

# Loan Case Study

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## Background – Loan Case Study

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### Background

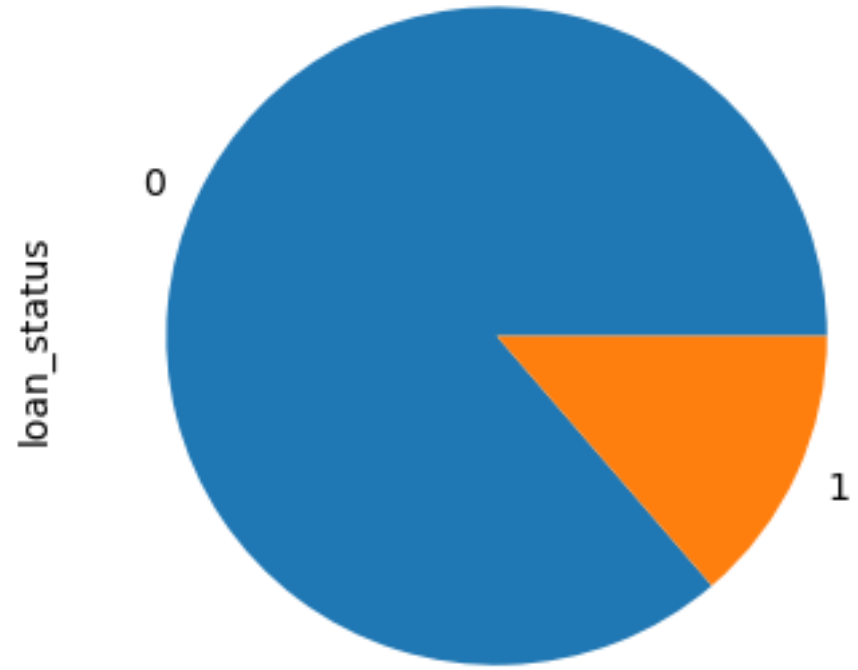
Lending club is the largest peer-to-peer marketplace connecting borrowers with lenders. Borrowers apply through an online platform where they are assigned an internal score. Lenders decide 1) whether to lend and 2) the terms of loan such as interest rate, monthly instalment, tenure etc.

Some popular products are credit card loans, debt consolidation loans, house loans, car loans etc.

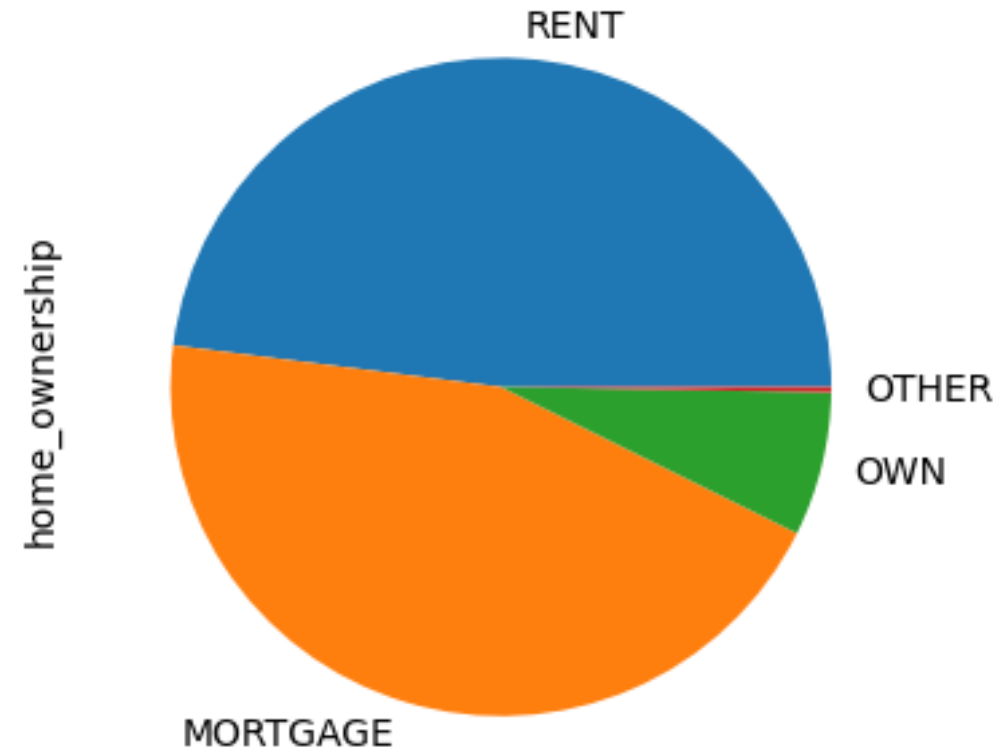
### Business Objective

To identify variables which are strong indicators of default and potentially use the insights in approval / rejection decision making.

We can see that around 14% of Total the Customers are in the Defaulters category



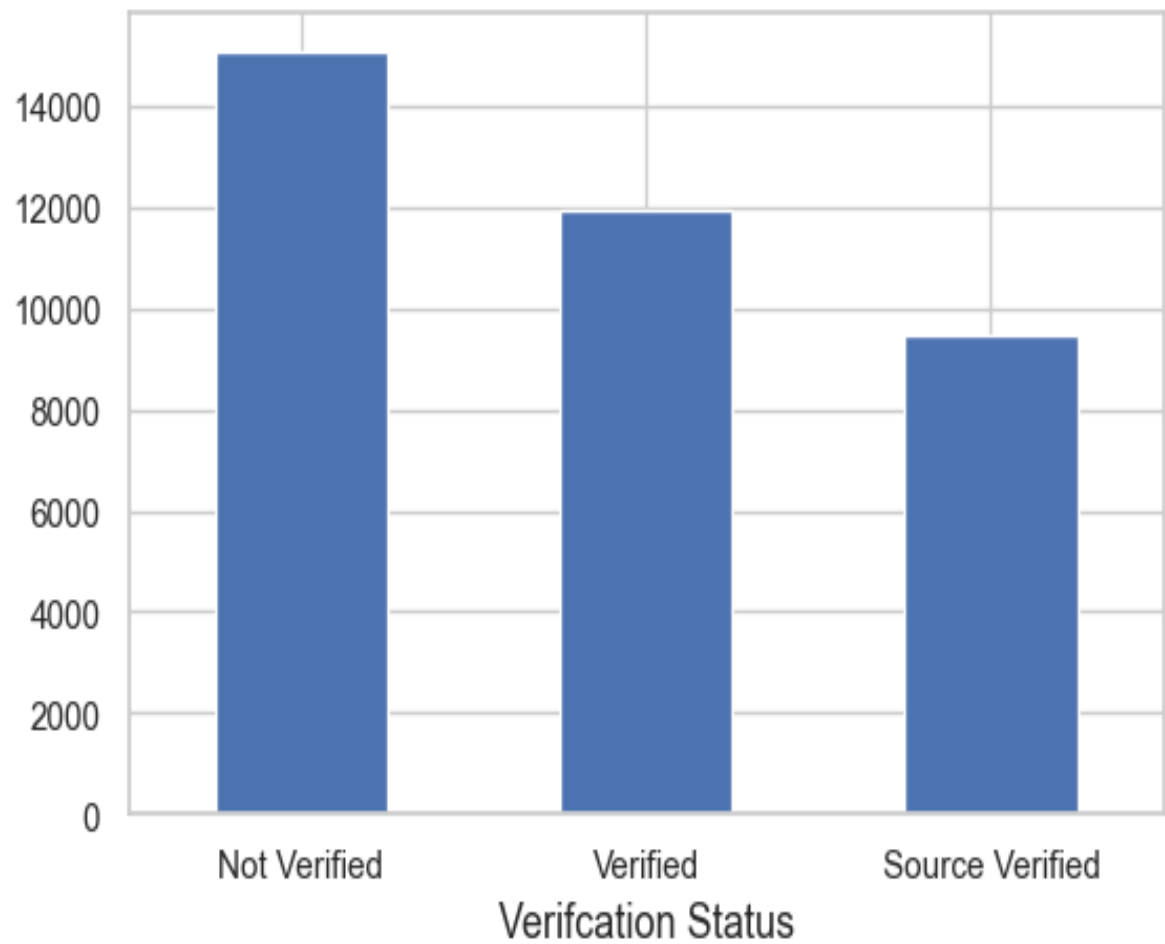
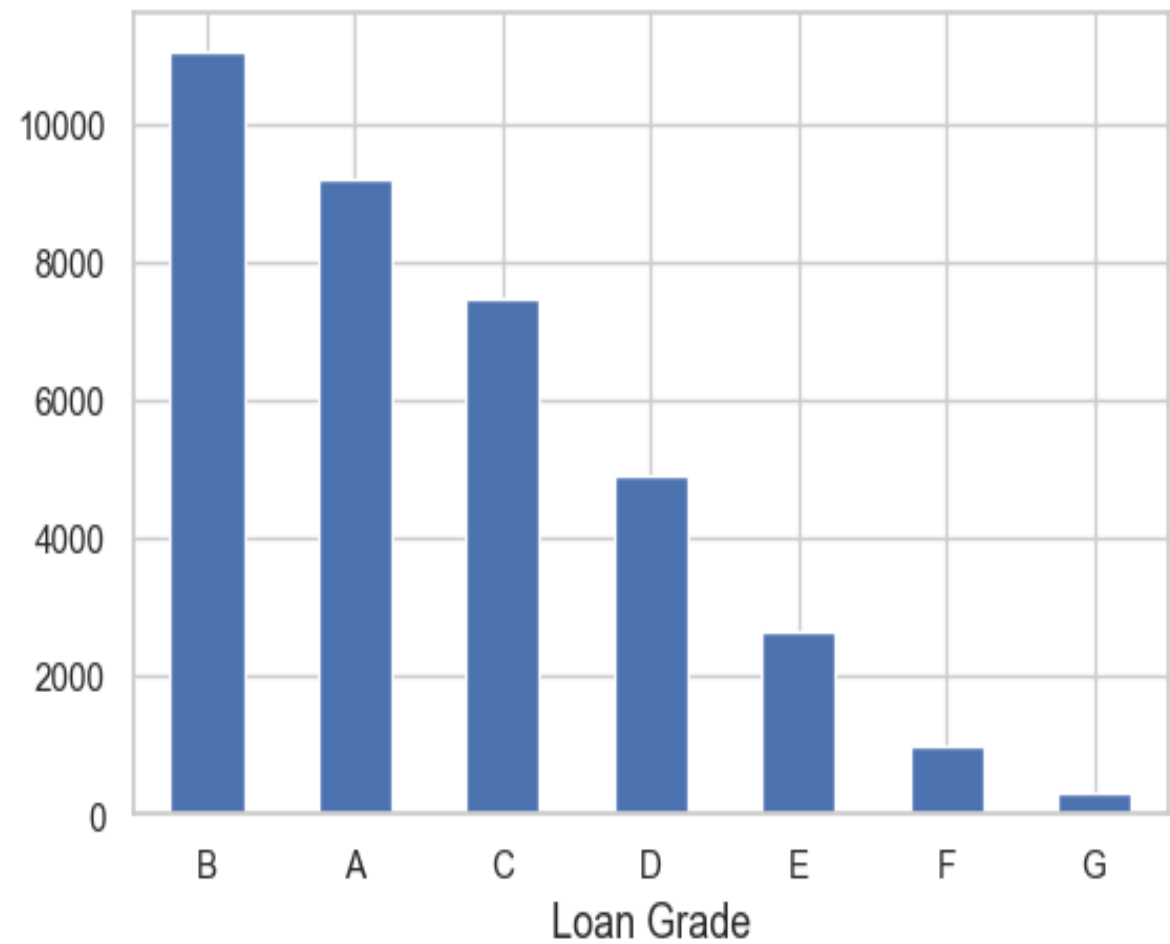
Loan Status



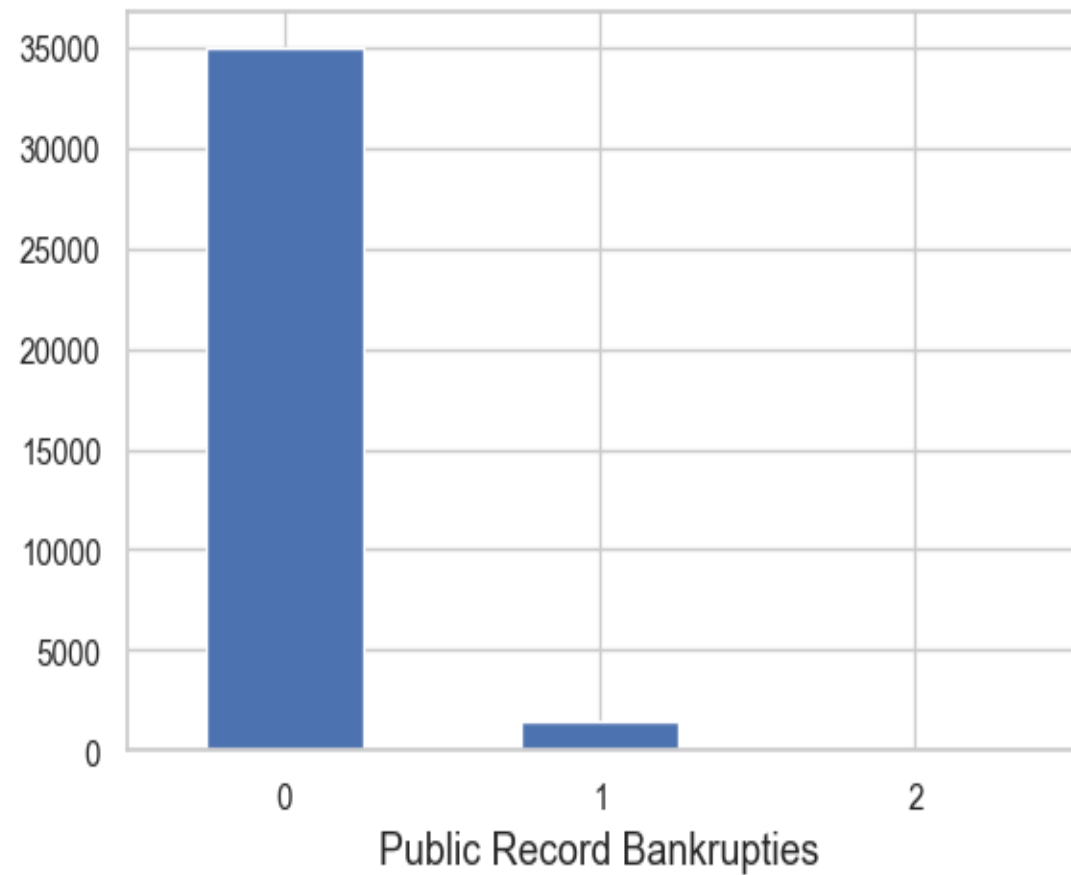
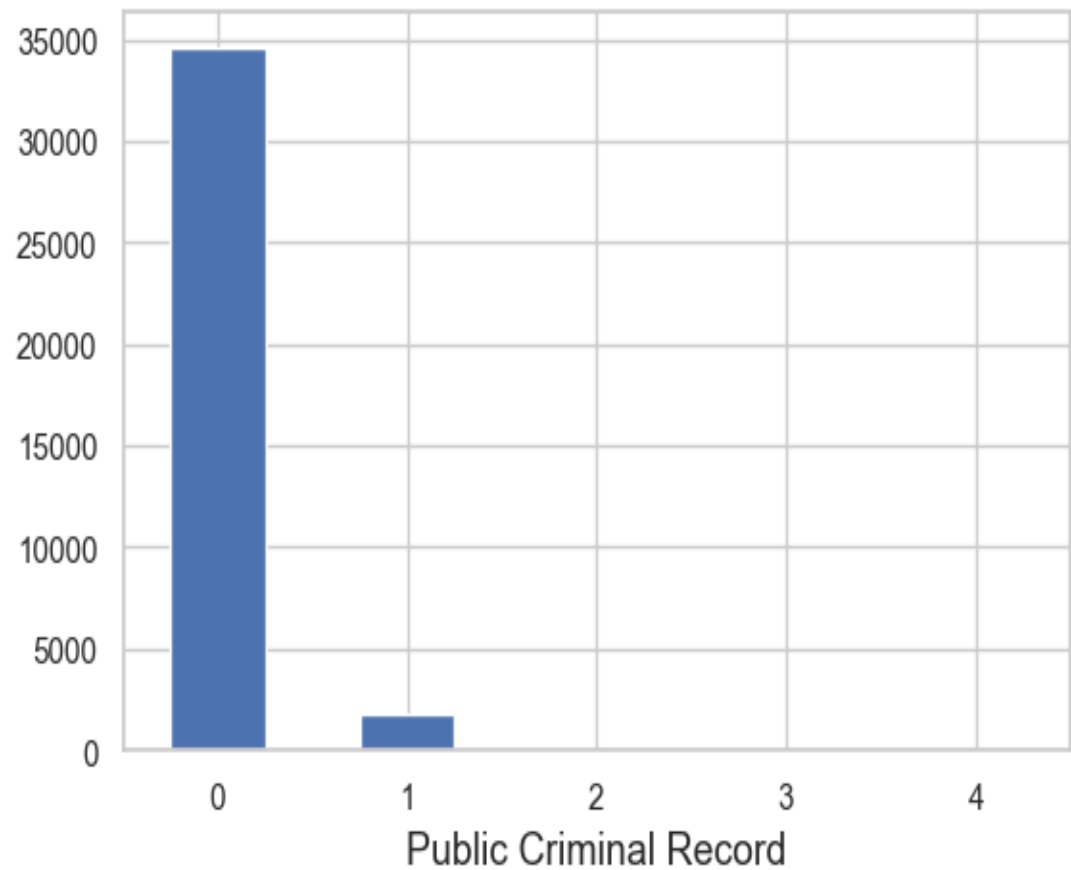
Home Ownership

From All users Majority User's Home Ownership is on Rent OR on Mortgage(90%)

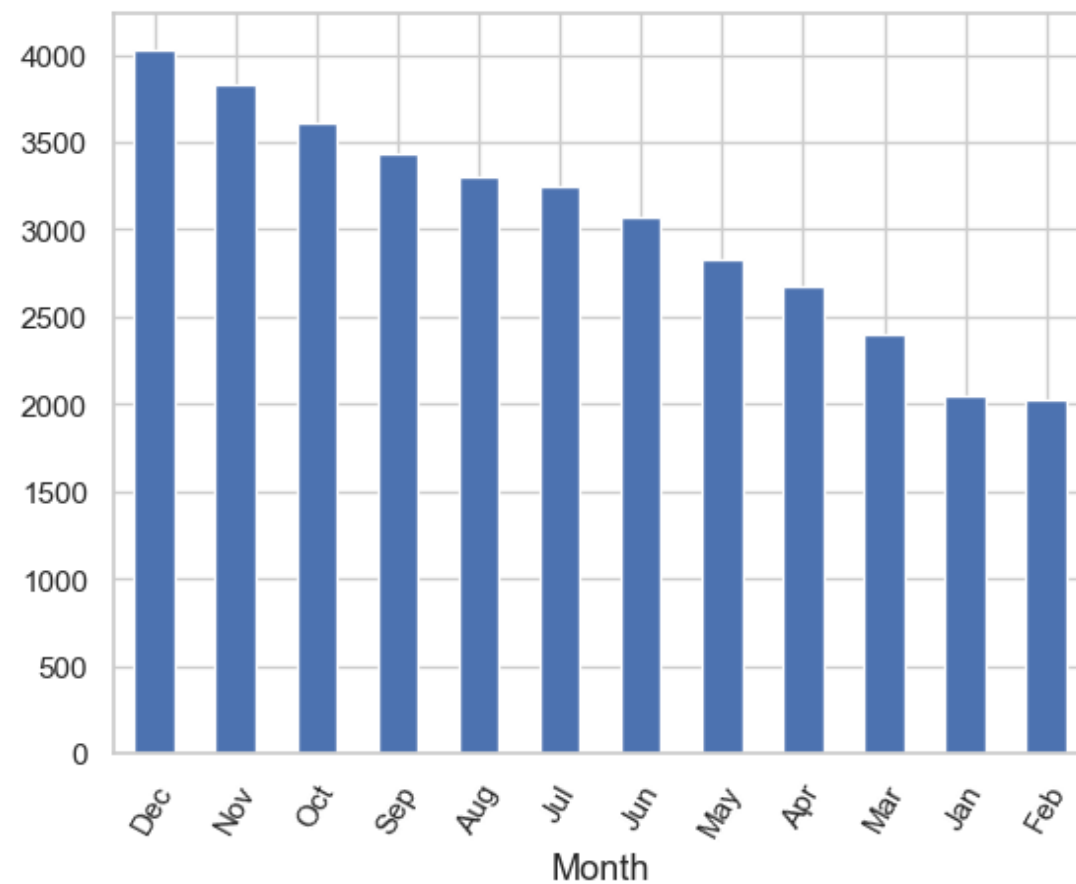
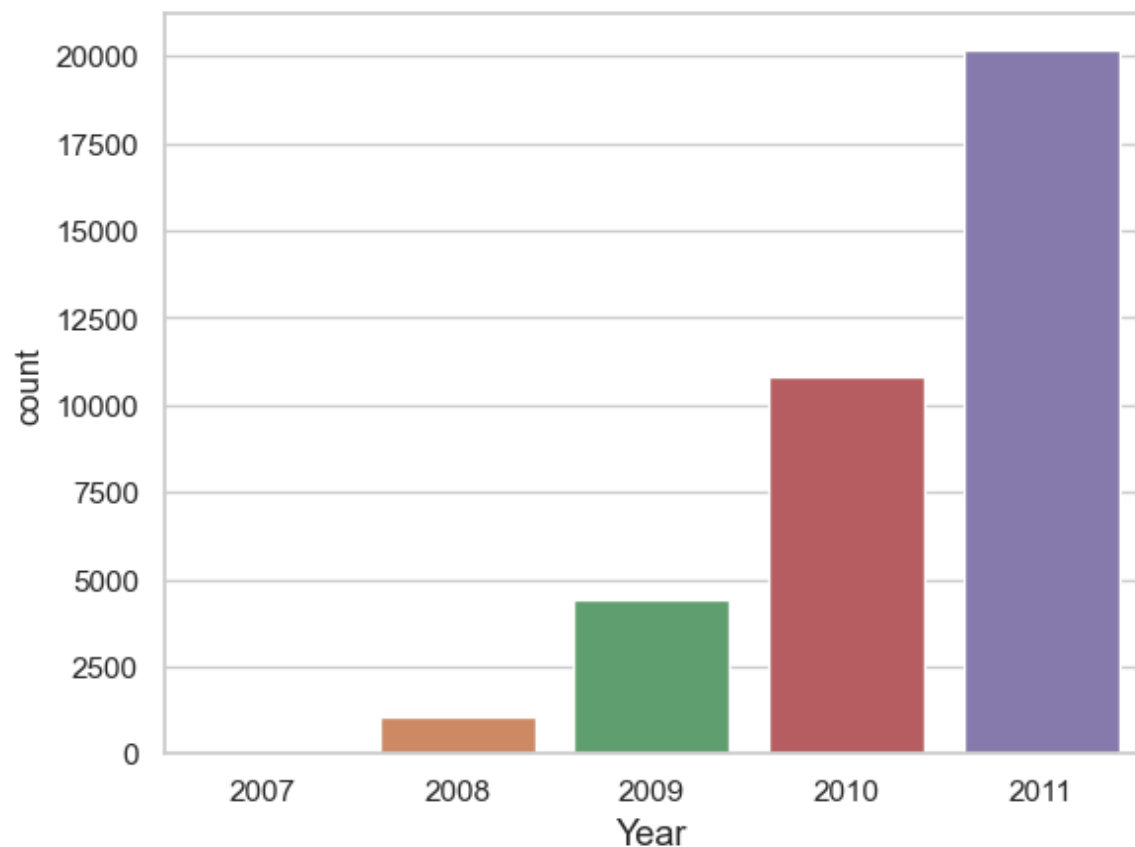
**From Bar Chart We can conclude that Most of the customer goes for the A, B or C loan grade & Majority of the customers status is not verified**



**As We can see 5% of the Customers has At least 1 Public Record and 4% of the Customer are been recorded with bankruptcy at least single time**

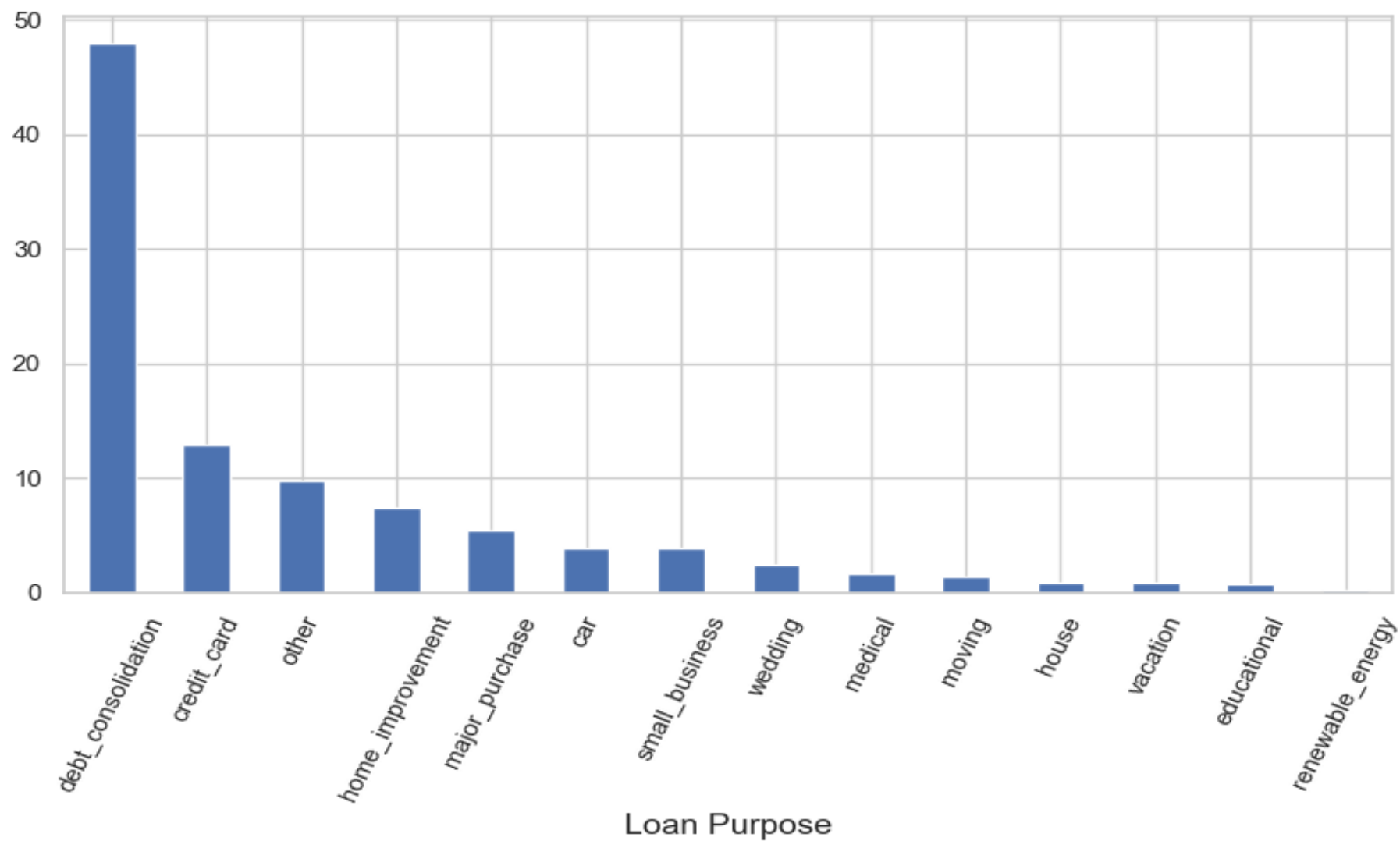


**In 2011 alone, 55% of the Total Loans has been issue to the Customers**

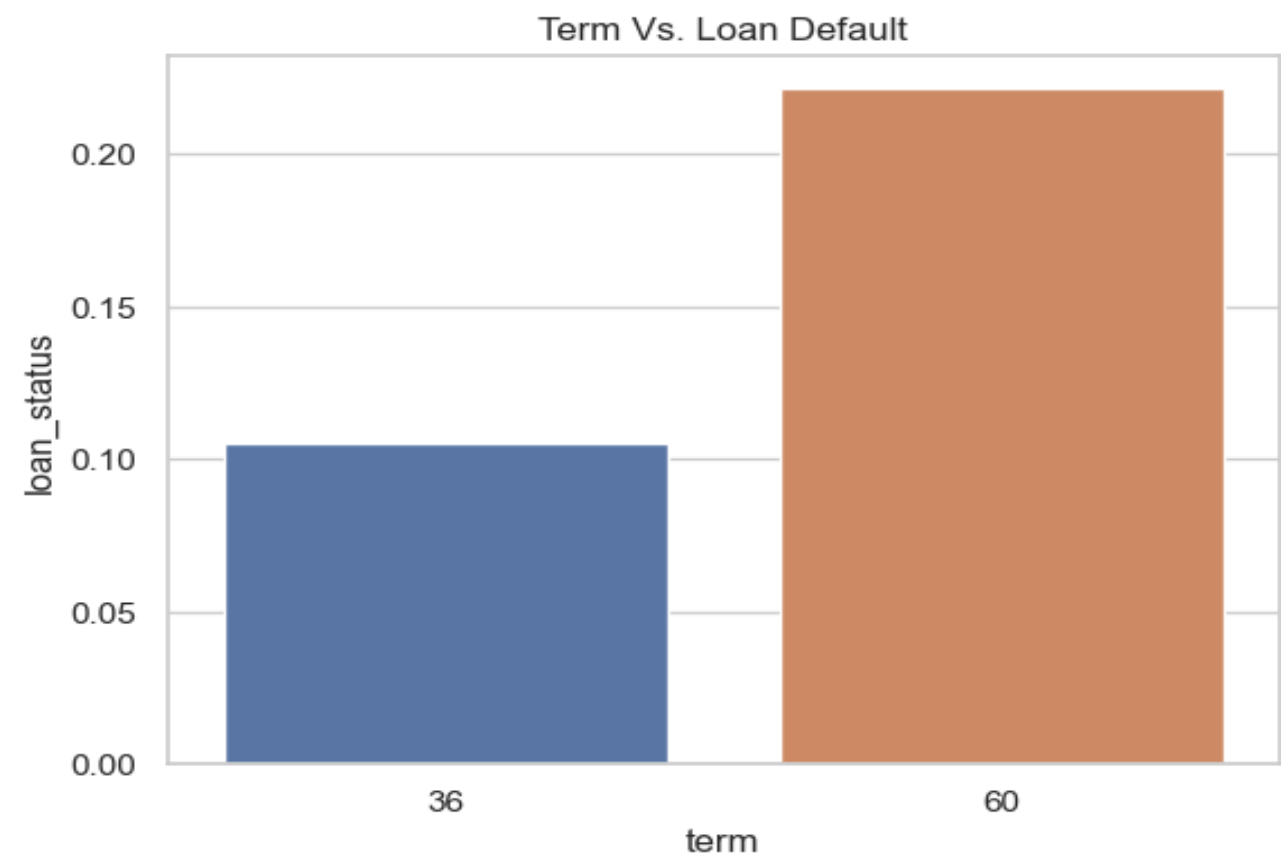


**As the Month passes Loan issue count increases , As a result December month has the Highest Loan issue coun**

**Debt Consolidation is highest reason among the other reason at 48% followed by Credit card,Home Improvement at 13% and 10% resepectively**

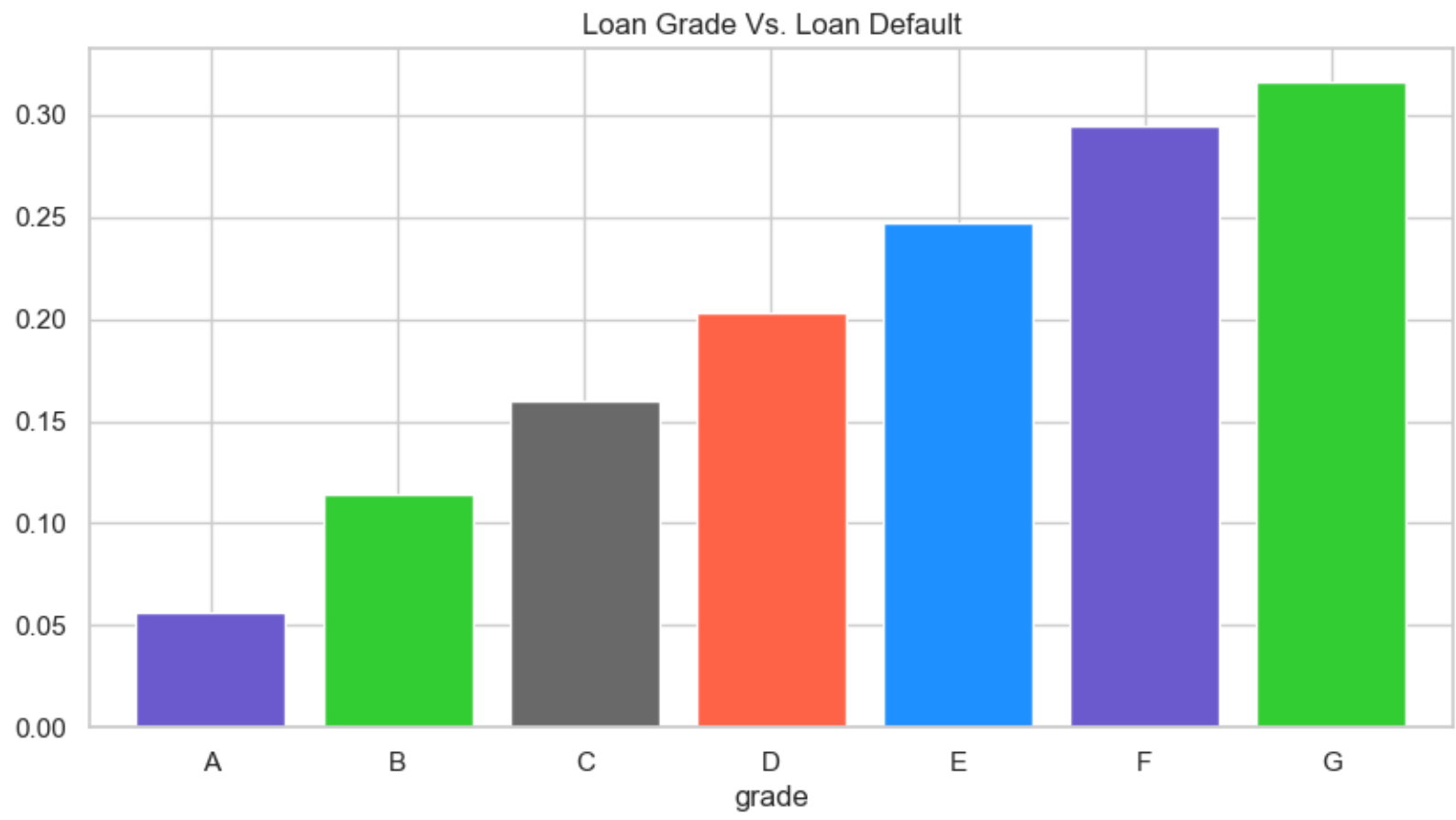


**On an Average 22% of the Customers who have taken as 60 months Term are analyzed as Defaulters**

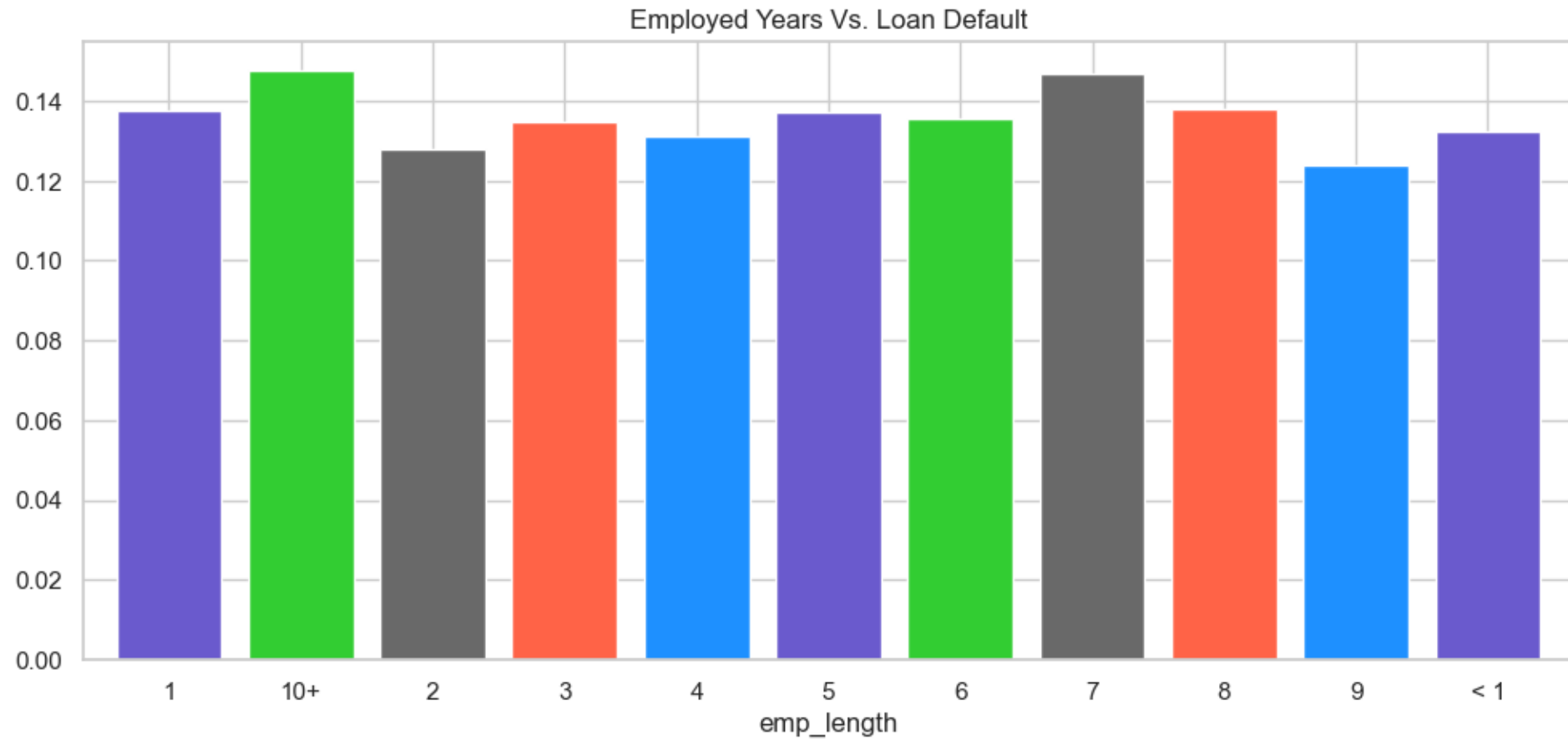




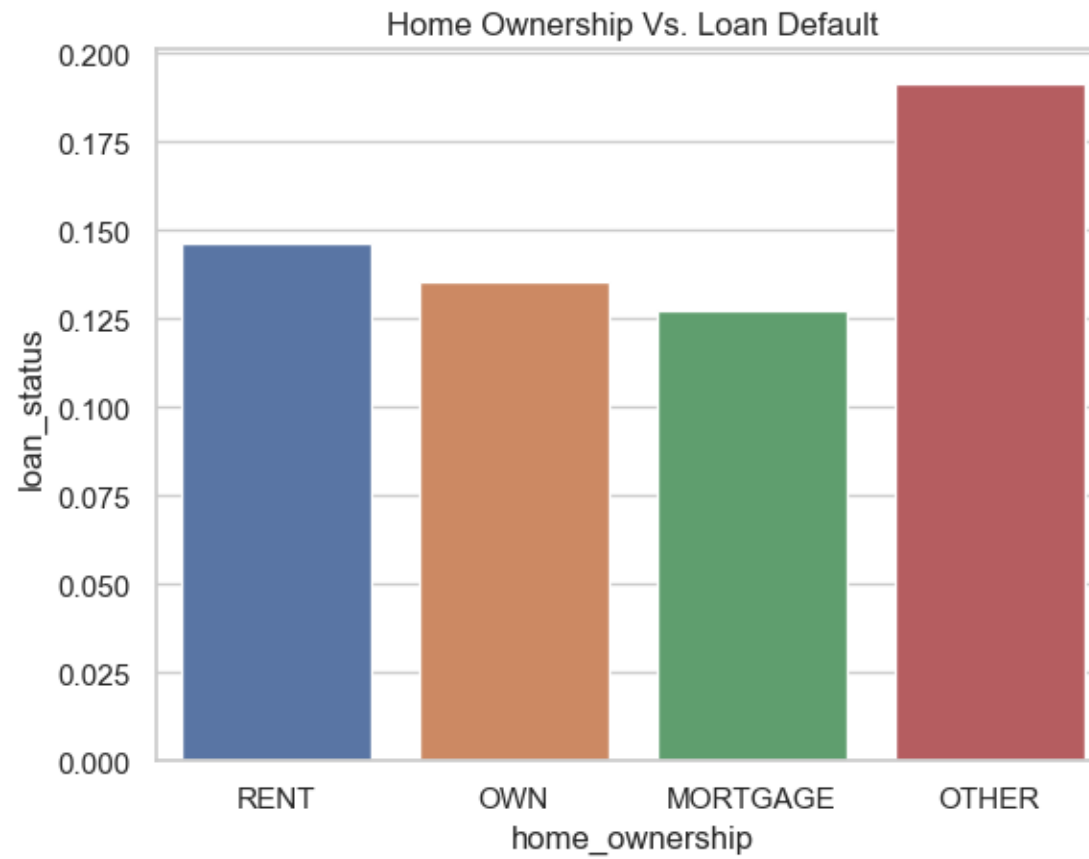
**The highest defaulters lies in G grade loan at around 32% followed by F and E at 30% and 25% respectively**



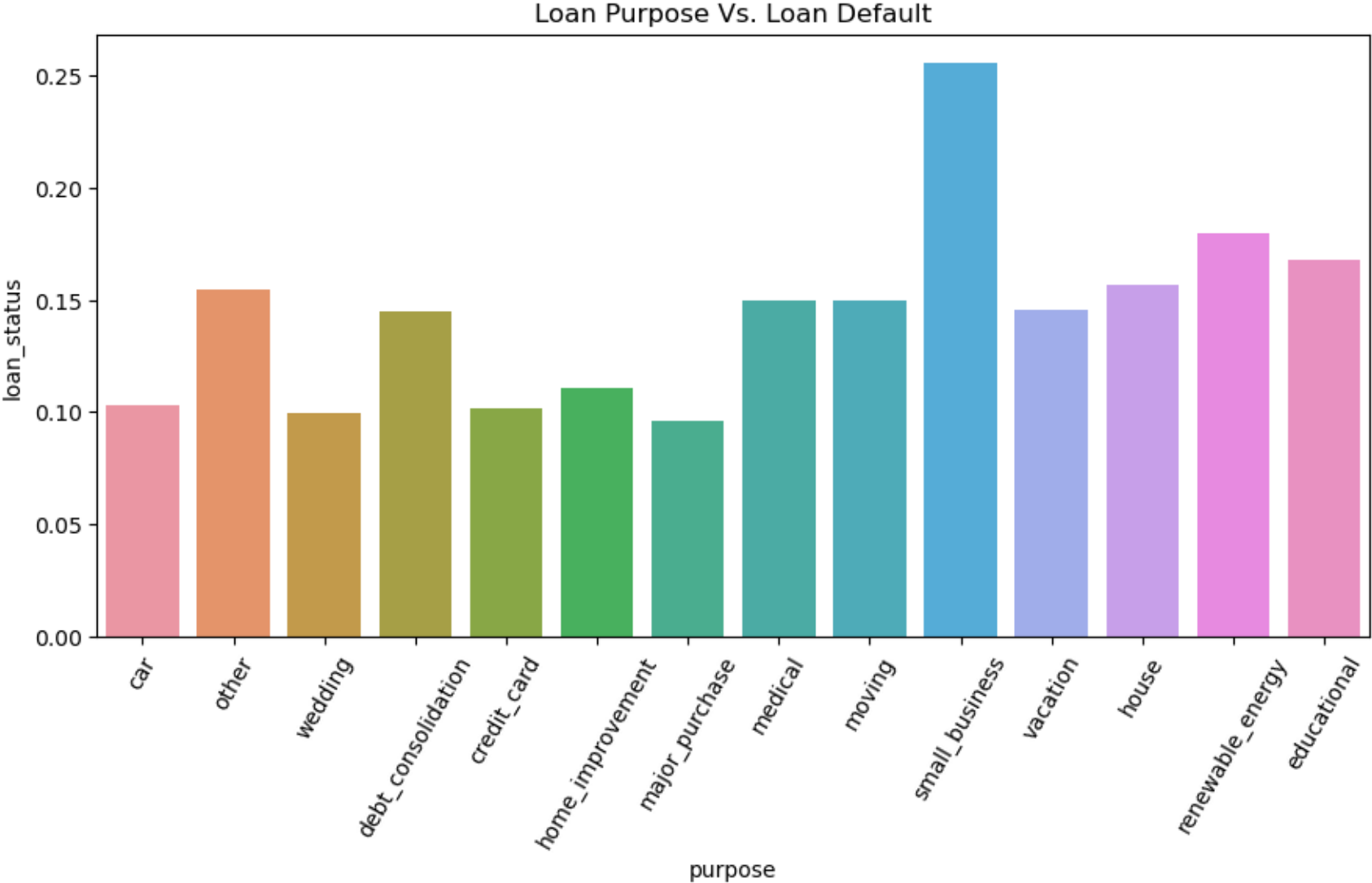
## Customers with Employed years 7 and 10+ has more default rate than others



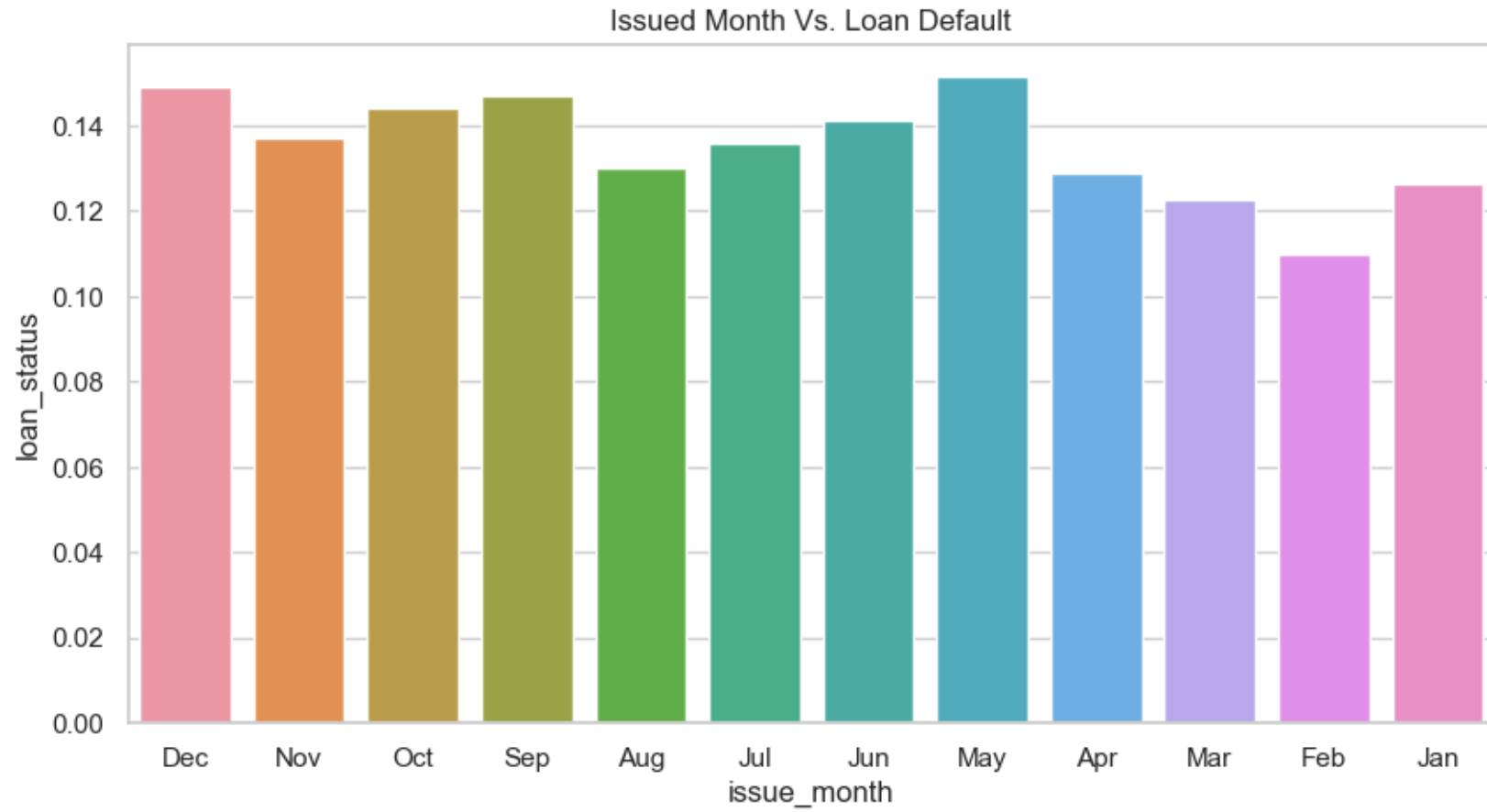
**Other type of Home Owners default rate is at 19%**



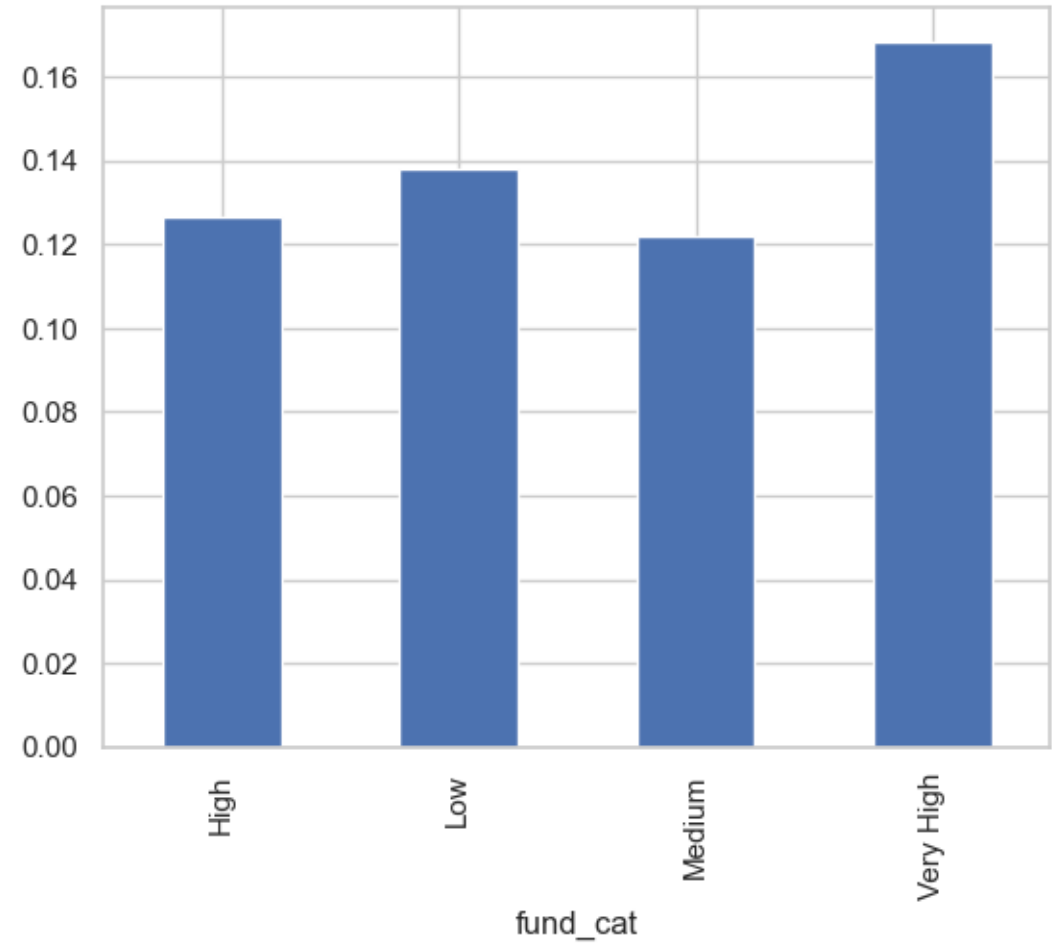
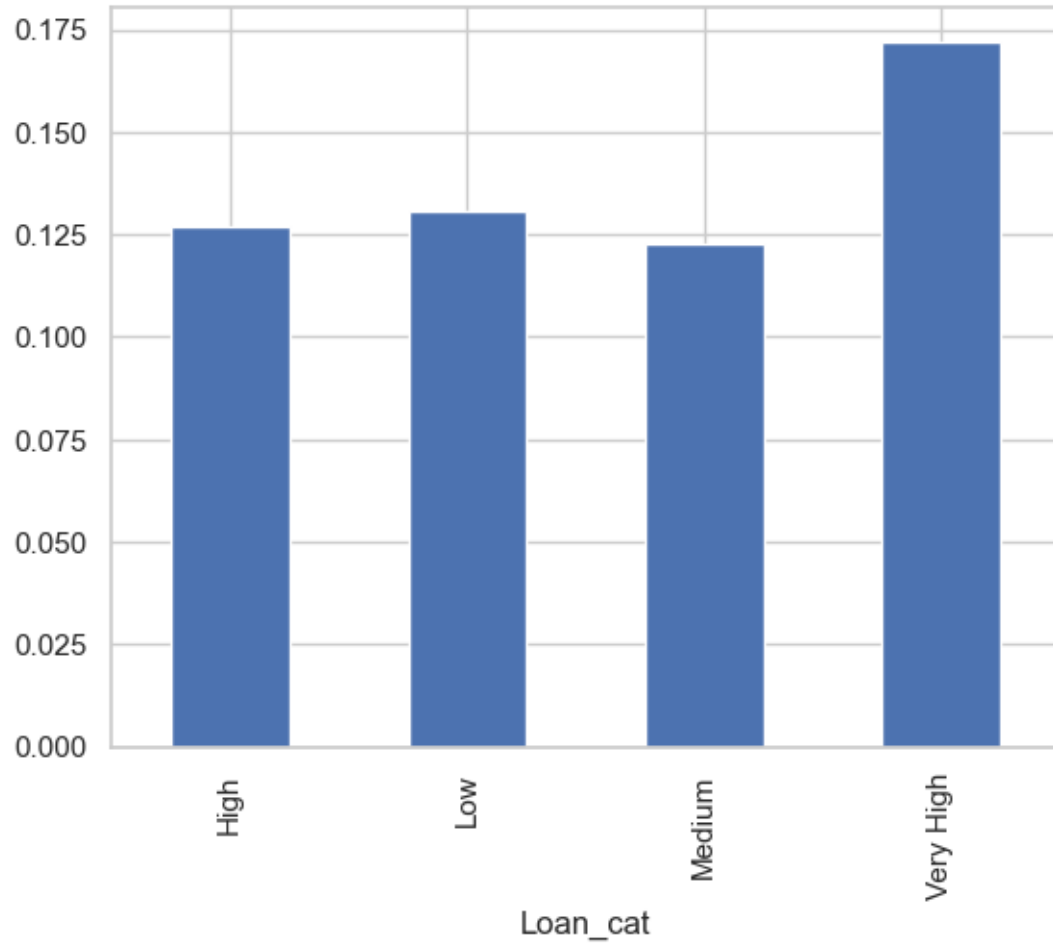
Small Business purposed loan default rate is around 26% which is higher than any other



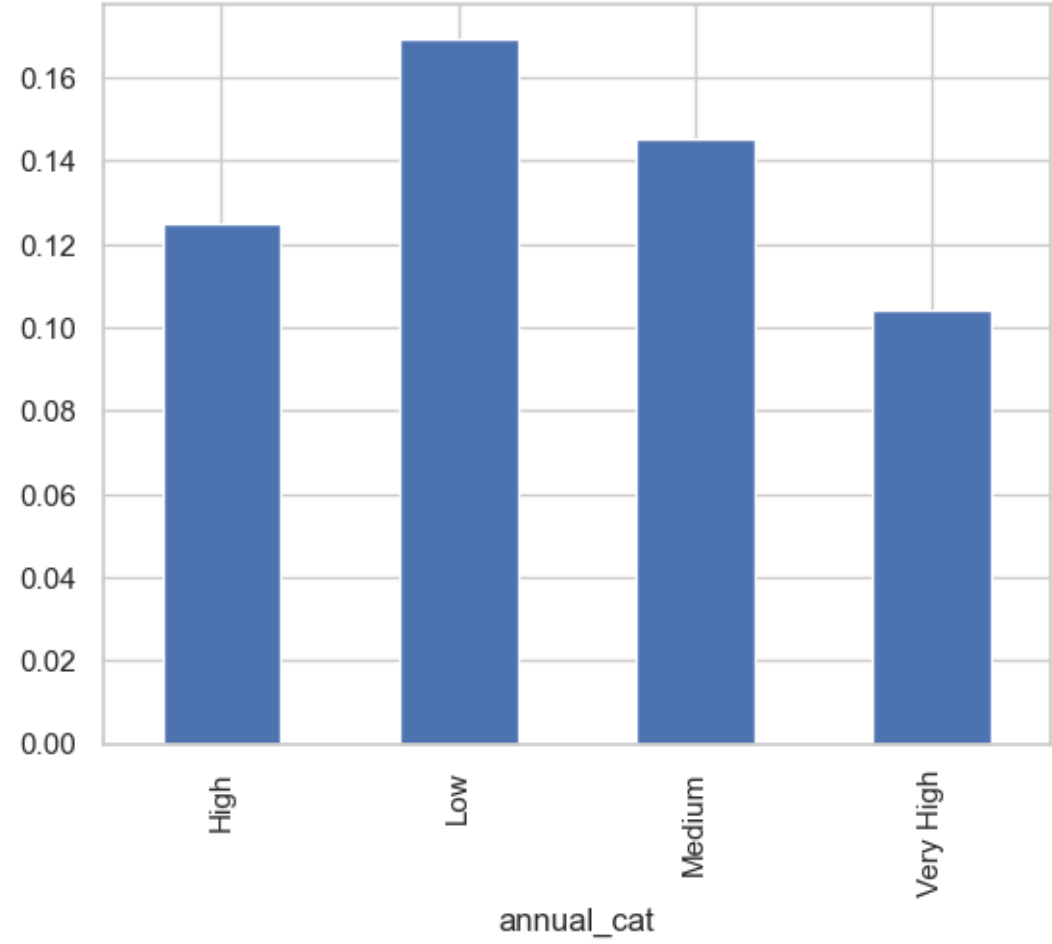
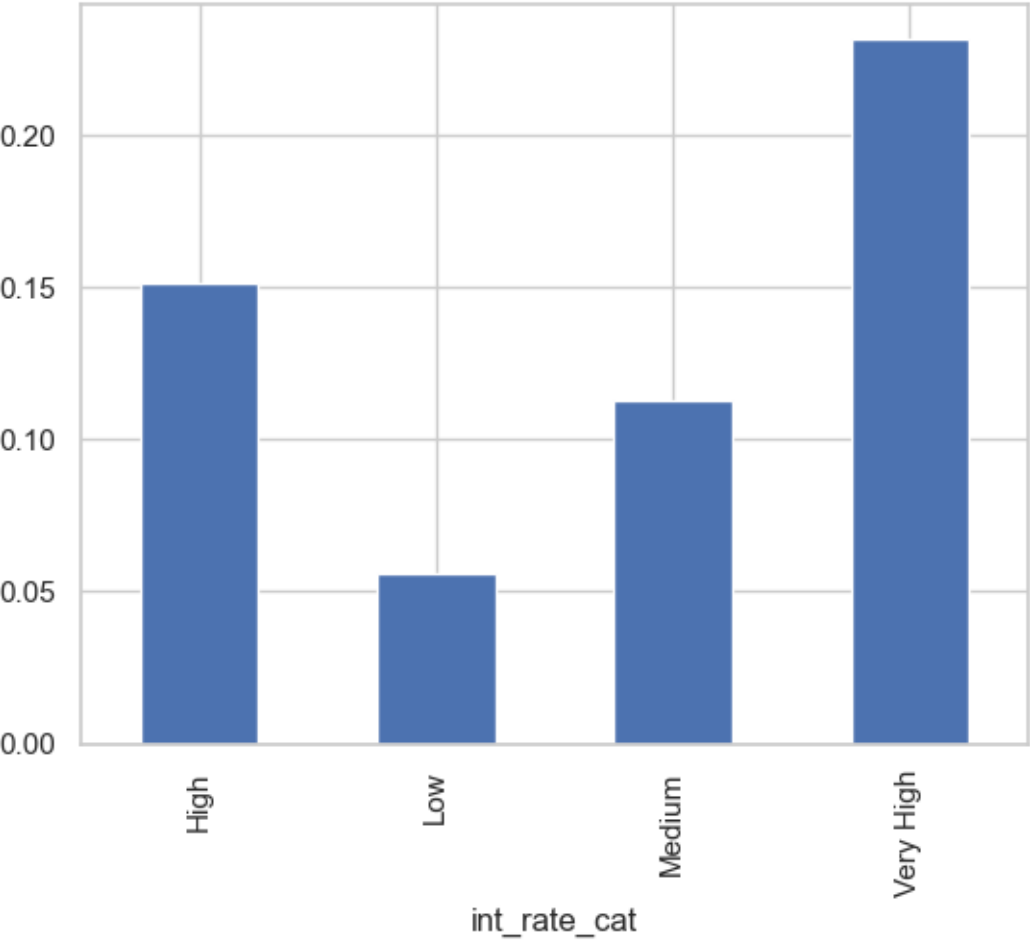
**May month has highest default rate 15.13%**



## Very high Loan & Funded amount default rate is highest at 16%

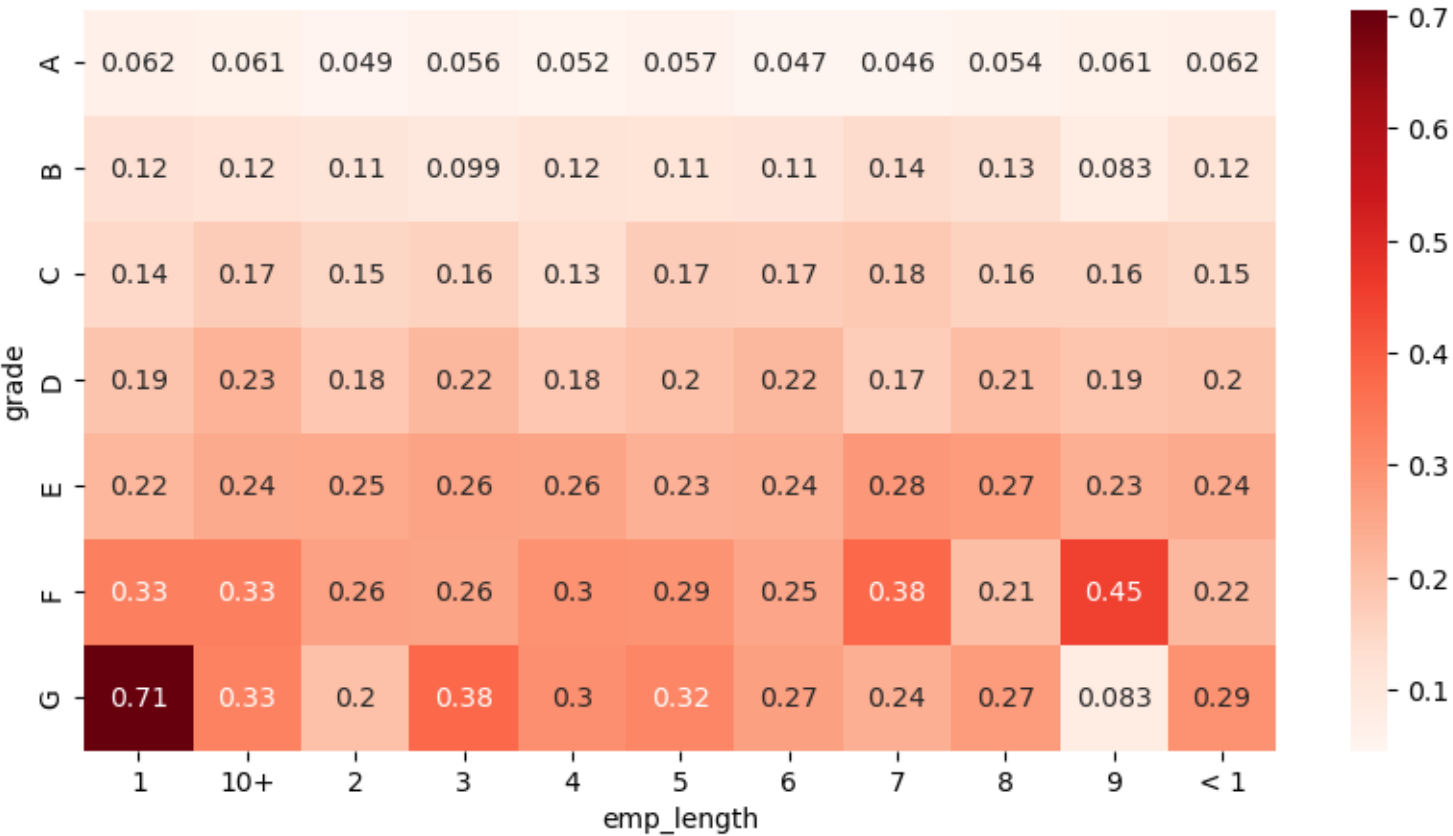


**For Very high category interest rate has highest default rate 28% and for Low Annual income has high default rate at 16%**



# Co-relation between Loan Grade & Customer Employed Length with respect to the Loan Defaulter's average value

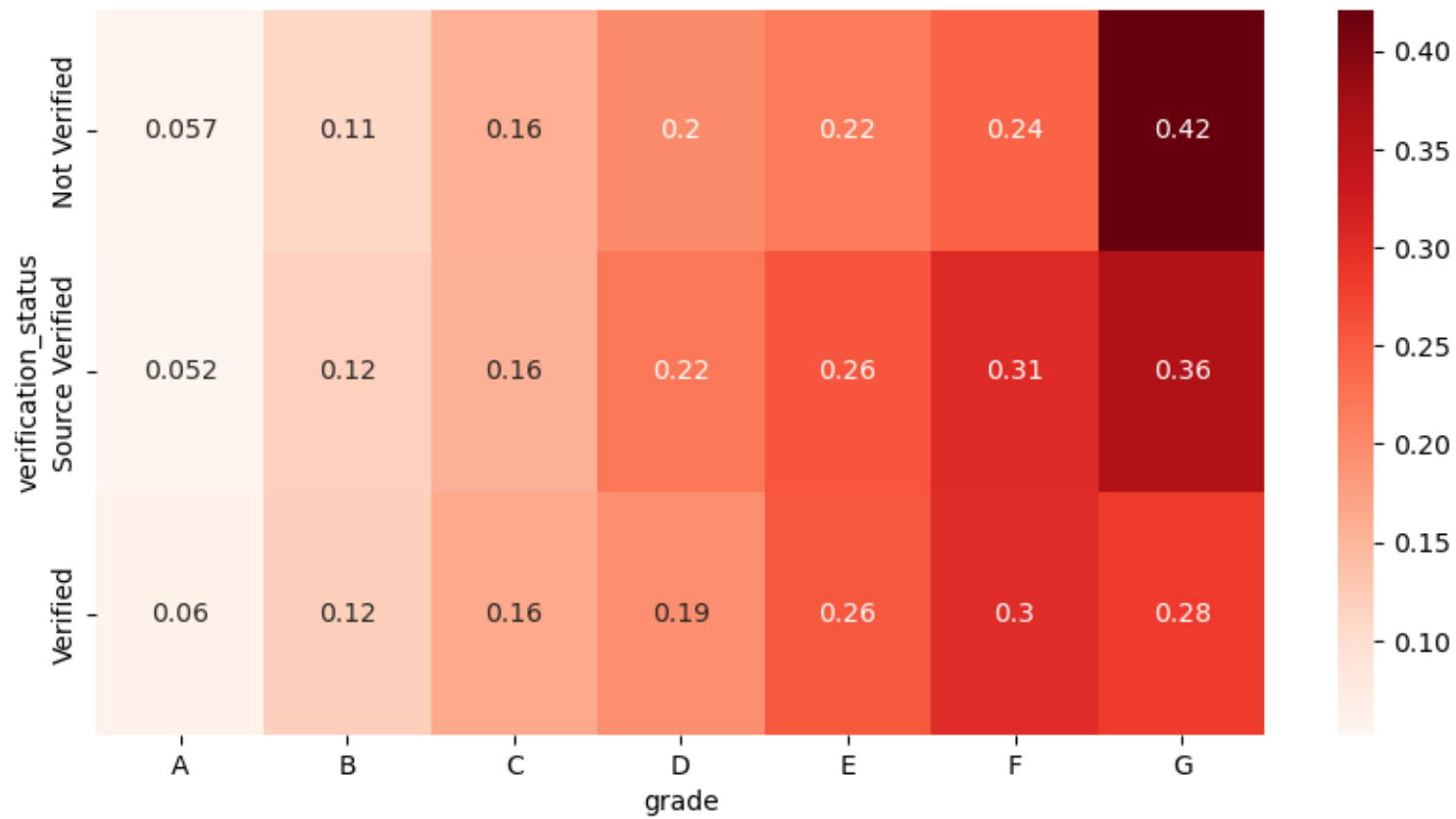
- 1)Loan Grade G and Emp. Length 1 year has 0.71 Co-relation between them
- 2)Loan Grade F and EMp. Length 9 years has 0.45 Co-relation between them





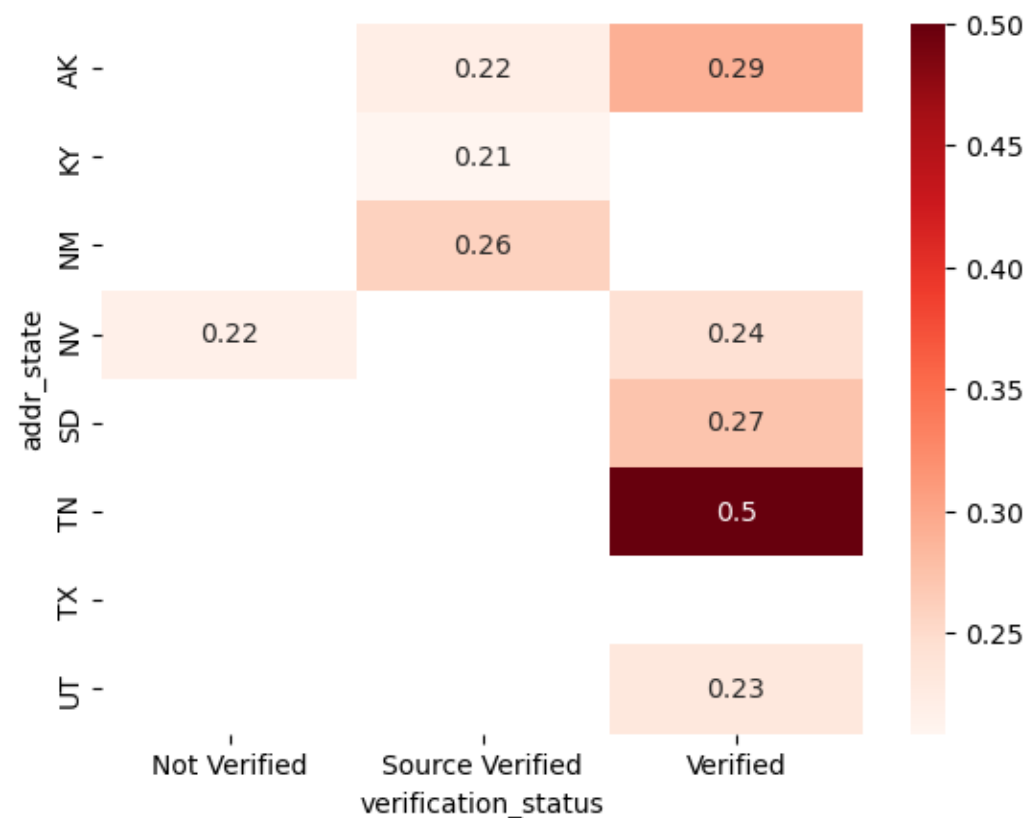
# Co-relation between Loan Grade & Customer Verification Status with respect to the Loan Defaulter's average value

- 1) Not Verified status with Loan Grade G has Co-relation coefficient as 0.42
- 2) Source Verified status with Loan Grade G has Co-relation coefficient as 0.36



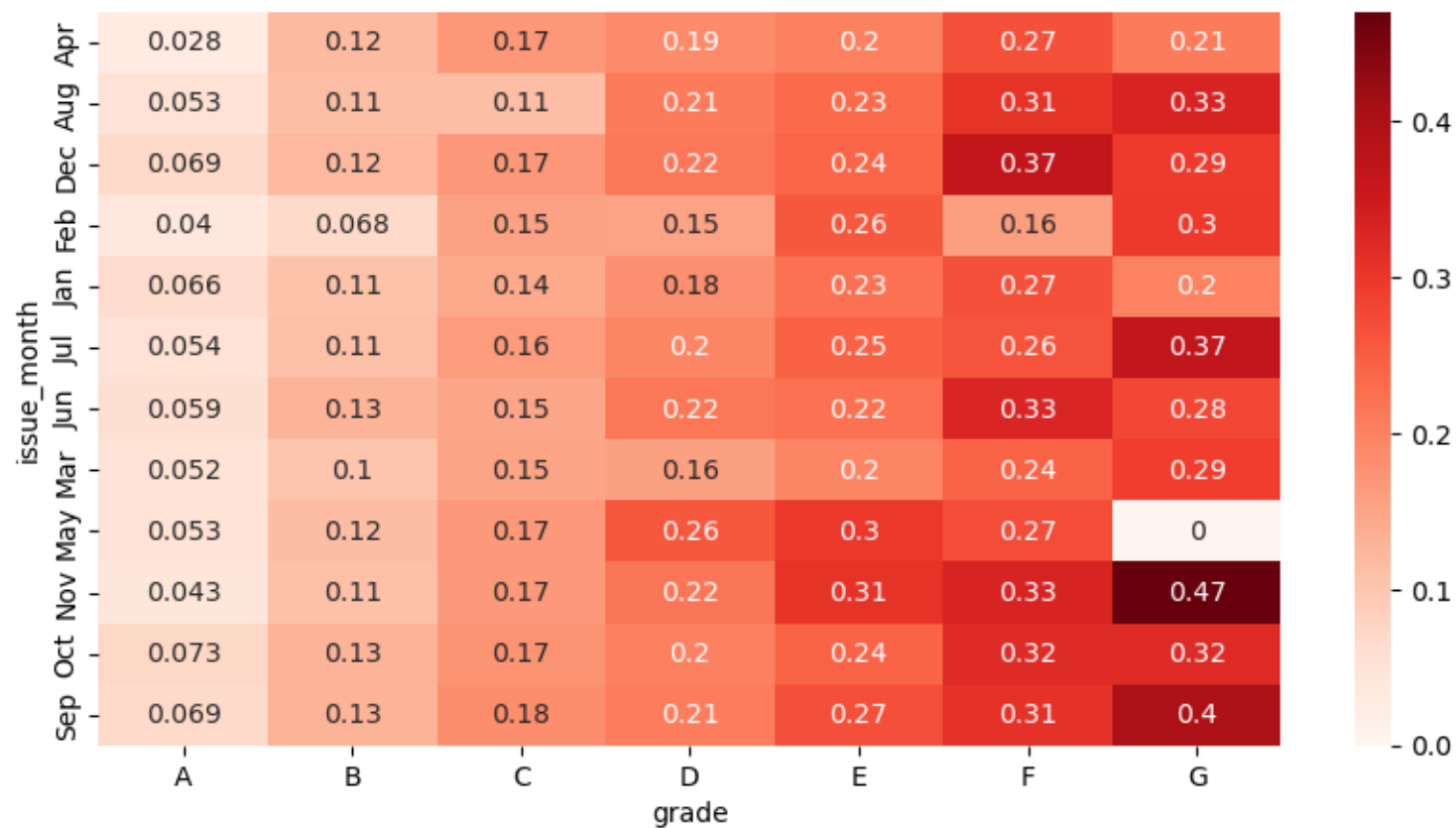
# Co-relation between Customer State & Customer Verification Status with respect to the Loan Defaulter's average value

- 1) TN state and Verified status has highest Co-relation Co-efficient as 0.5
- 2) AK state and Verified status has highest Co-relation Co-efficient as 0.29



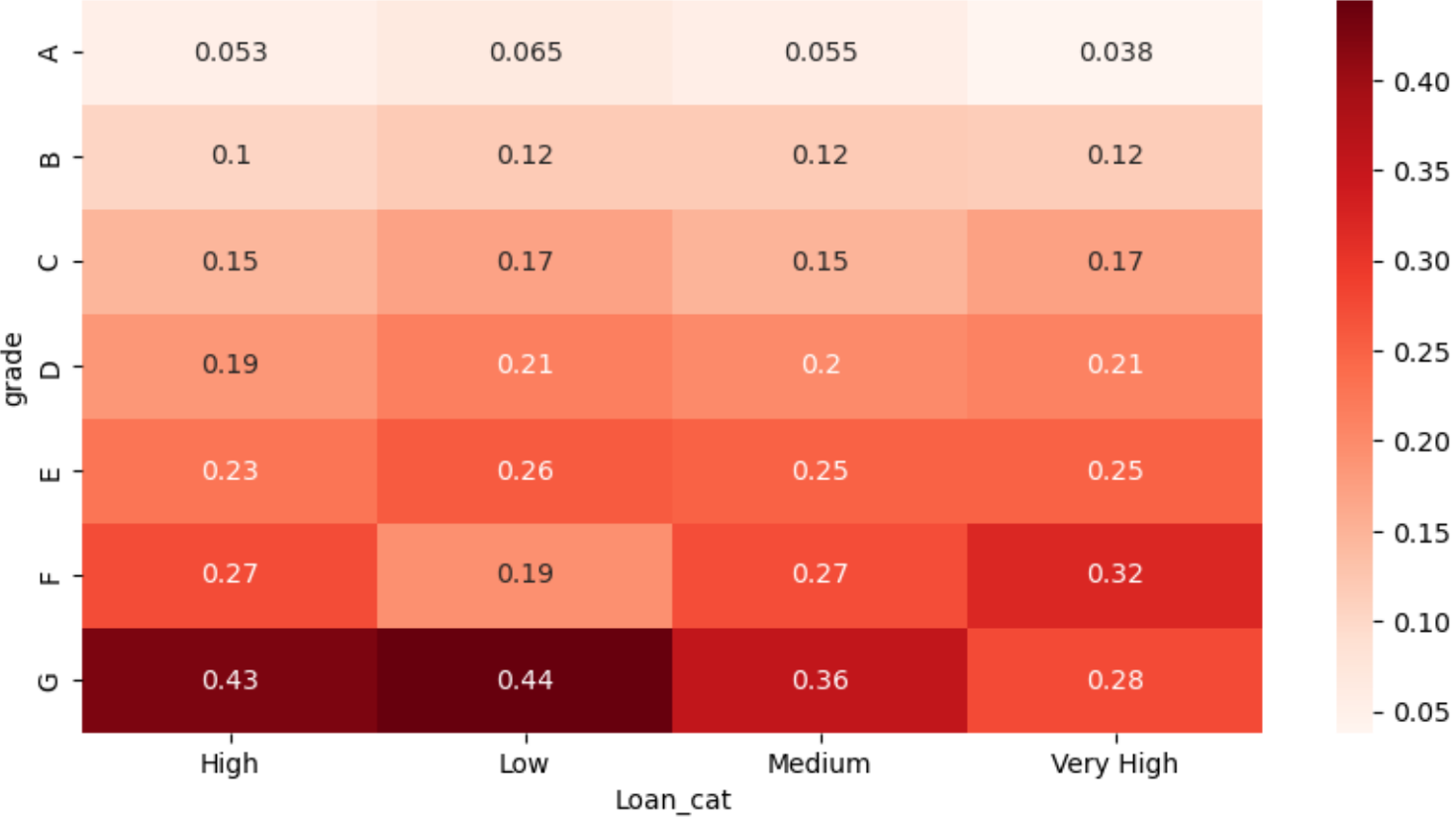
# Co-relation between Issue Month & Loan Grade with respect to the Loan Defaulter's average value

- 1) November month & Loan grade g has highest Corelation coefficient as 0.47
- 2) December month & Loan grade F has Corelation coefficient as 0.37 same as July month & loan grade G



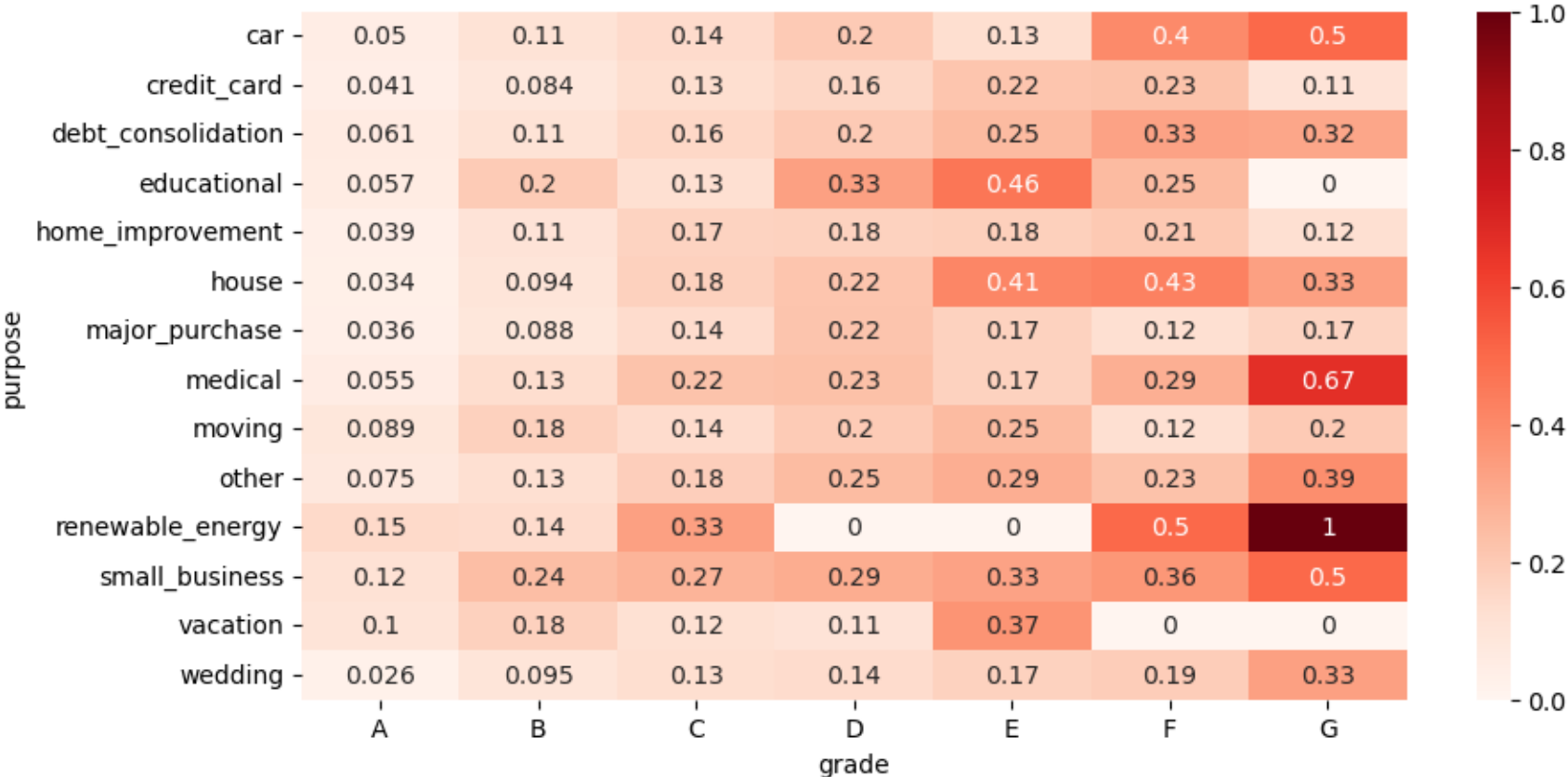
# Co-relation between Loan Amount & Loan Grade with respect to the Loan Defaulter's average value

1) Loan grade G has high Corelation coefficient with High amount of Loan as well as with the low amount of the Loan



# Co-relation between Issue Purpose & Loan Grade with respect to the Loan Defaulter's average value

1) Medical & Small business purpose has high Co=relation with the Load grade



## Co-relation between Issue Month & Loan Grade with respect to the Loan Defaulter's average value

1) Very High interest rate has high Co=relation with the Educational purpose

