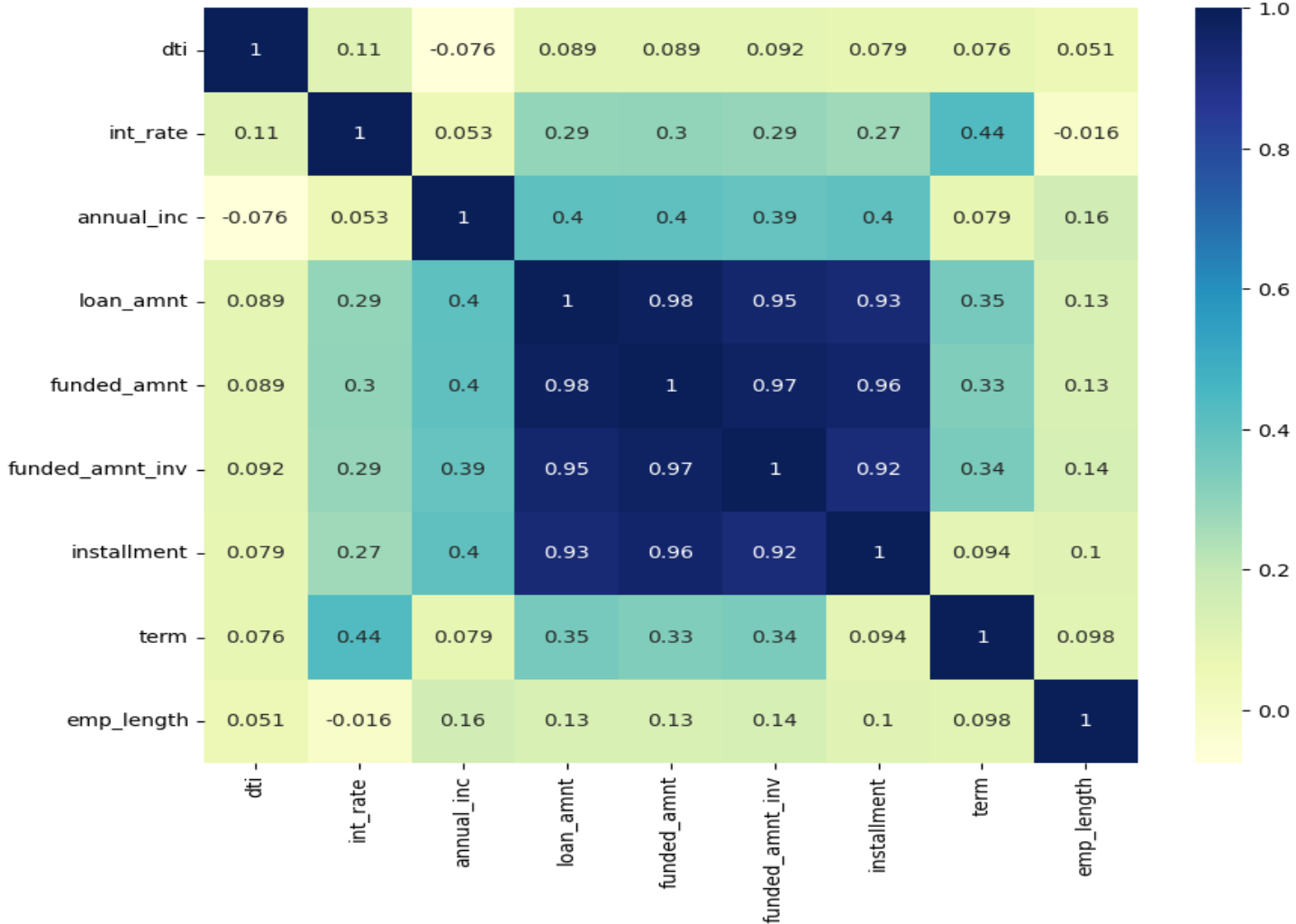


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## Analysis

- Strong co-relation between Loan Amount and Funded Amount.
- DTI has weak co-relation with all other parameters.

# Heat Map



**Thank you**

