

# LendingClub Case Study

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# Background

Lending Club provides loans to borrowers, but a lot of borrower's default, that is they do not return the loan amount with interest back to the lenders.

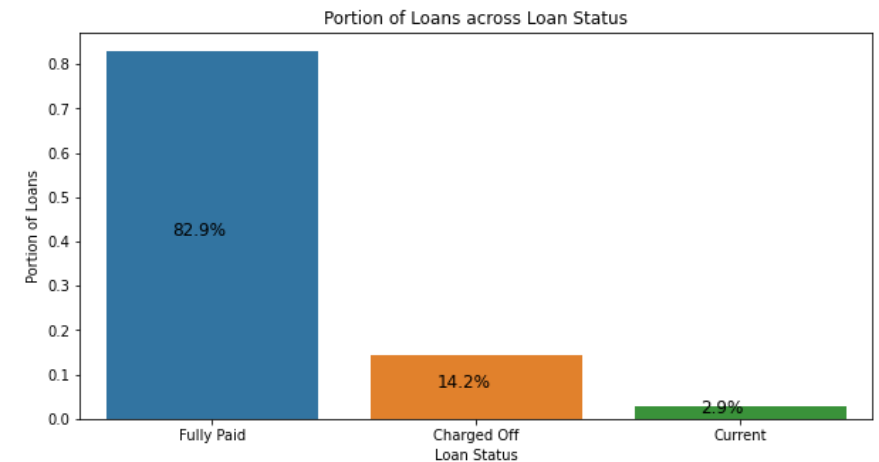
Such defaults results in the monetary loss for the businesses.

Hence, the purpose of this case study is to identify some of the prominent factors which can help understanding borrowers who have higher probability of defaulting.

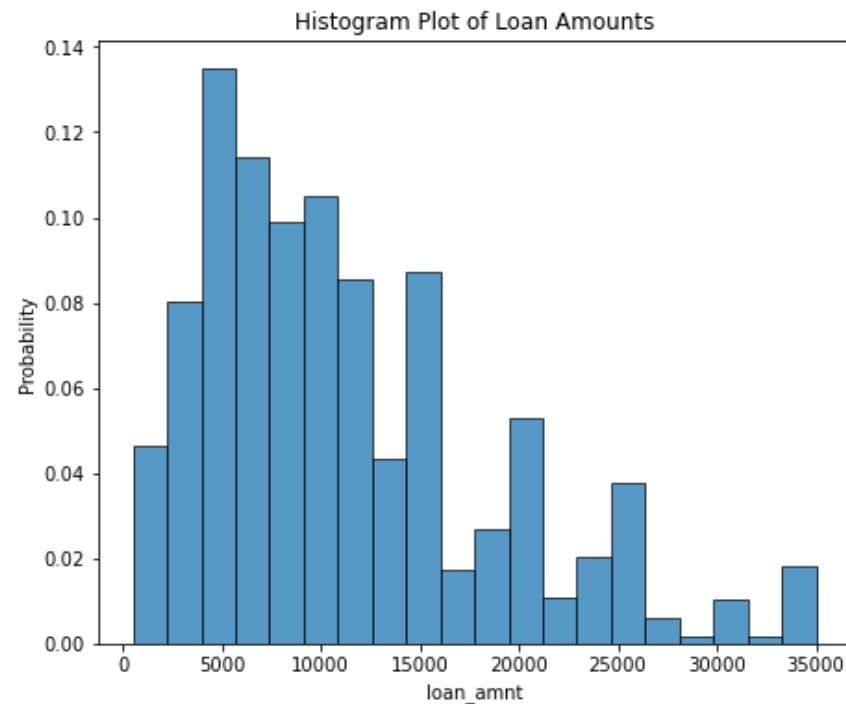
In this report, some of the factors have been analyzed and identified from the provided data and have been reported.

# Executive Summary

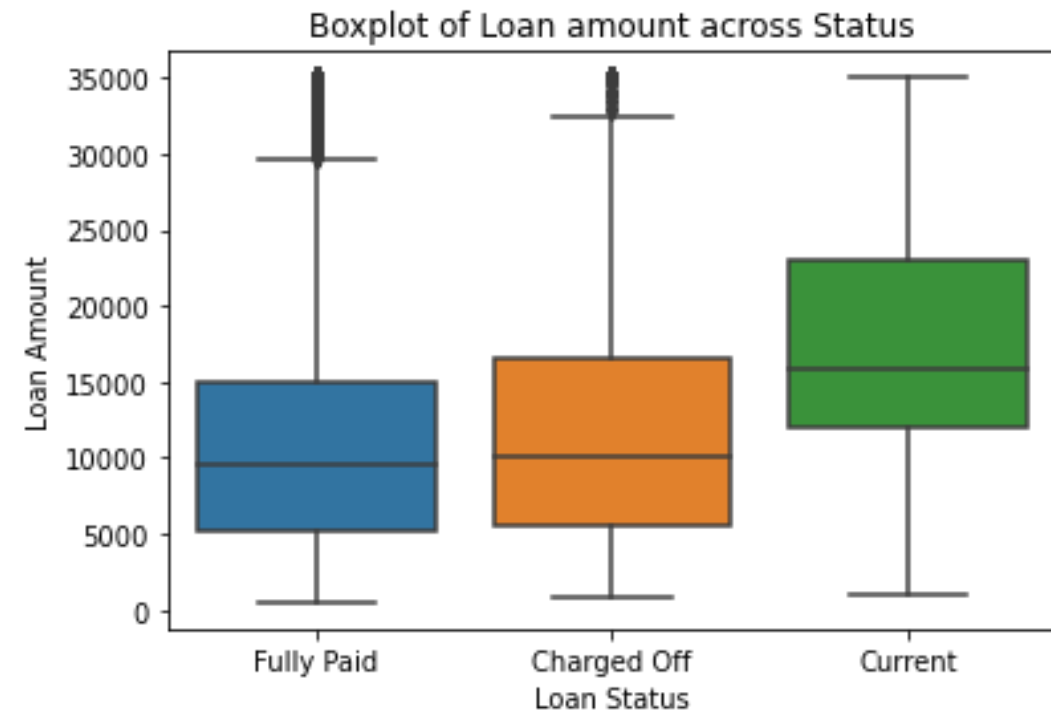
- ▶ About 14% of the loans have been Charged-Off
- ▶ Loan amount ranges from \$500 to \$350,000
- ▶ 4.6% of the loans are not fully funded and only about 49% of the loans are fully funded by investors
- ▶ Loans with 60 months tenure have more defaults (23% of 60 months tenure)
- ▶ Loans with higher interest rates have chances of defaulting more
- ▶ Lower Grade loans tends to get Charged-off more
- ▶ A1 rated loans are the safest with default rate of only 3%
- ▶ Borrowers having lower incomes, have high chance of default
- ▶ About 29% of the borrowers with 2 bankruptcies, defaulted
- ▶ 26% of the borrowers who took loan for Small Business defaulted
- ▶ Loans with higher utilization of revolving balance, observed more charged-offs



# Current loans have higher applied loan amounts

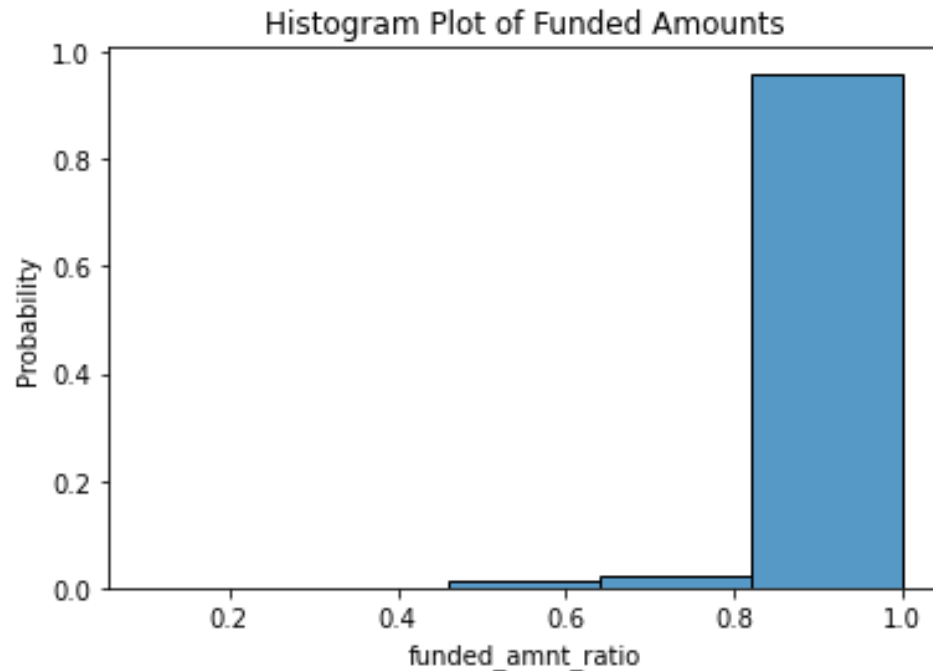


- Lowest loan amount is of \$500, while maximum is \$350,000
- About 20% of the loans are of amount < \$5,000



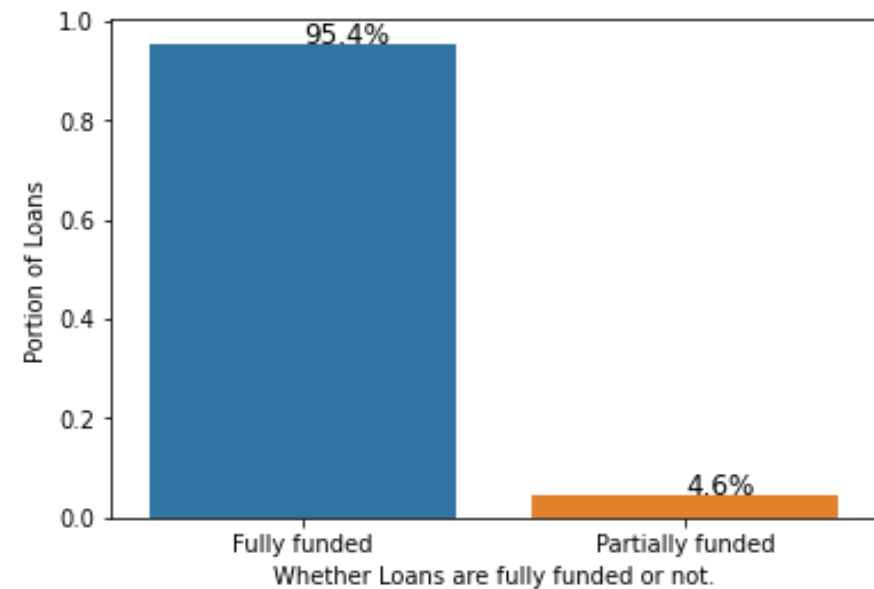
- Current loans have the highest loan amount
- Fully paid, borrowers have the lowest loan amount

# 4.6% of the loans are partially funded



Calculation: Funded Loan Amount divided by Requested Loan Amount

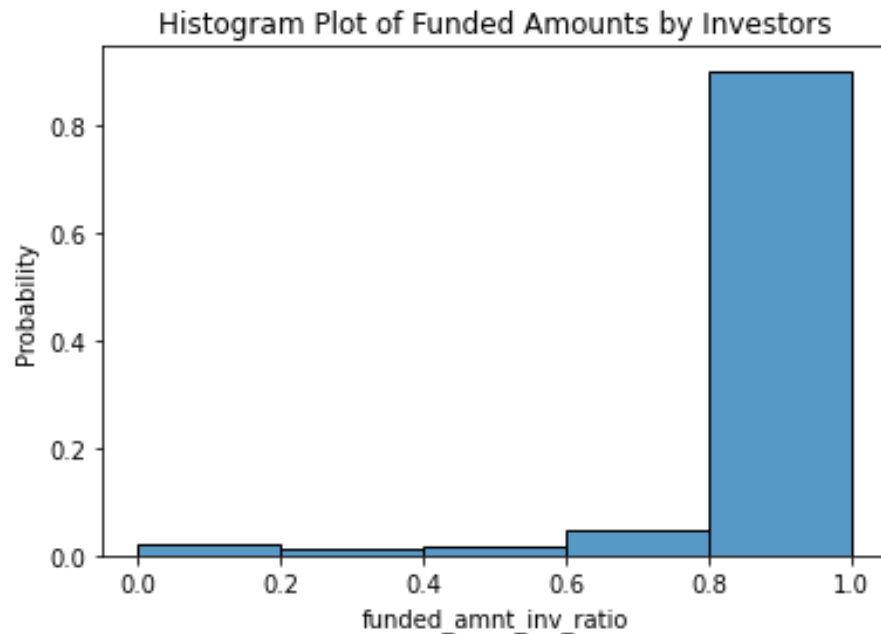
- Not all of the loans are fully funded
- But majority of the loans are fully funded



Calculation: if  $\text{Funded} / \text{Request Loan Amount} = 1$  Then Fully Funded, else partially Funded

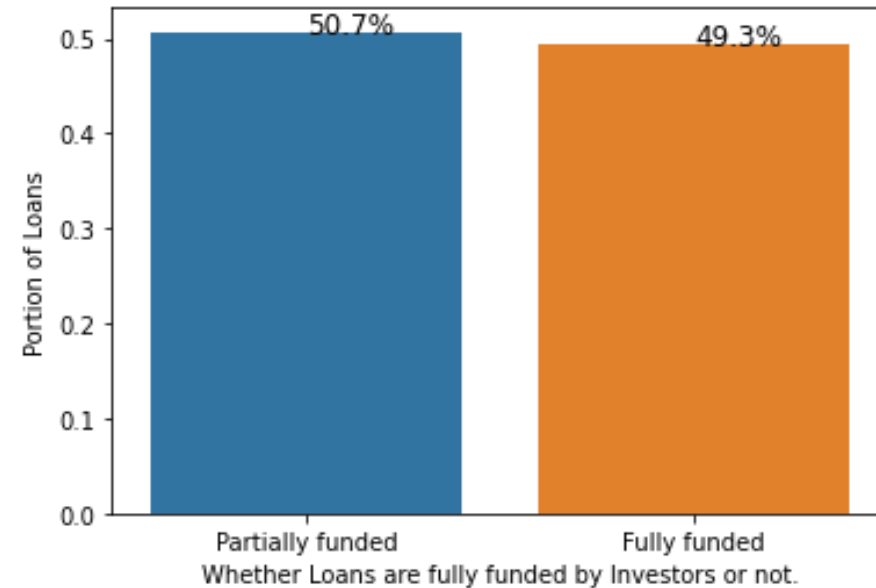
- 4.6% of the Loans are partially funded

# Only 49% of the loans are fully funded by Investors



Calculation: Investor Funded Loan Amount divided by Requested Loan Amount

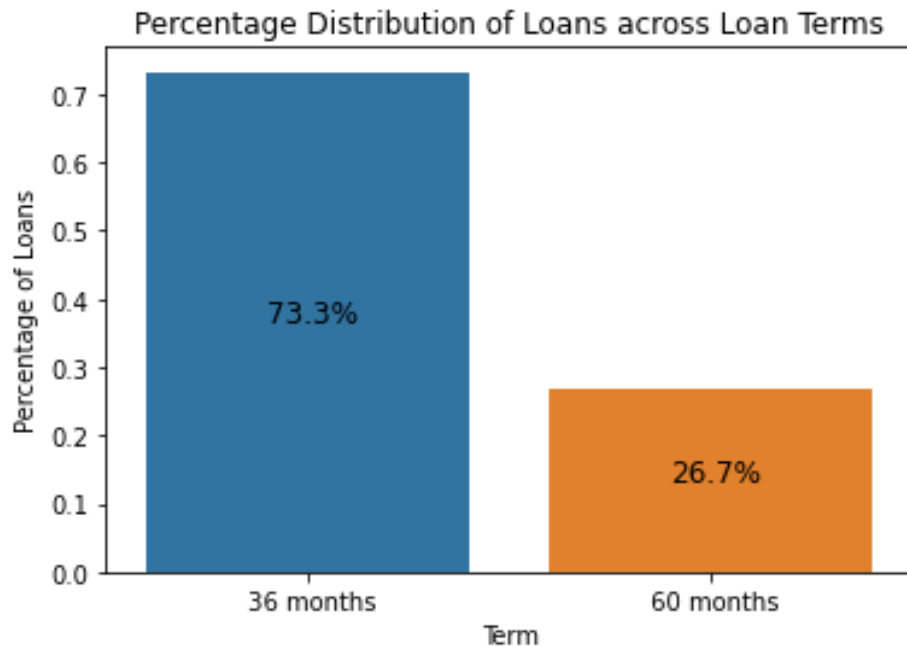
- There are loans which are not at all funded by investors
- But majority of the loans are fully funded



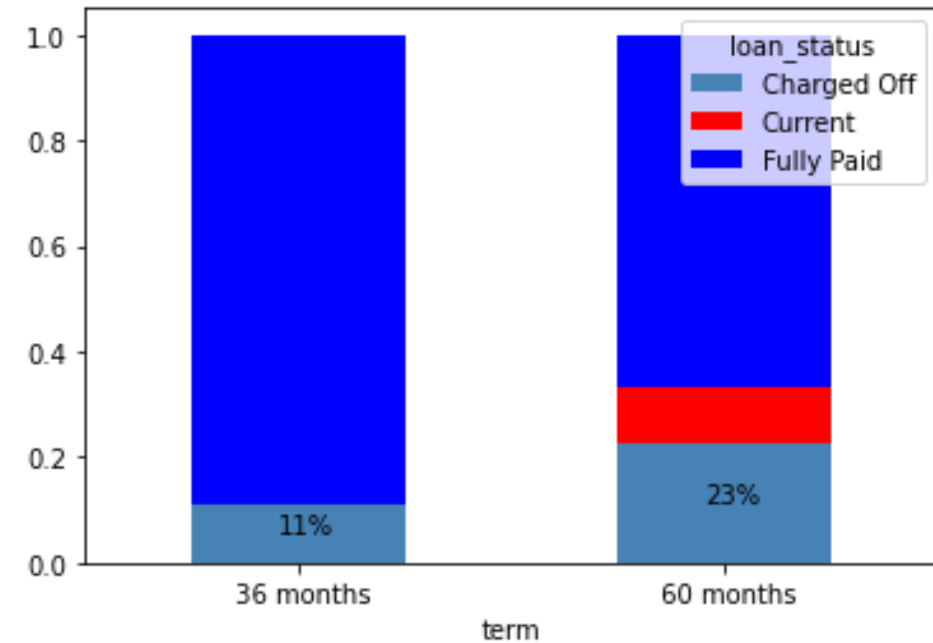
Calculation: if Investor Funded / Request Loan Amount = 1  
Then Fully Funded, else partially Funded

- Less than 50% of the loans are Fully funded by Investors

# Longer tenure loans have more defaults

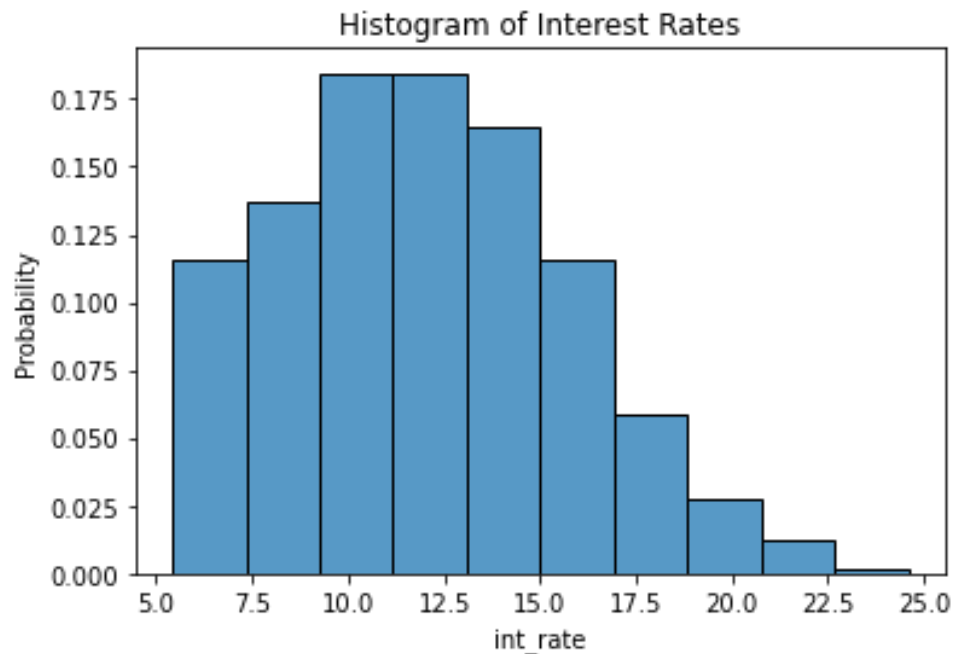


- 73% of the loans have 36 months term
- While 27% have 60 months term

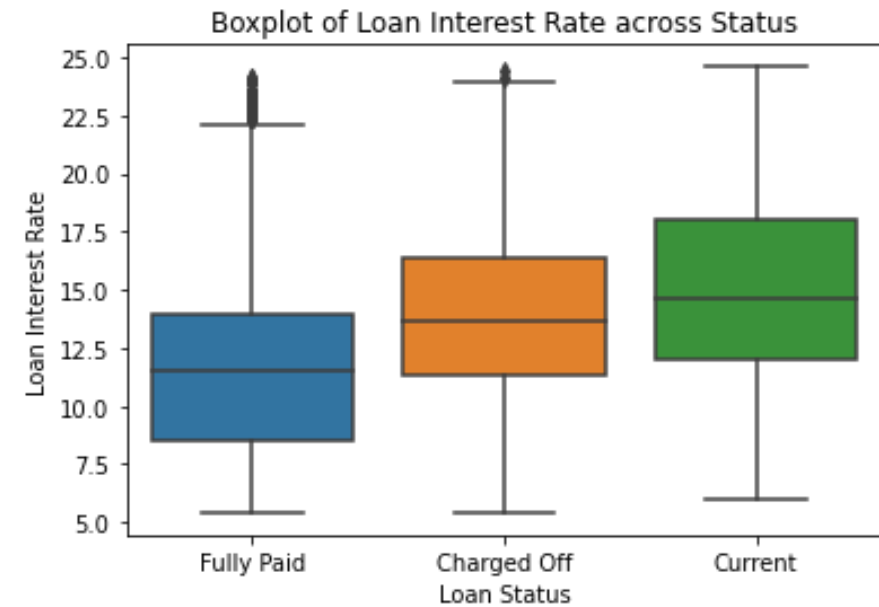


- Loans having 36 months term have only 11% of the Charged-off borrowers
- While 23% of the borrowers with 60 months have been Charged-off
- Current Loans also have 60 months term and may default

# Loans with higher Interest rates have more chance of defaults



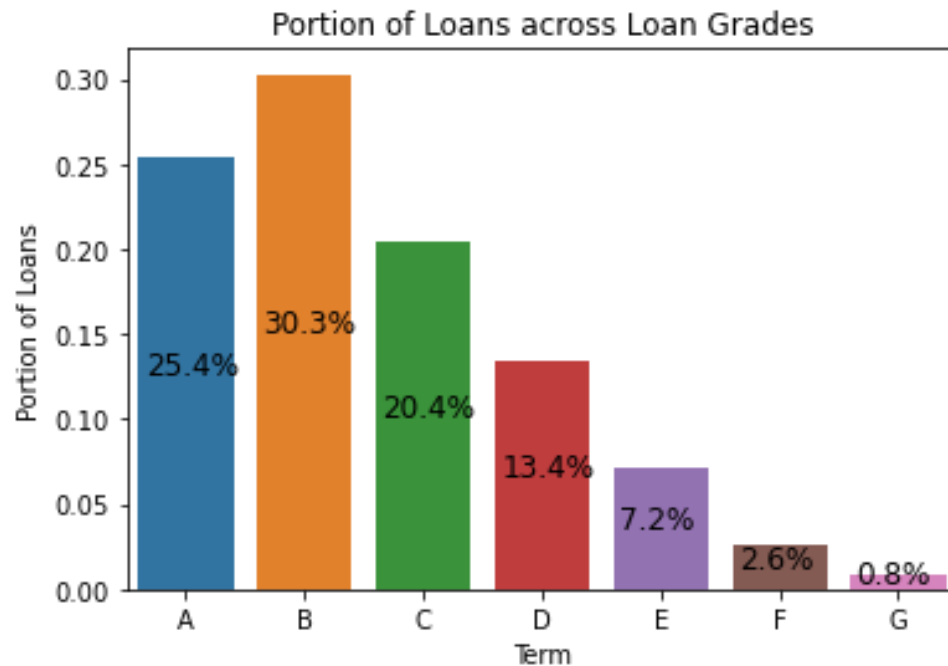
- Highest number of loans have 10% to 20% Interest rate
- Lowest number of Loans have over 20% interest rate



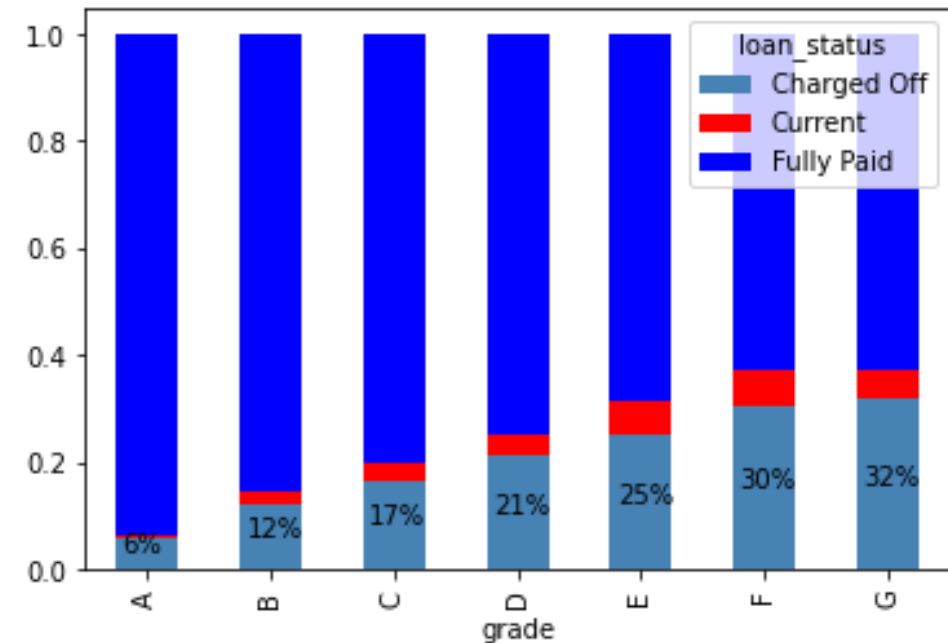
- Charged-Off loans have 18% higher median interest rate than Fully Paid loans
- Current Loans also have 27% higher median interest rate than Fully paid and may default



# Lower the Grades, higher the chance of default

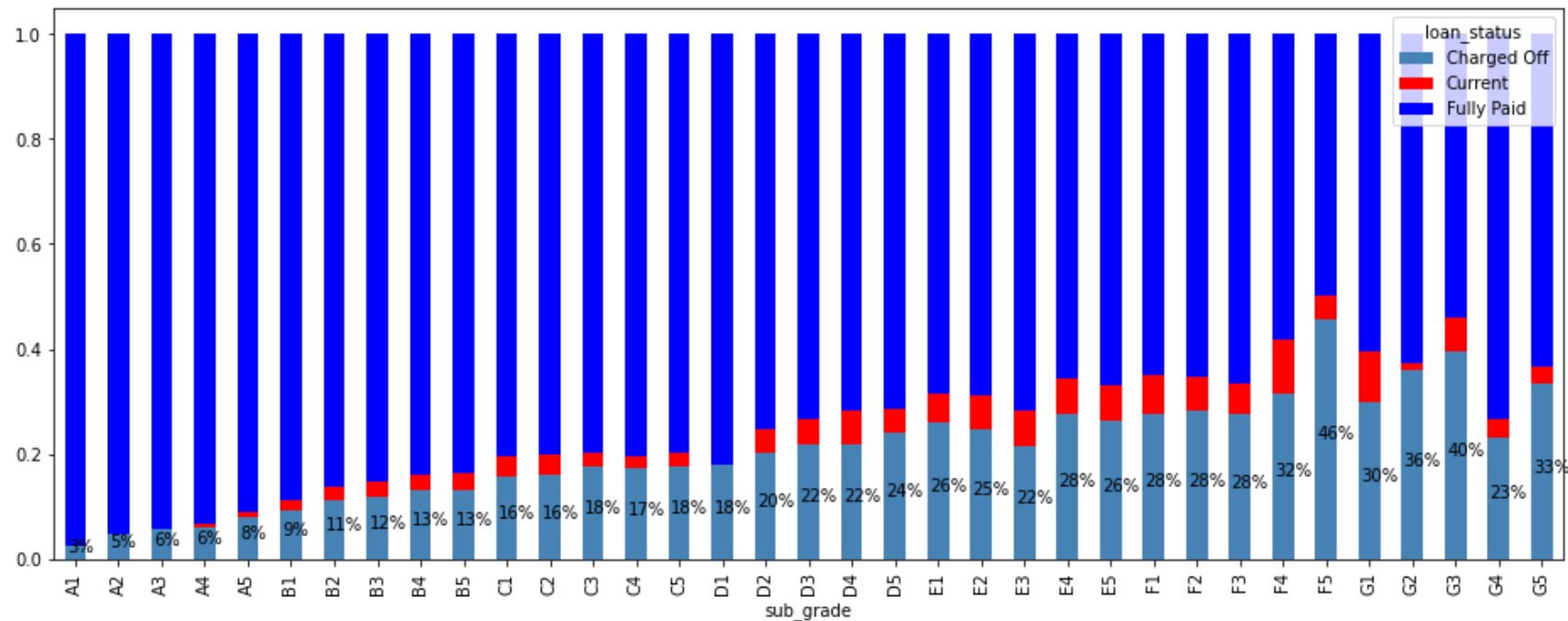


- 30% of the loans have Grade B rating
- 23% of the loans have Grade D or lower rating



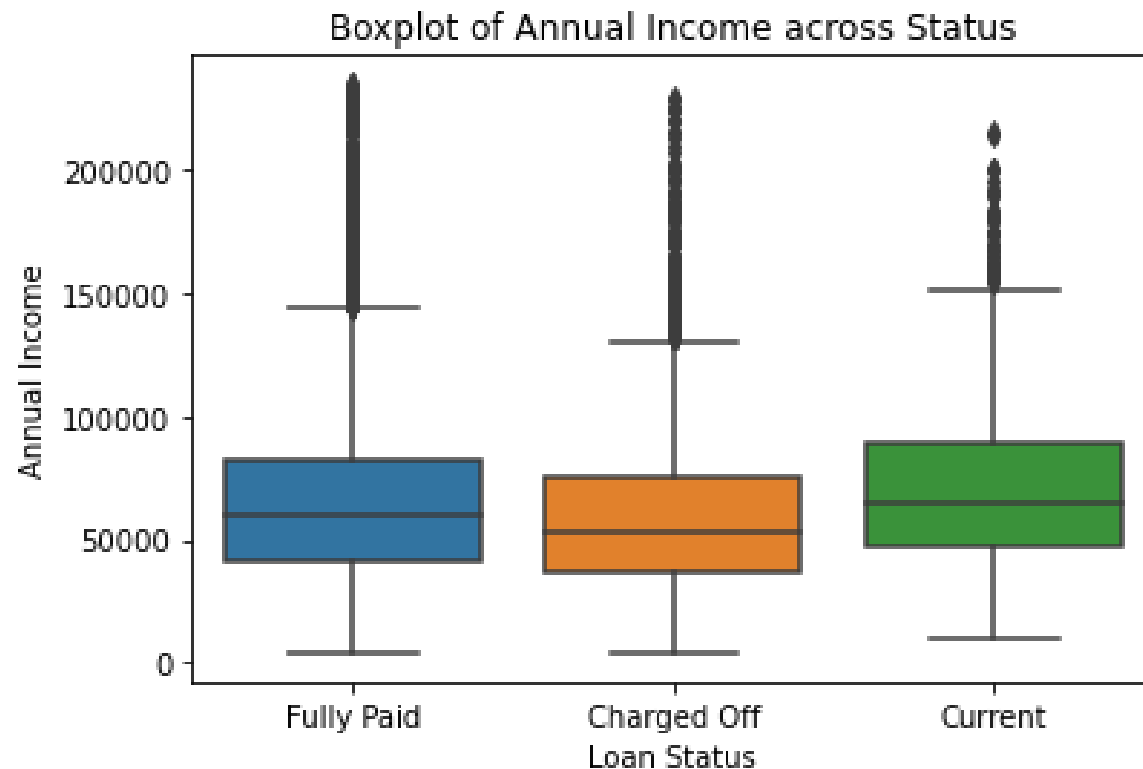
- Lower the loan rating, higher percentage of loans are Charged-Off
- Only 6% of the loans were Charged-Off for loans with Grade A rating

# A1 rated loans are the safest with default rate of only 3%



- A1 rated loans have the lowest rate of default that is only 3%
- Lower Grade loans have much higher rate of default

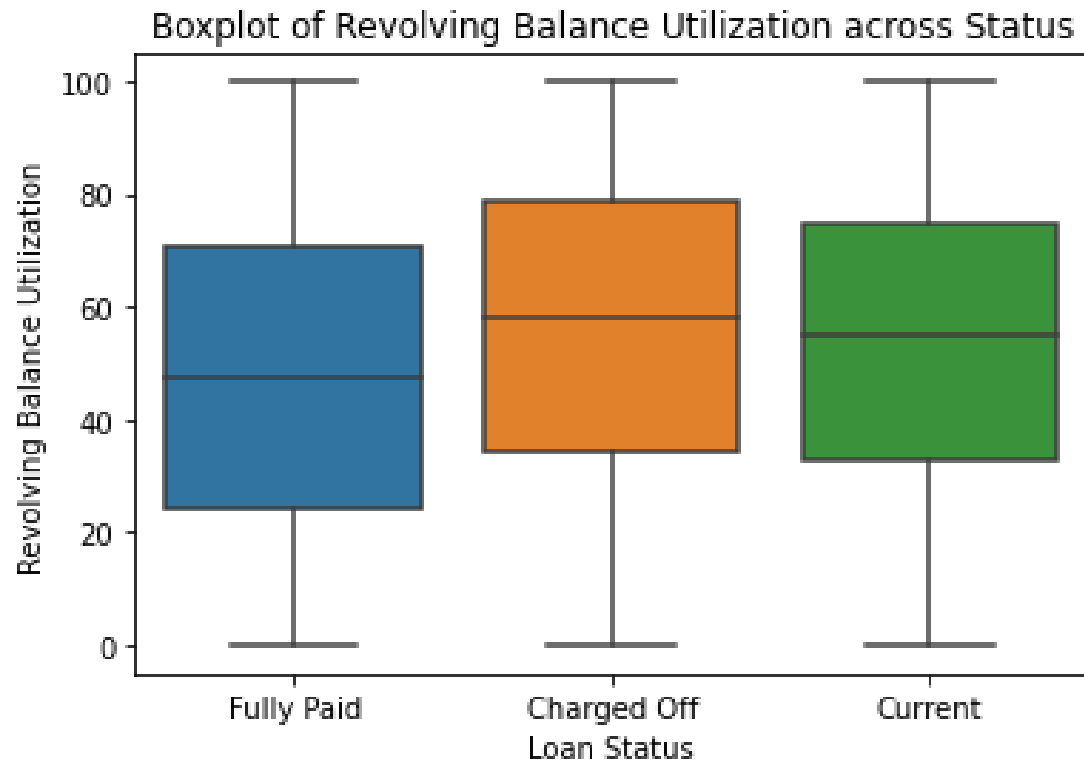
# Borrowers with lower incomes have higher chance of defaulting



Median Annual Income	
loan_status	
Charged Off	52800.0
Current	64695.0
Fully Paid	60000.0

- Borrowers who had defaulted have 12% lower median annual income as compared to Fully-Paid borrowers
- Borrowers with on going loans have 7% higher median income than Fully-paid and hence, may not default

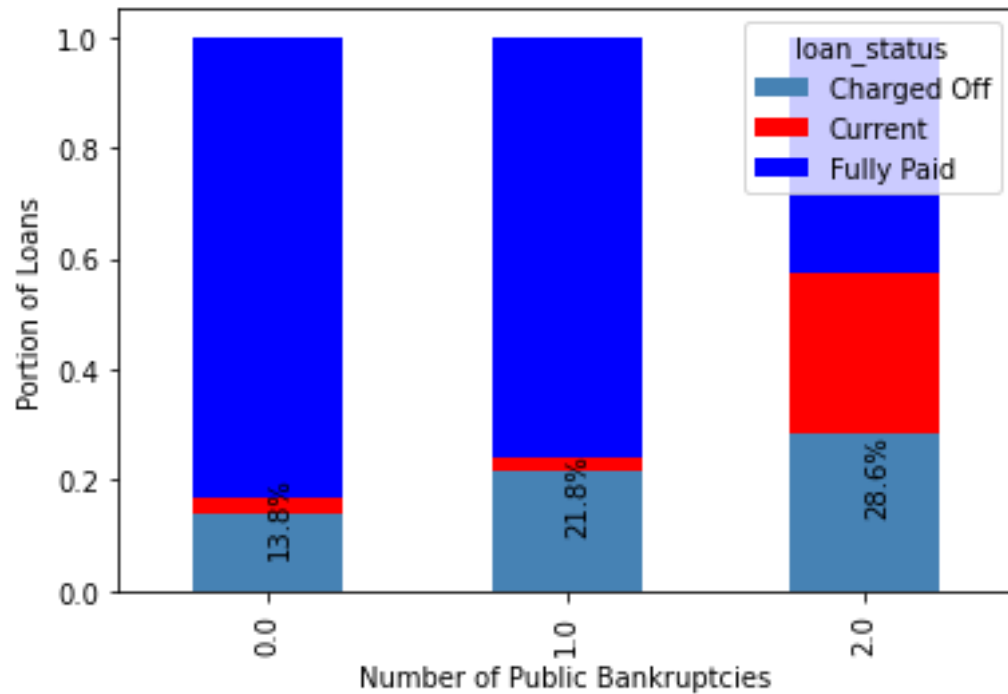
# Borrowers having higher Revolving utilization, default more



% Revolving Utilization	
loan_status	
Charged Off	58.3
Current	55.0
Fully Paid	47.6

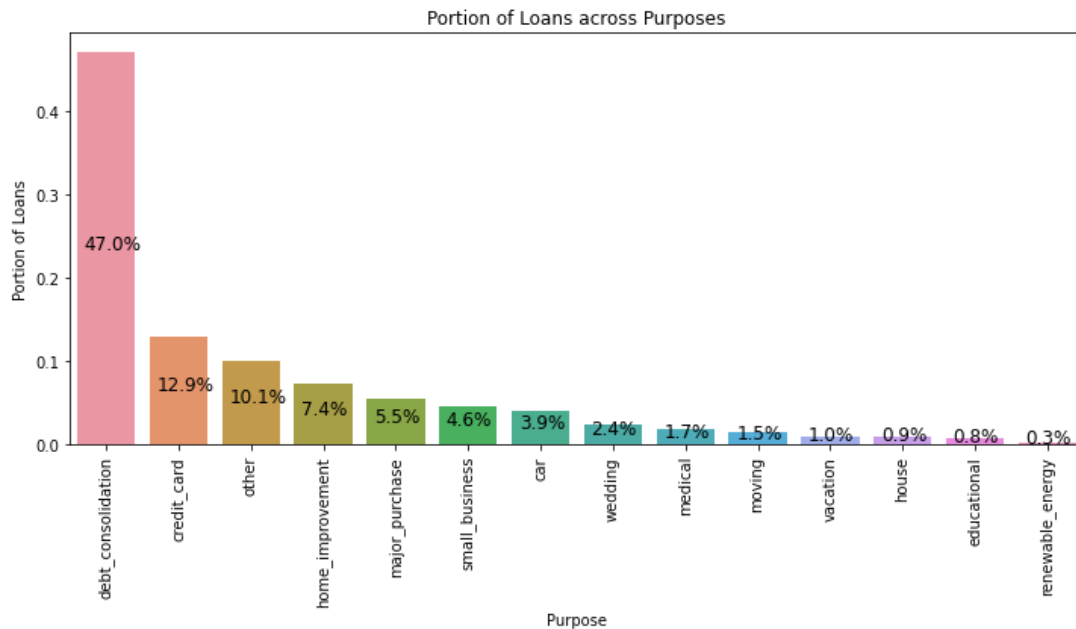
- Borrowers who had defaulted have 5% higher median revolving utilization as compared to Fully-Paid borrowers
- Borrowers with on going loans have 12% lower median revolving utilization than Fully-paid and hence, may not default

# Borrowers having more bankruptcies, default more

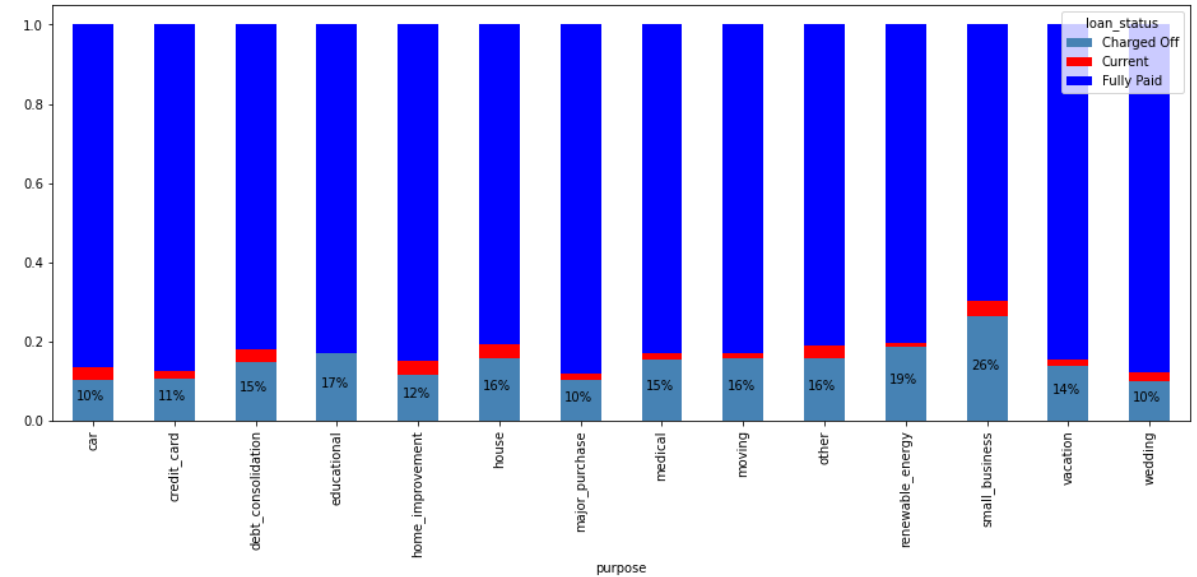


- Borrowers with no public bankruptcies, have lower percentage of Charged-off loans (14%), While 29% of the borrowers with 2 bankruptcies defaulted
- A lot of current borrowers have 2 bankruptcies and hence may default

# Business related reasons have more defaults



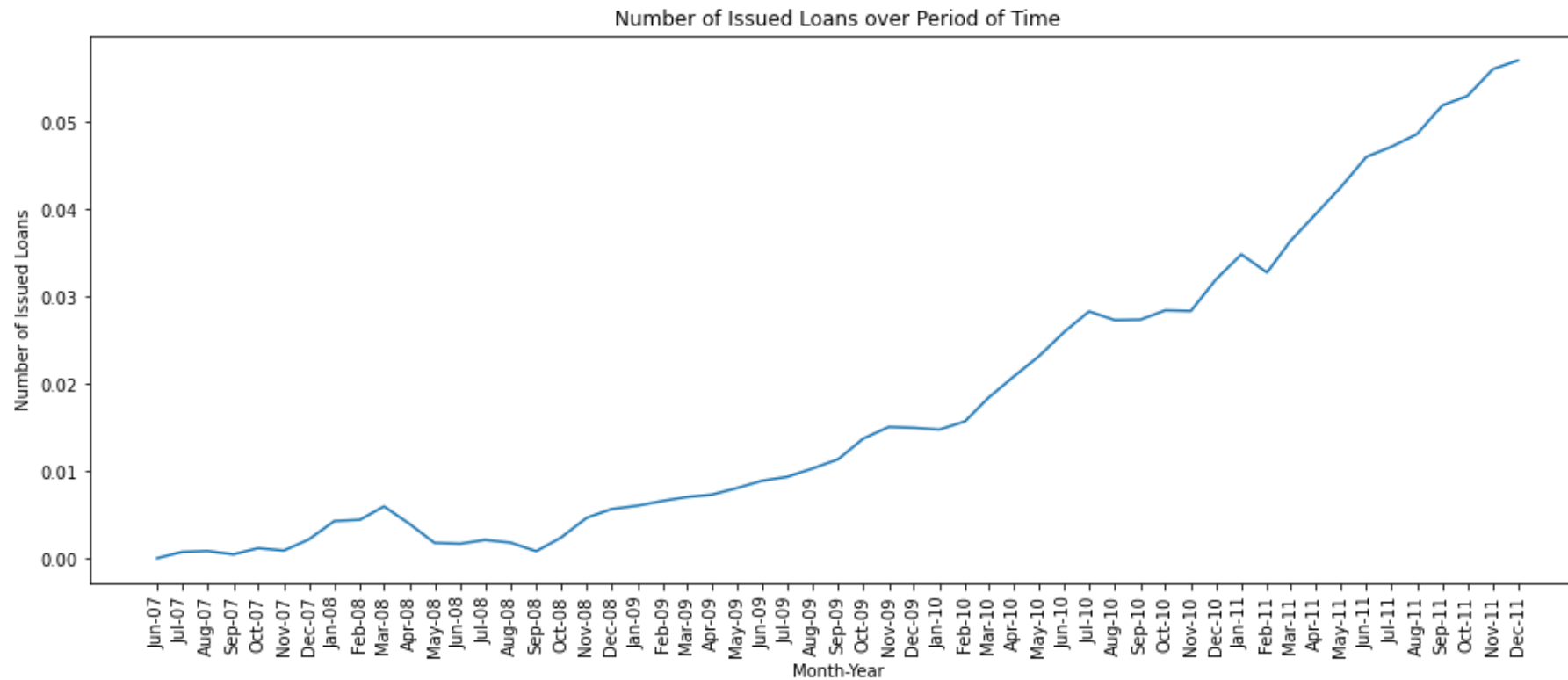
- 47% of the loans had “debt consolidation” as loan purpose
- While, small number of loans were taken for Wedding, Medical, Vacation like reasons



- 26% of the borrowers who took loan for “Small Business” purpose defaulted
- While least defaults (10%) have been observed for “Car” and “Wedding” reasons

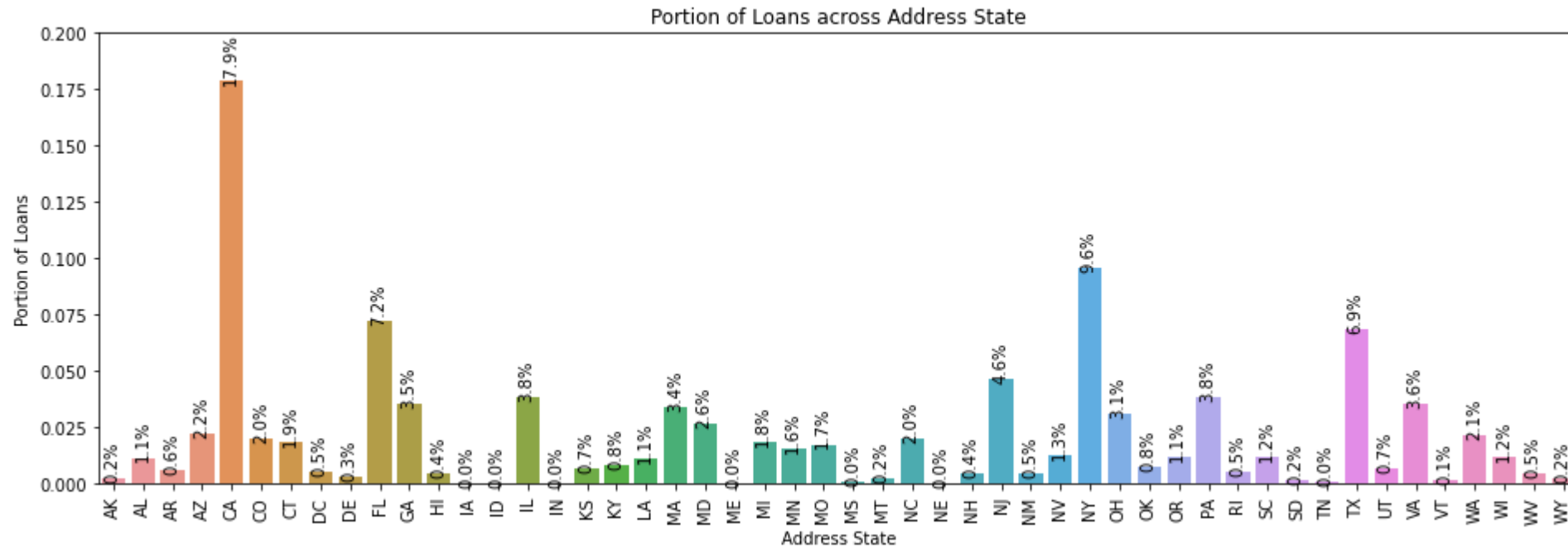
# Appendix

# After October of 2008, the number of loans issued kept on growing

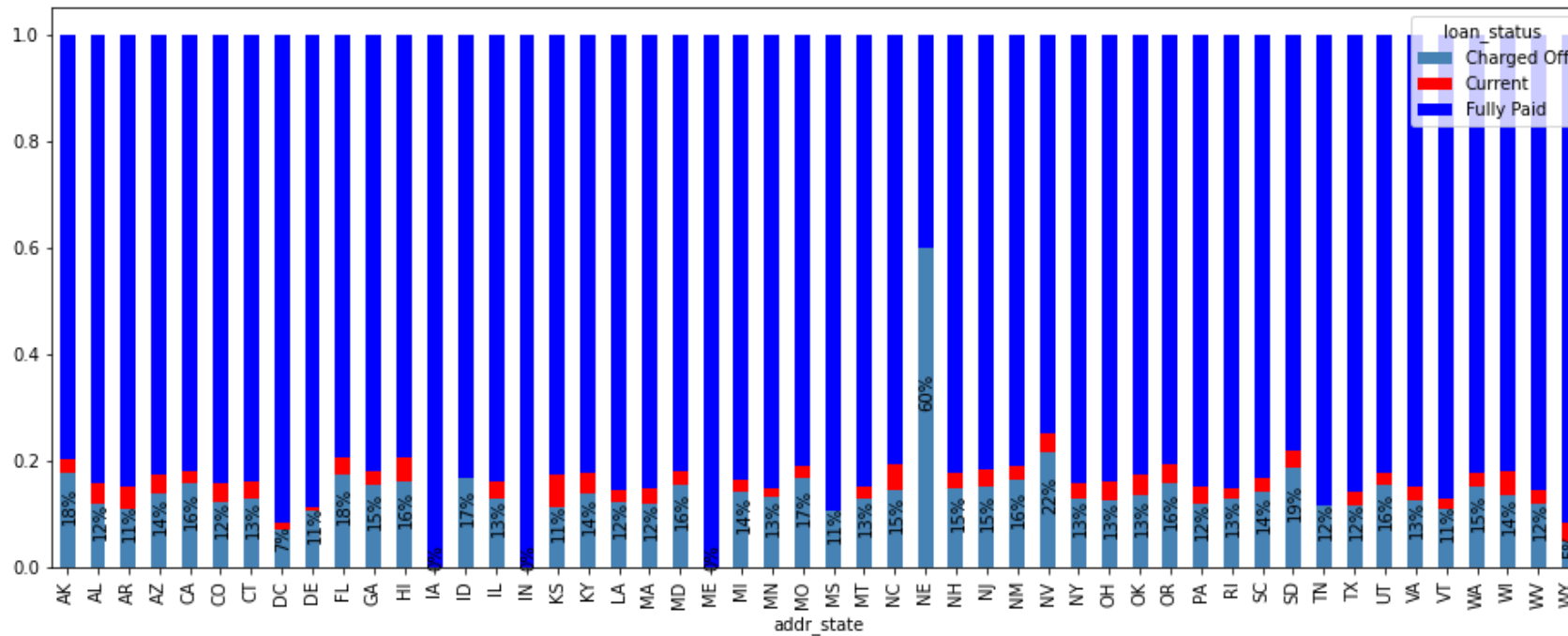




# Most Loans have been given in California

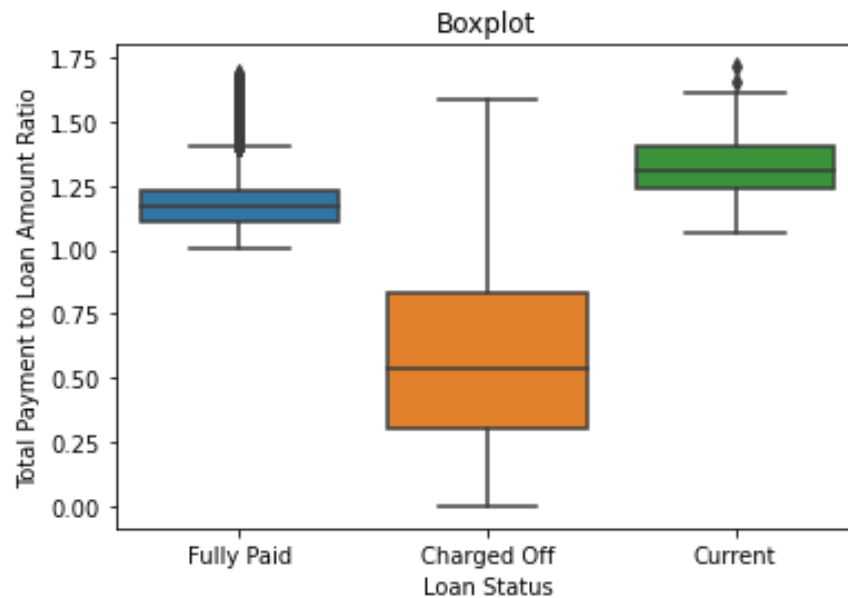


# Number of defaults vary across states



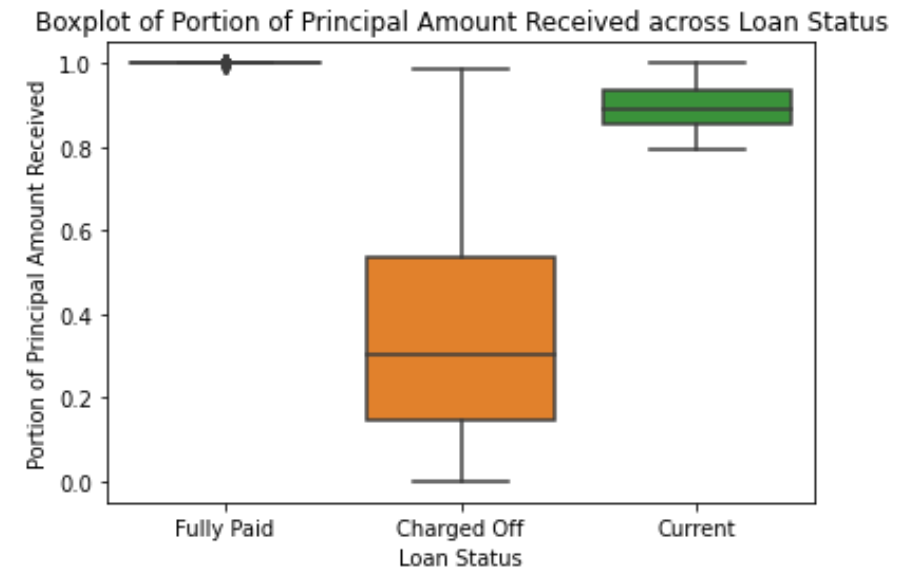
- NE/Nebraska has the highest percentage of Charged-Off, but, only 3 loans are provided there
- + NV/Nevada has the second highest percentage of Charged-Off (22%)

# Current status borrowers have returned 80% of principal amount



Calculation: Total Payment divided by Funded Amount

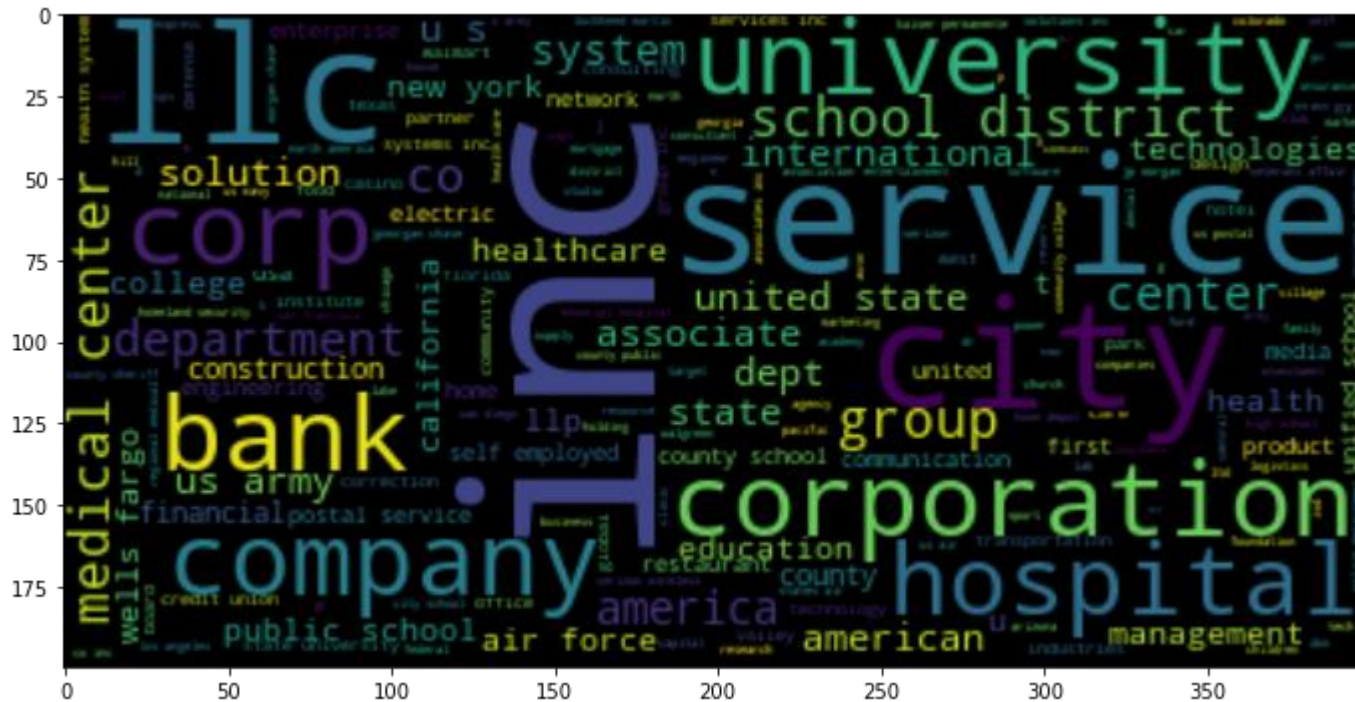
- For both Fully-paid and Current customers, more money have been received than the principal amount, which is due to the interest rates.



Calculation: if Total Received Principal divided by Funded Amount

- Current status borrowers have already returned 80% of the principal amount
- About 50% of the Charged-Off borrowers have return less than 30% of the principal amount

Borrowers' titles contain corporate,  
university or hospital related titles



Loan descriptions contains term - "loan",  
"payment", "credit card", "etc."

