

Lending Case Study

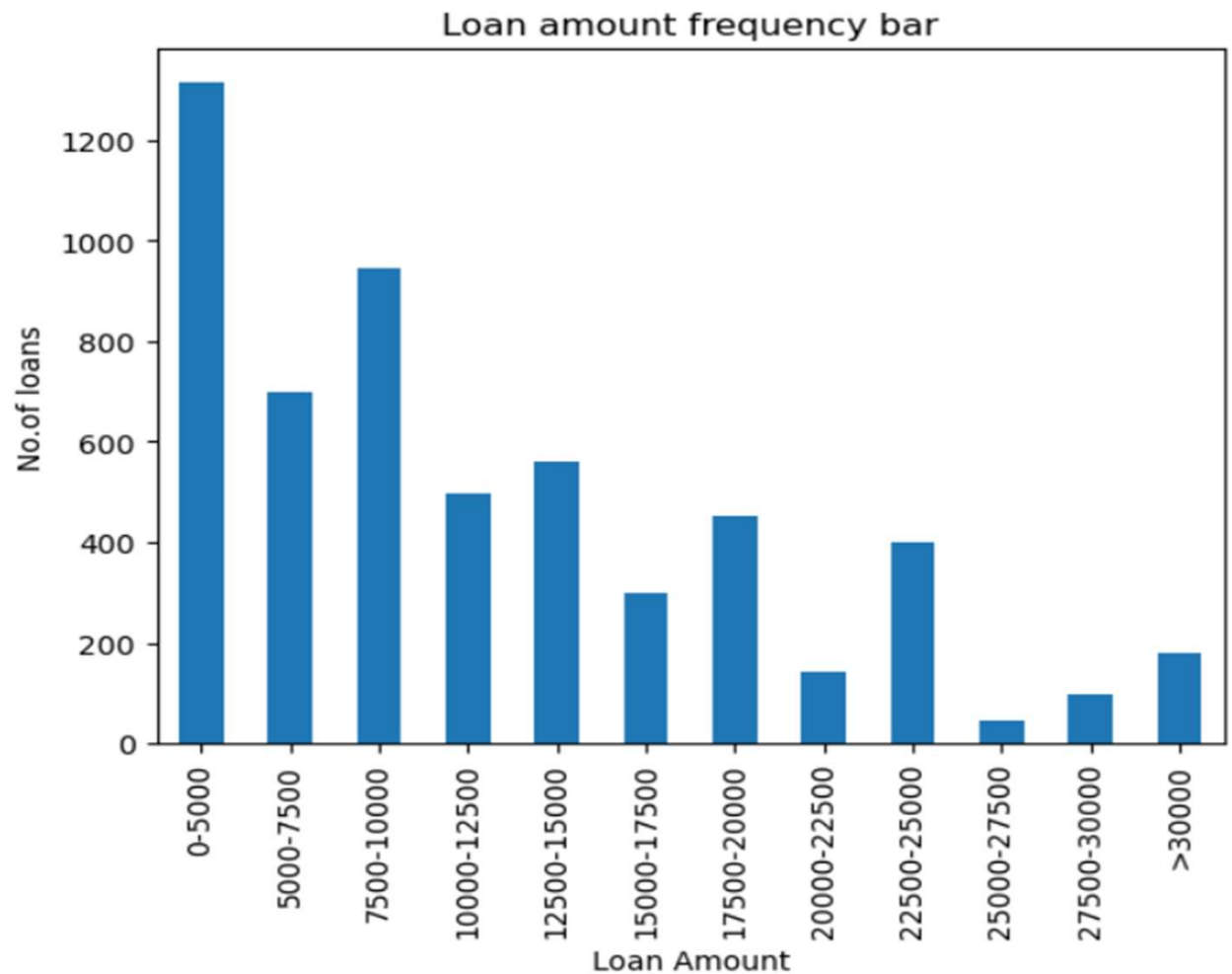
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And

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Loan amount distribution: Loan amount in the range of 0-5000 are the most applied ones.

loan_amnt	
0-5000	1314
7500-10000	945
5000-7500	697
12500-15000	560
10000-12500	495
17500-20000	452
22500-25000	398
15000-17500	299
>30000	180
20000-22500	144
27500-30000	97
25000-27500	46

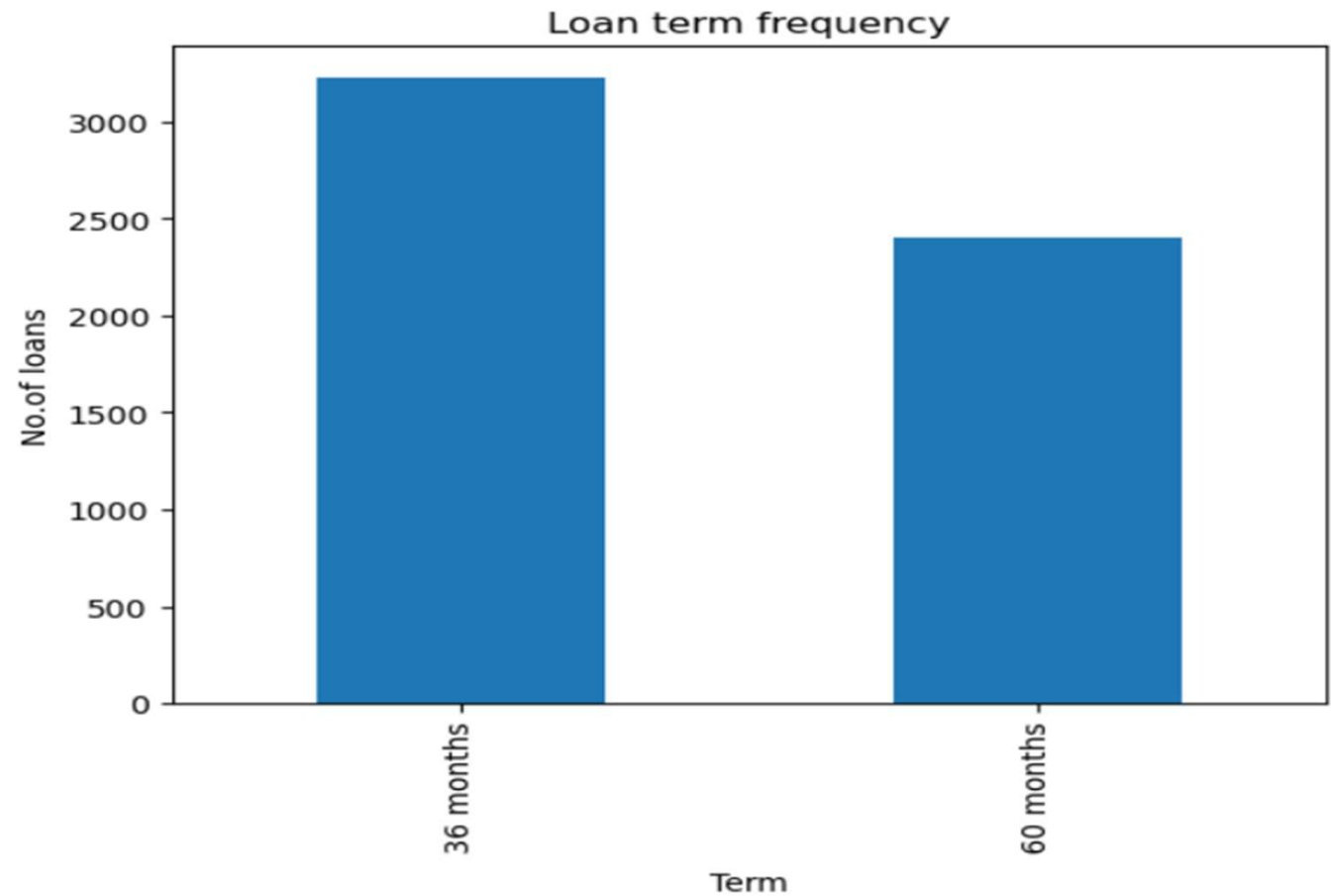


Loan Term Frequency Distribution: Loan terms with 36 months defaulted the most.

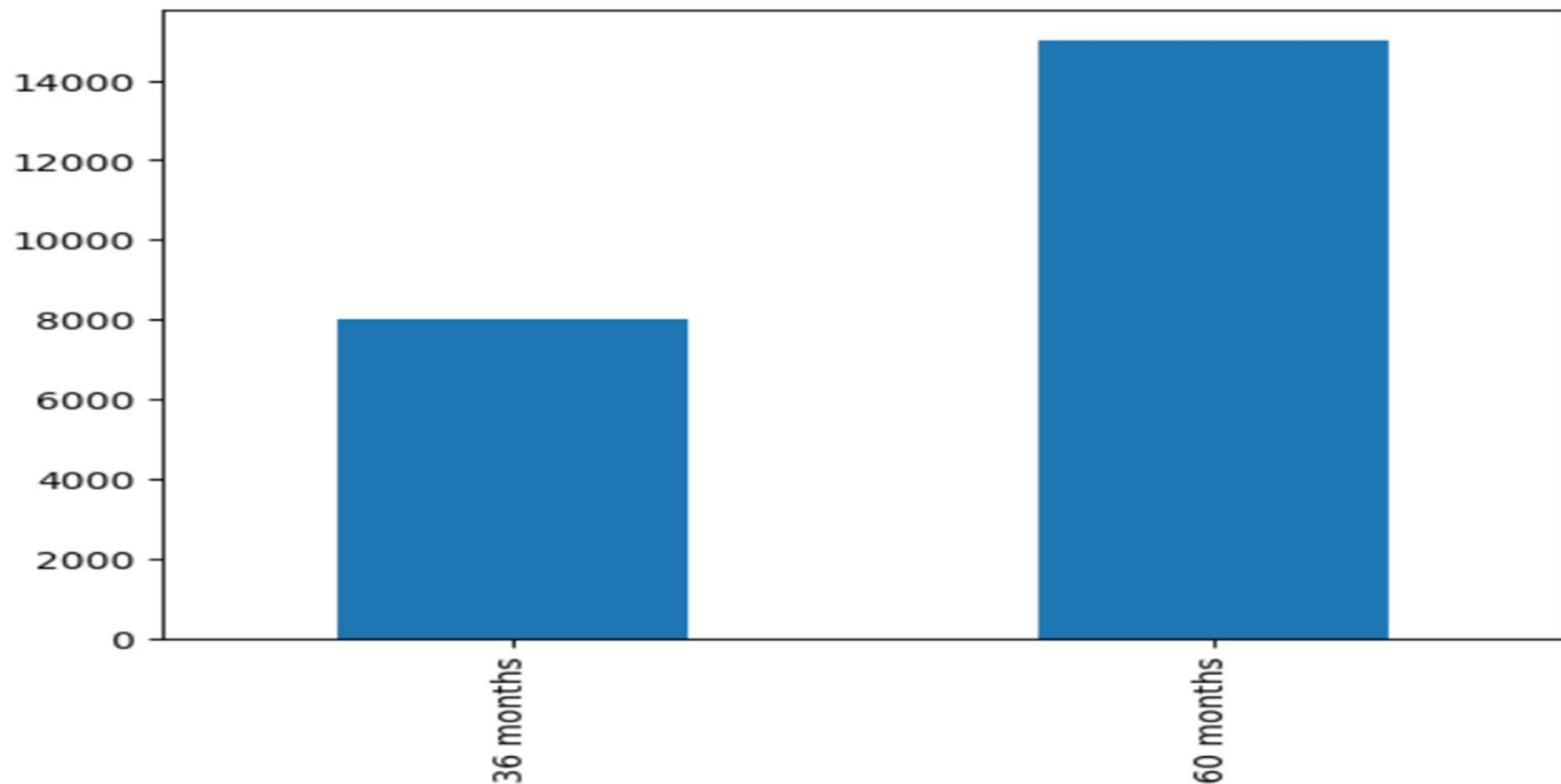
term

36 months 3227

60 months 2400



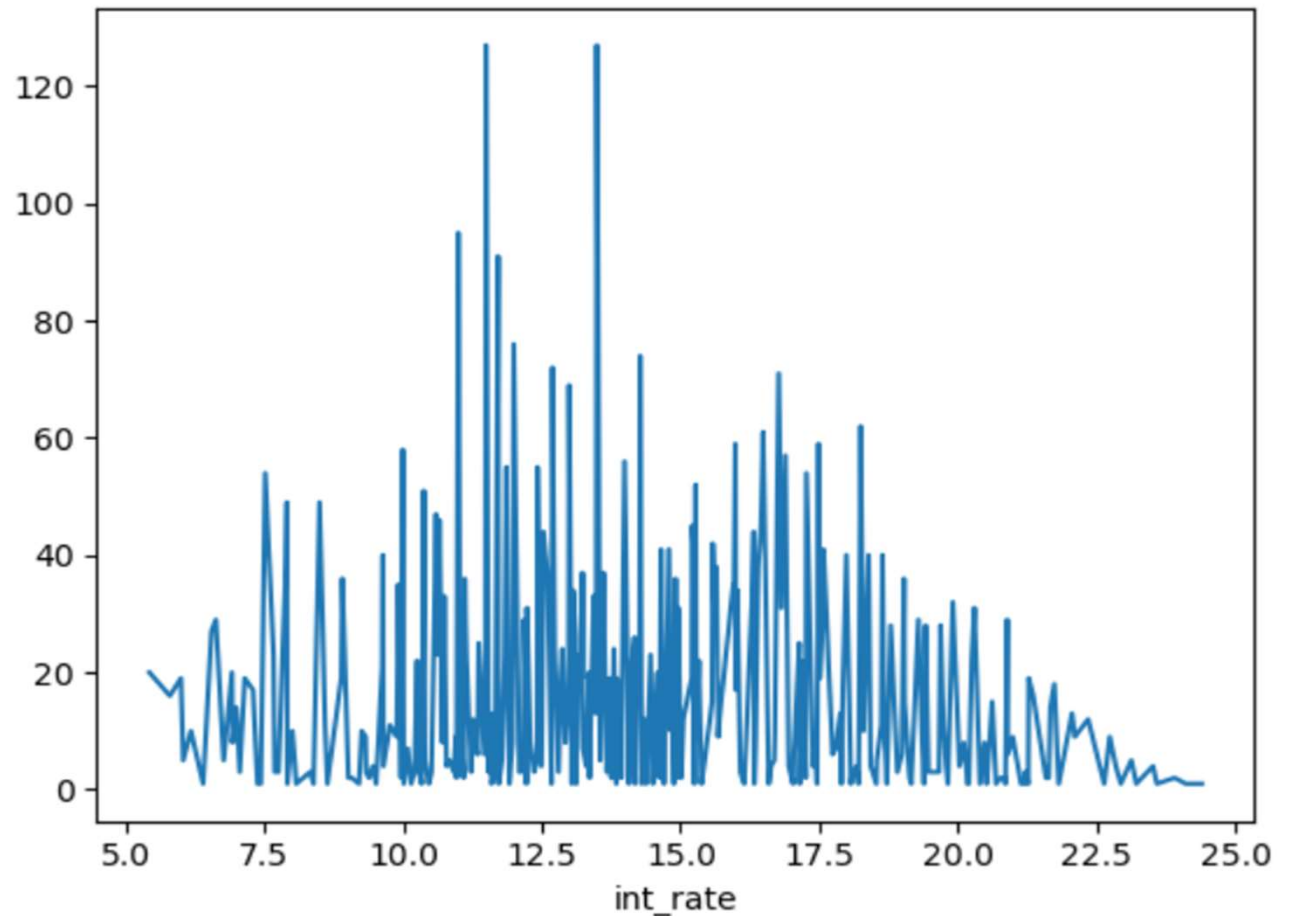
Loan Amount aggregated for Loan Term: The aggregation of total loan amount is more for 60 months duration. But, as we saw in the previous slide, 36 months term loans defaulted the most.



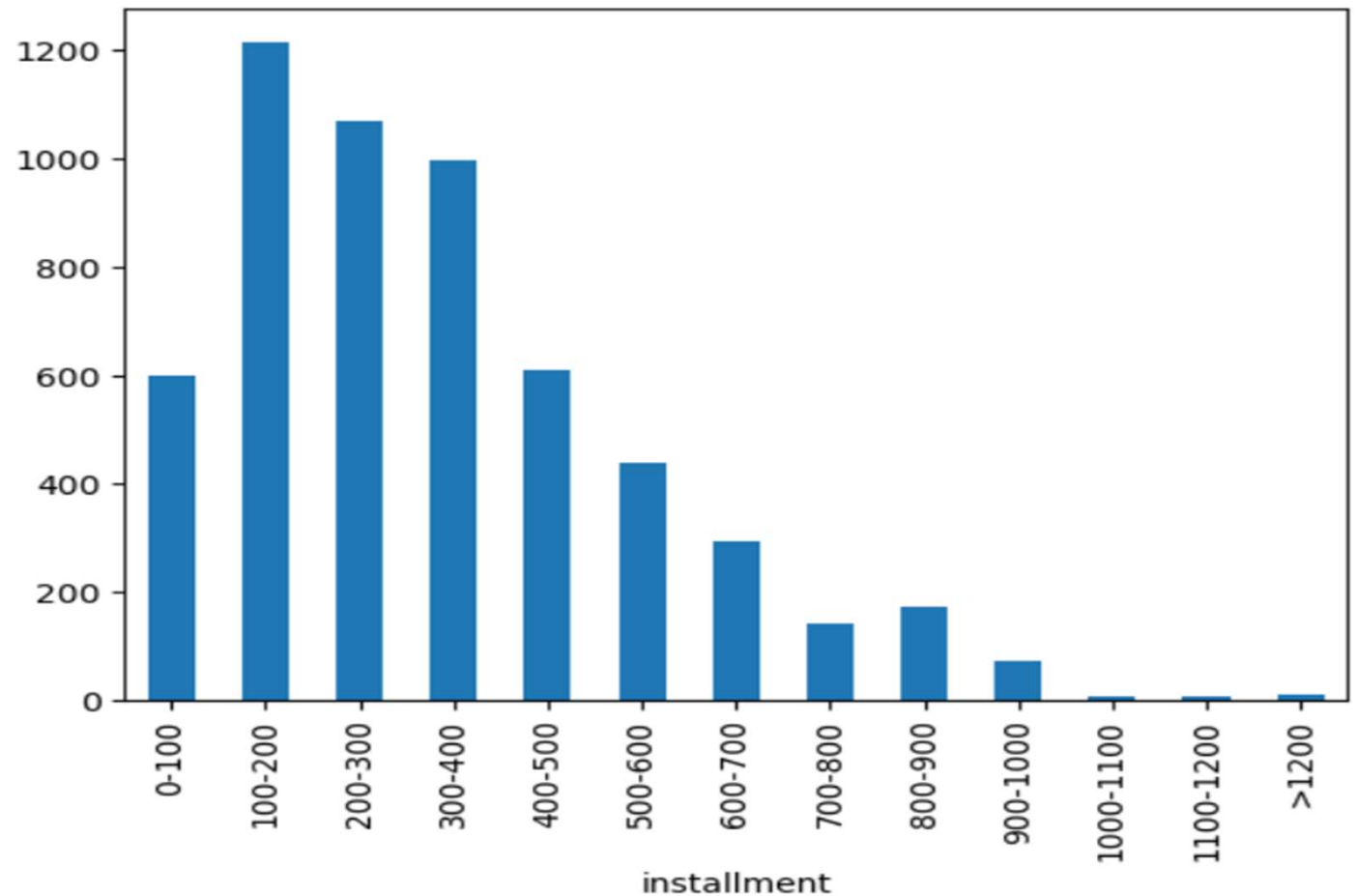
Interest Rate distribution: There are two peaks for 13.49% and 11.49% interest rates. Loans with these two interest rates have defaulted the most.

count	5627.000000
mean	13.820432
std	3.654413
min	5.420000
25%	11.310000
50%	13.610000
75%	16.400000
max	24.400000

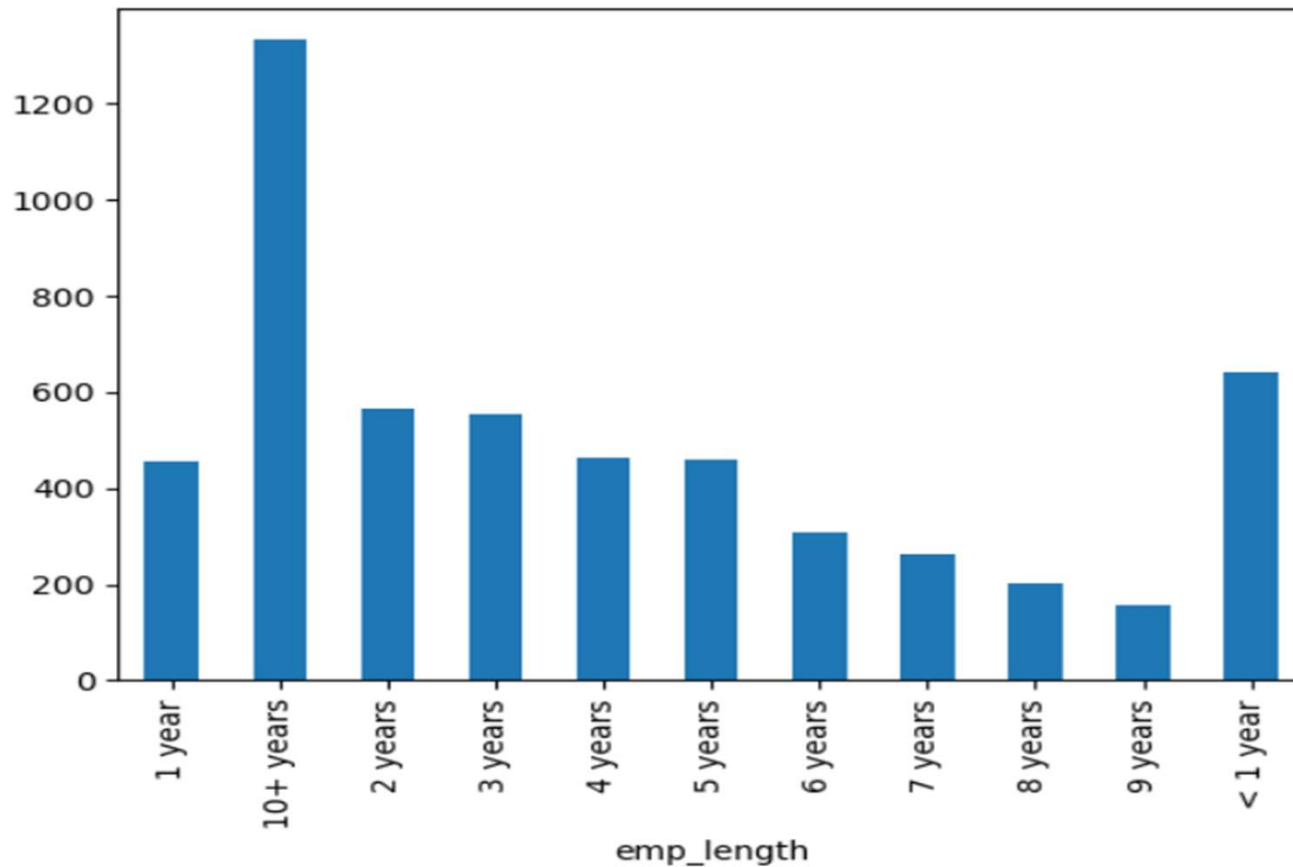
From the above data, it can be seen that 50% of the loans defaulted have an interest rate of 13.61%.



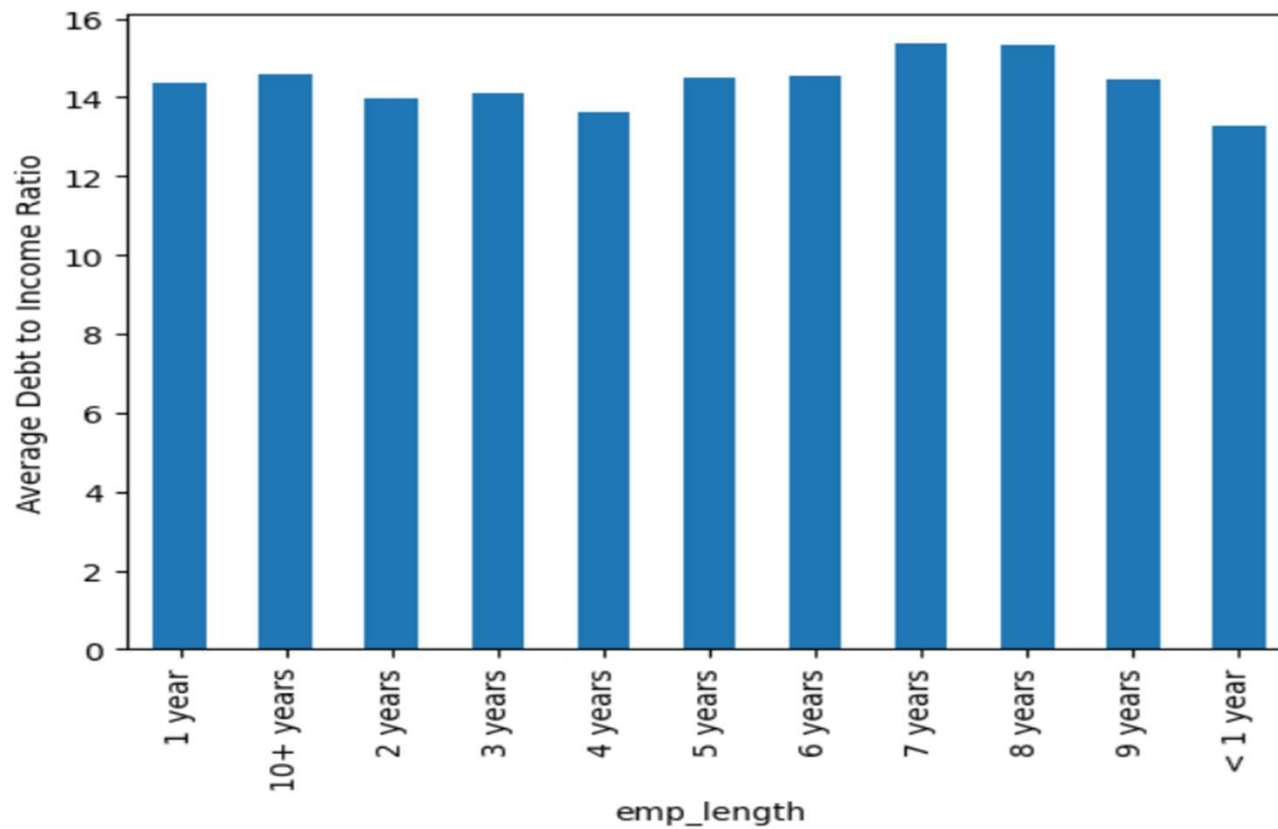
Installment Range Distribution: Installments ranging between 100 to 400 have highest no.of defaulted loans.



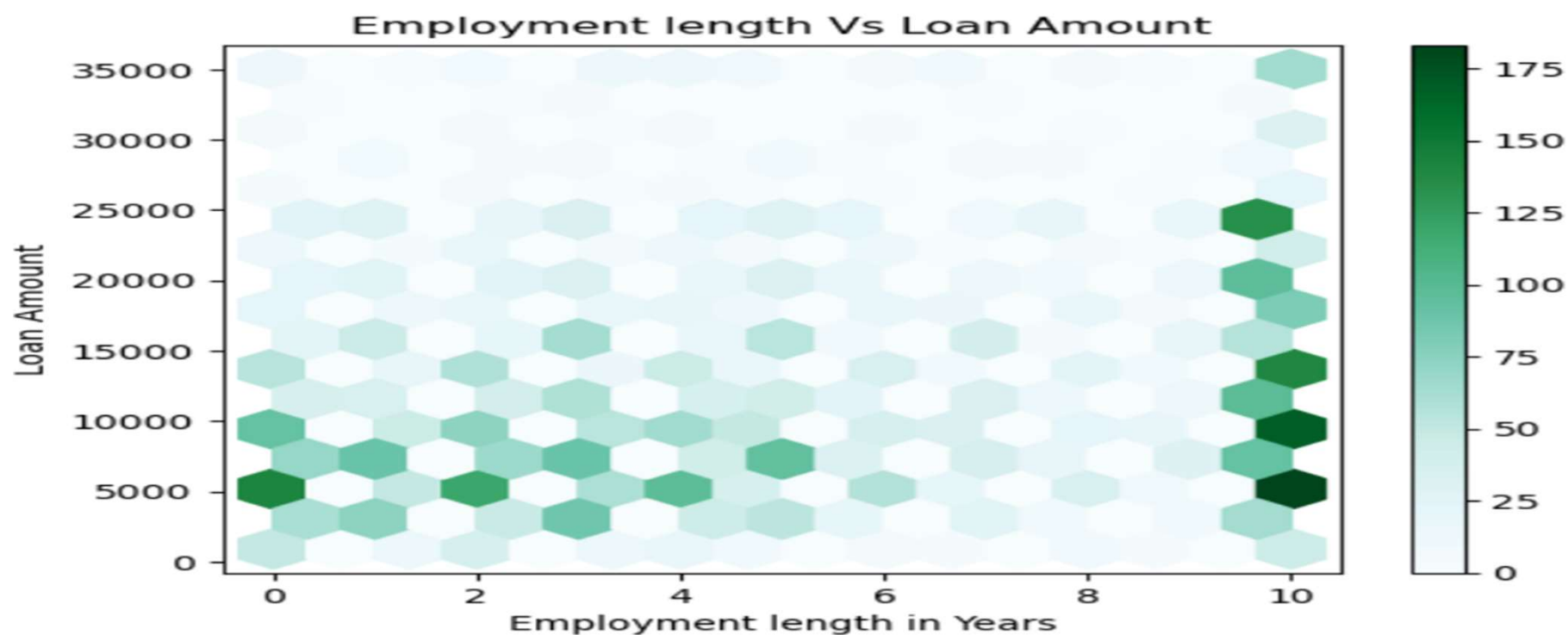
Employment Length Distribution: Maximum loan defaults is done by applicants with 10+ years of employment duration.



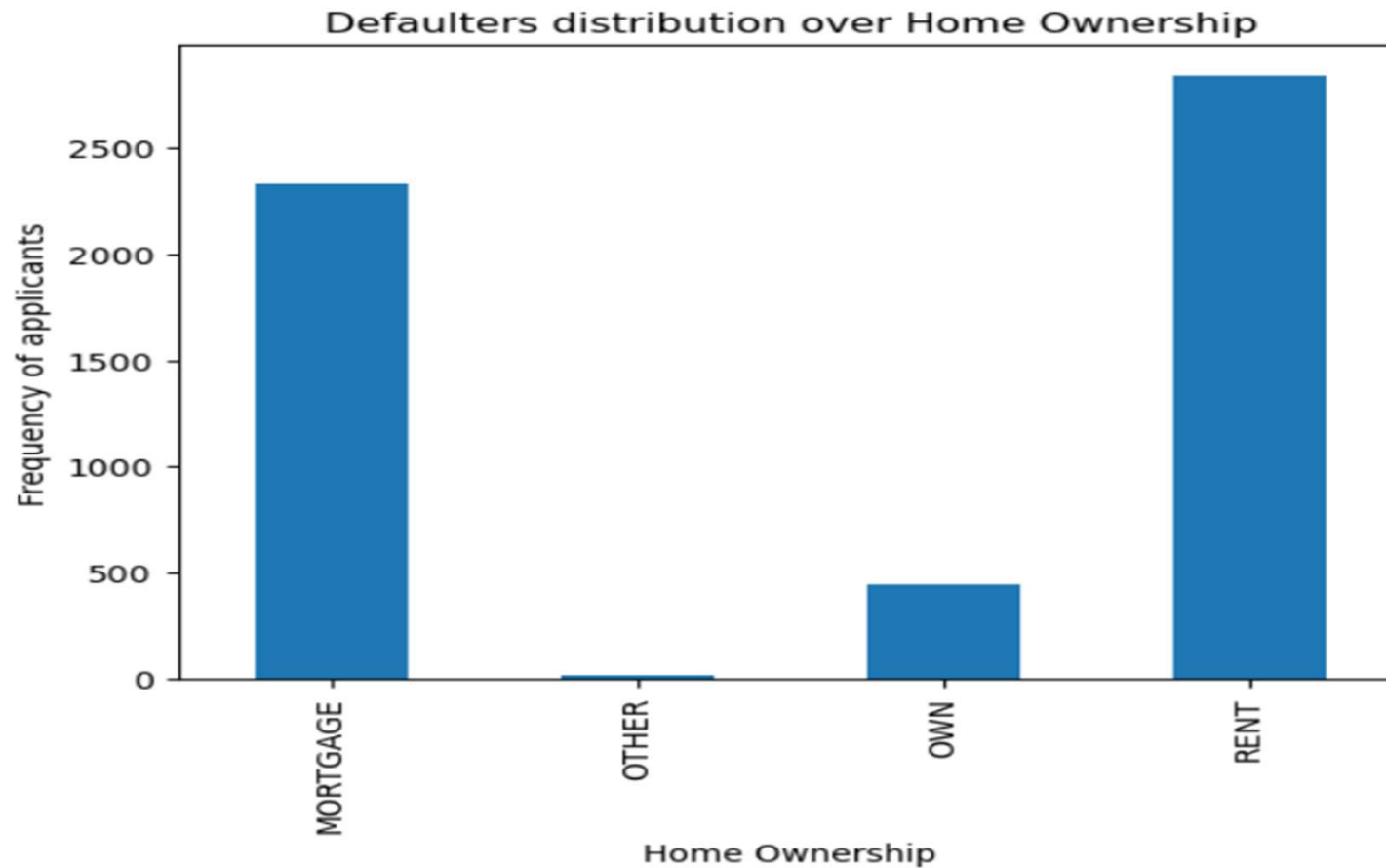
The average Debt to Income ratio per employment length is almost the same for all employment length category.



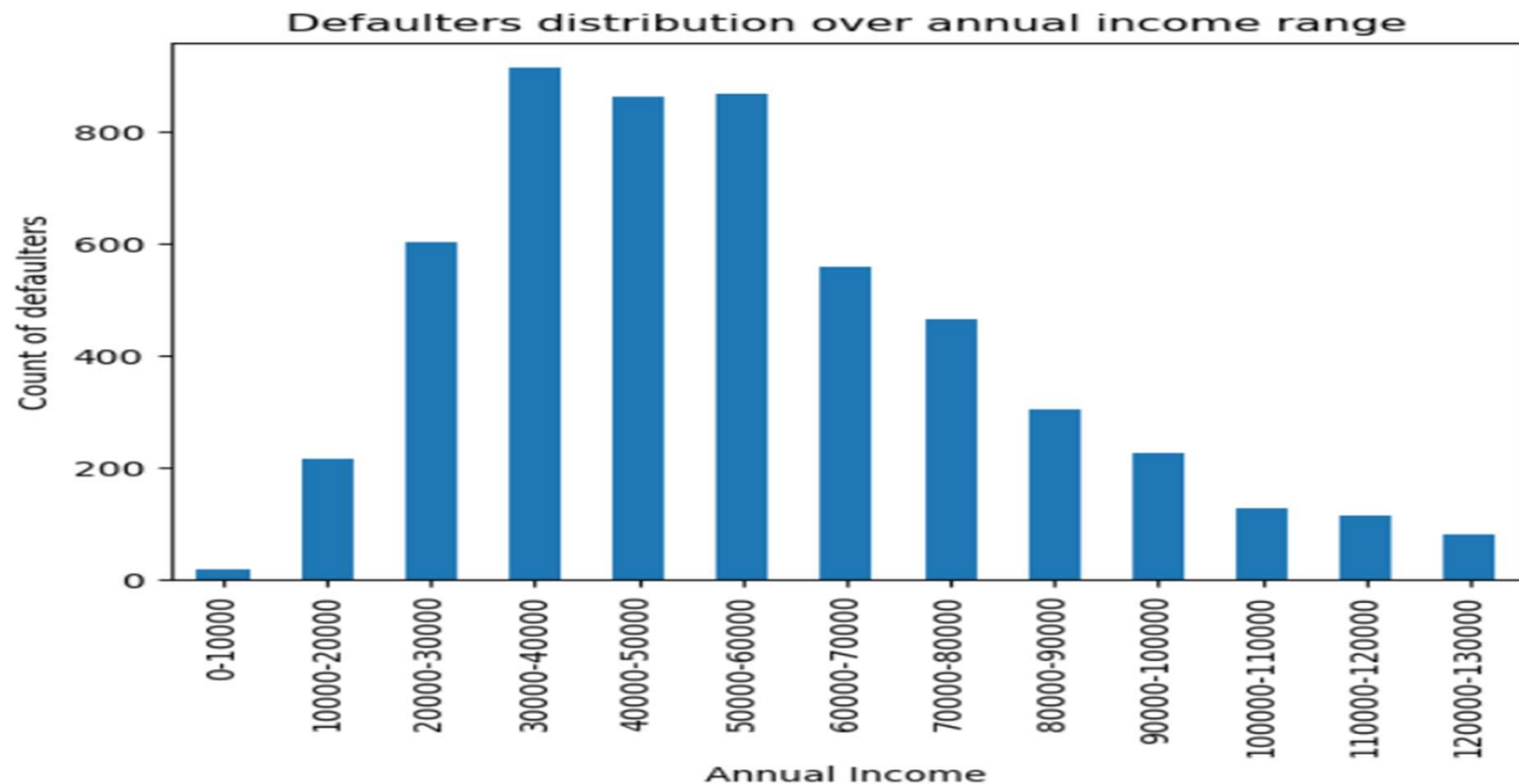
Employment Length Vs Loan Amount: Applicants with 10+ years experience have applied for the maximum no. of loans for ranging between 5000 to 10000. They have defaulted the most irrespective of the loan amounts.



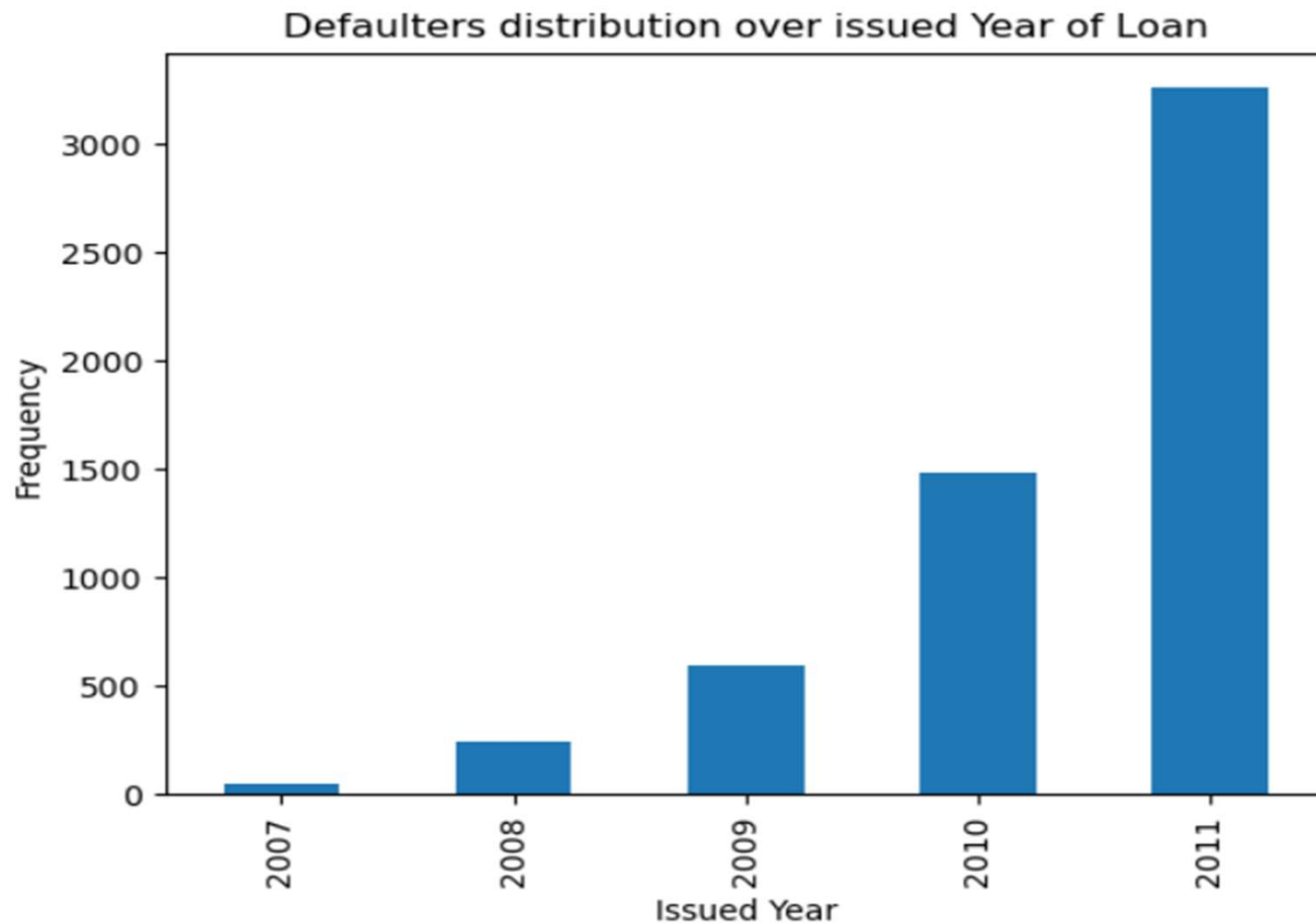
Home Ownership Distribution: Applicants with Rent and Mortgaged accommodations cumulatively defaulted the highest proportion.



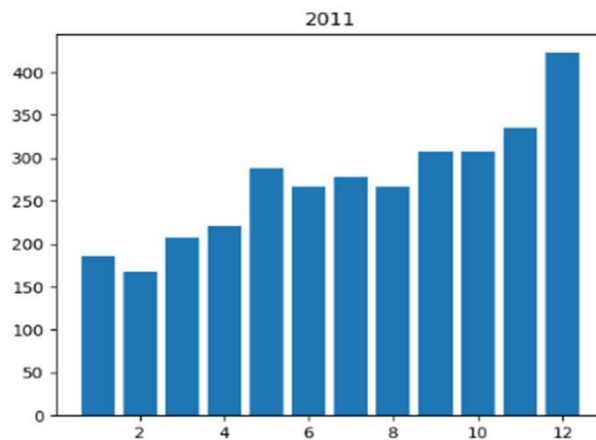
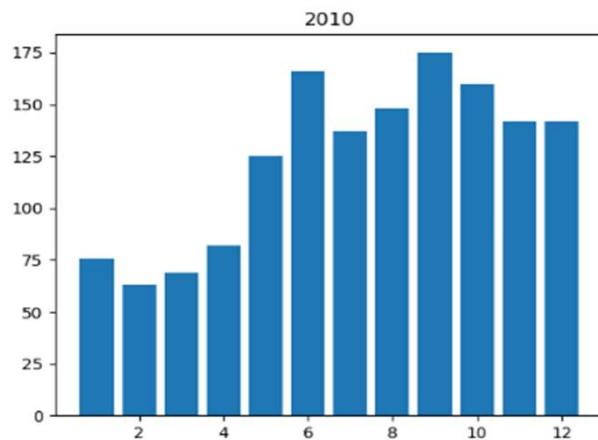
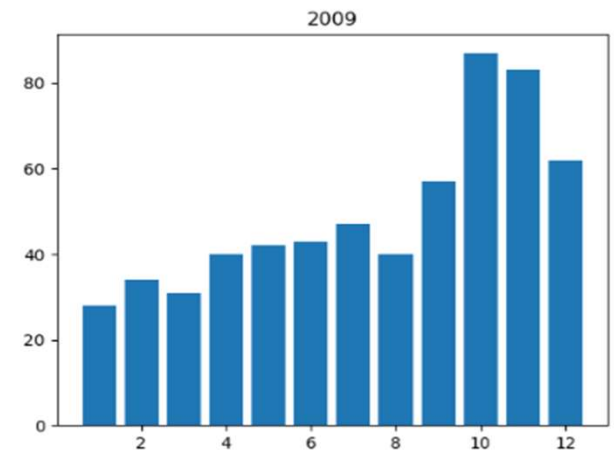
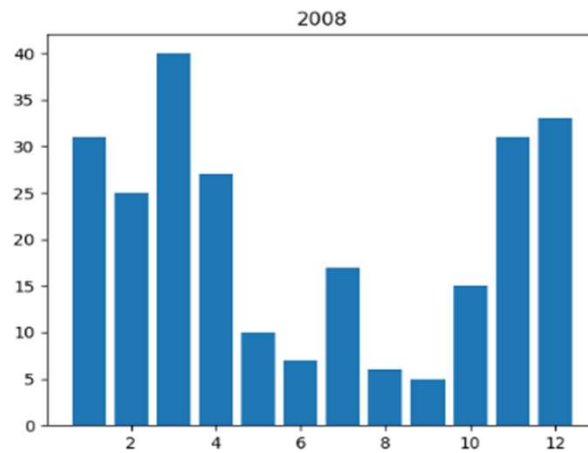
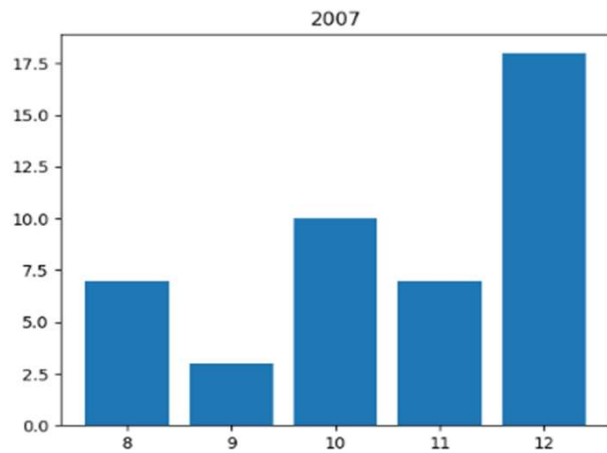
Annual Income Distribution: As the annual income increases, the defaulted loan count is also increasing and is a peak at 30000-40000 range, followed by 40000-60000.



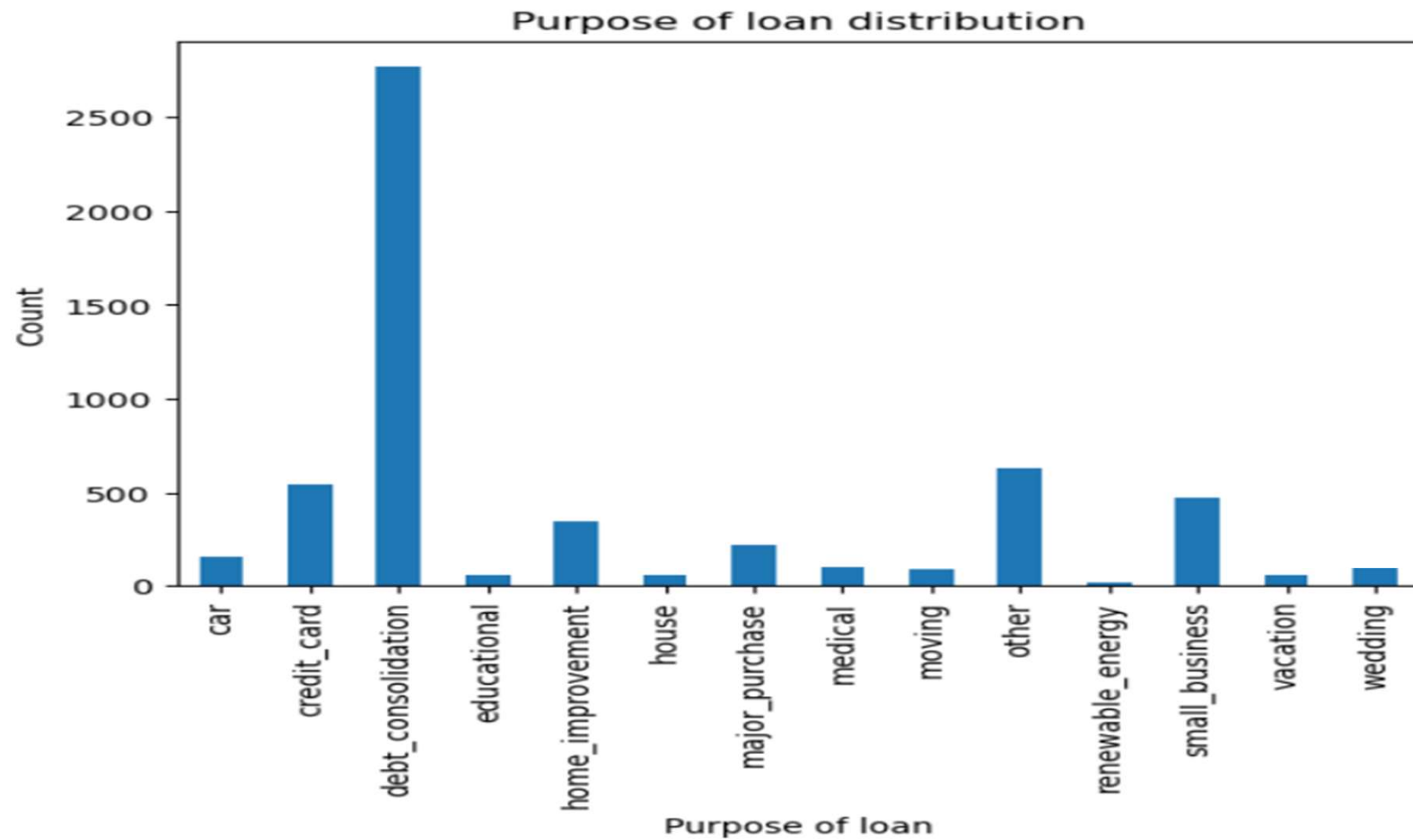
Distribution of Issued Loan Year: Loans issued in 2011 have defaulted the most.



Defaulted Loan Count Distribution Month-wise for Years 2007 to 2011.

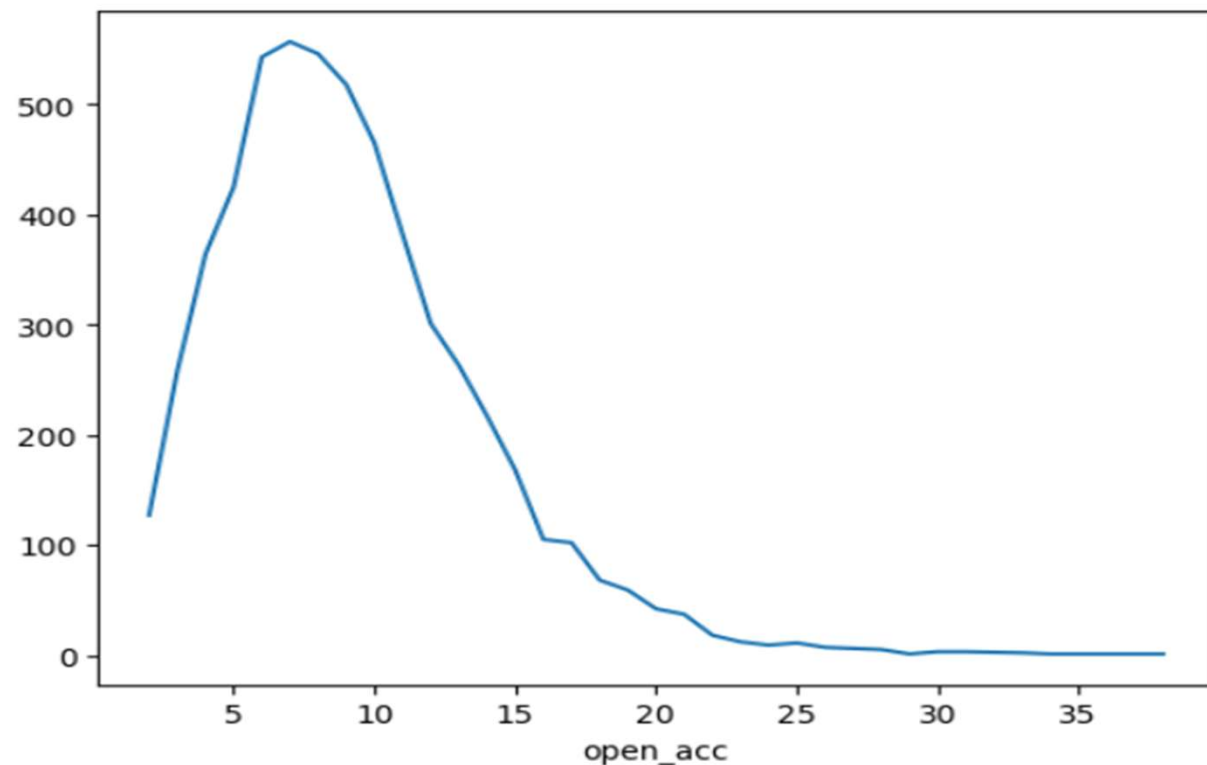


Loan Purpose distribution: Loan taken for debt consolidation have defaulted the most.

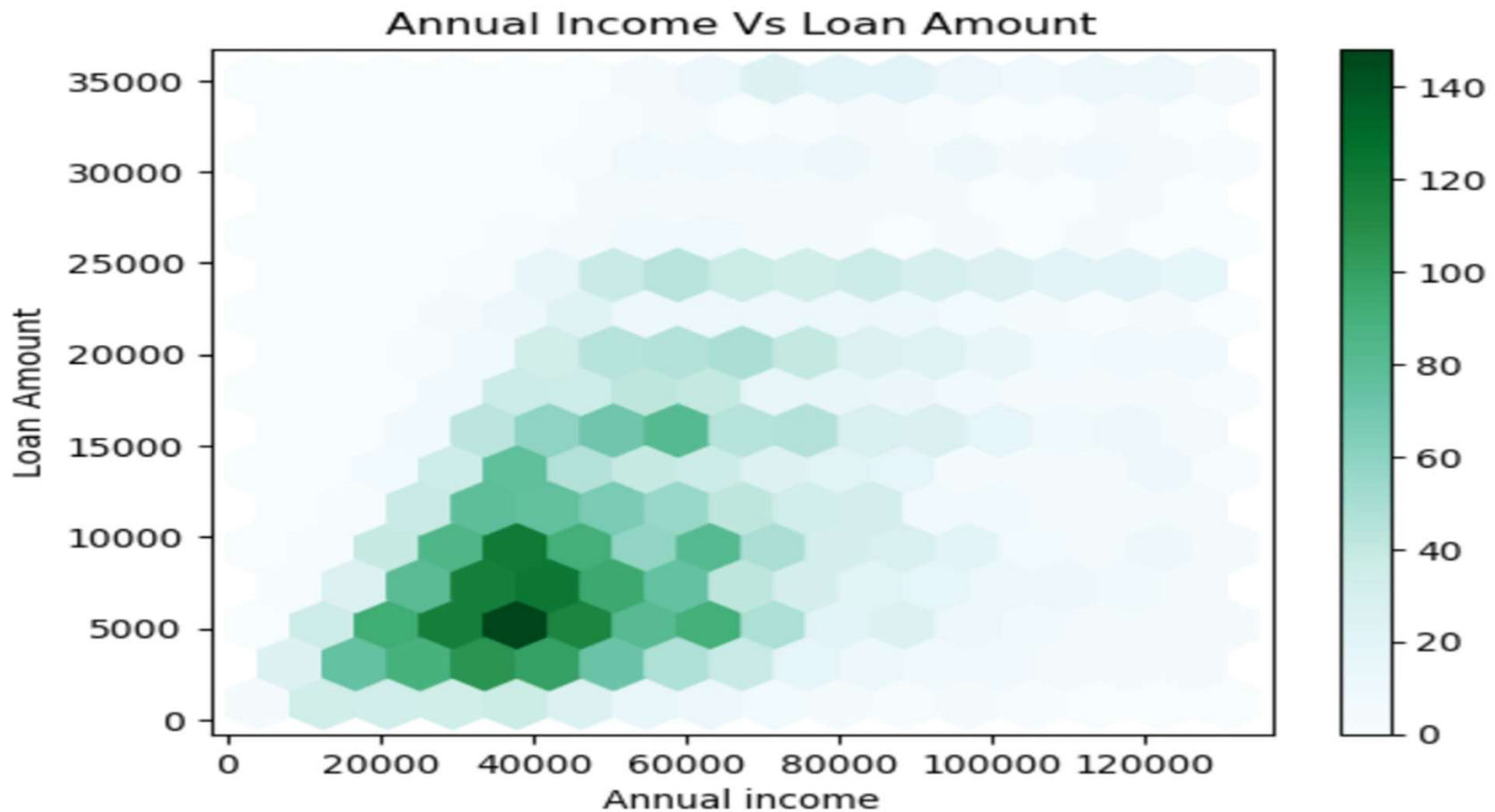


Open credit line distribution: As the no. of open credit lines for increased, the no. of loan defaults also increased and peaked at 7 no. of open credit lines.

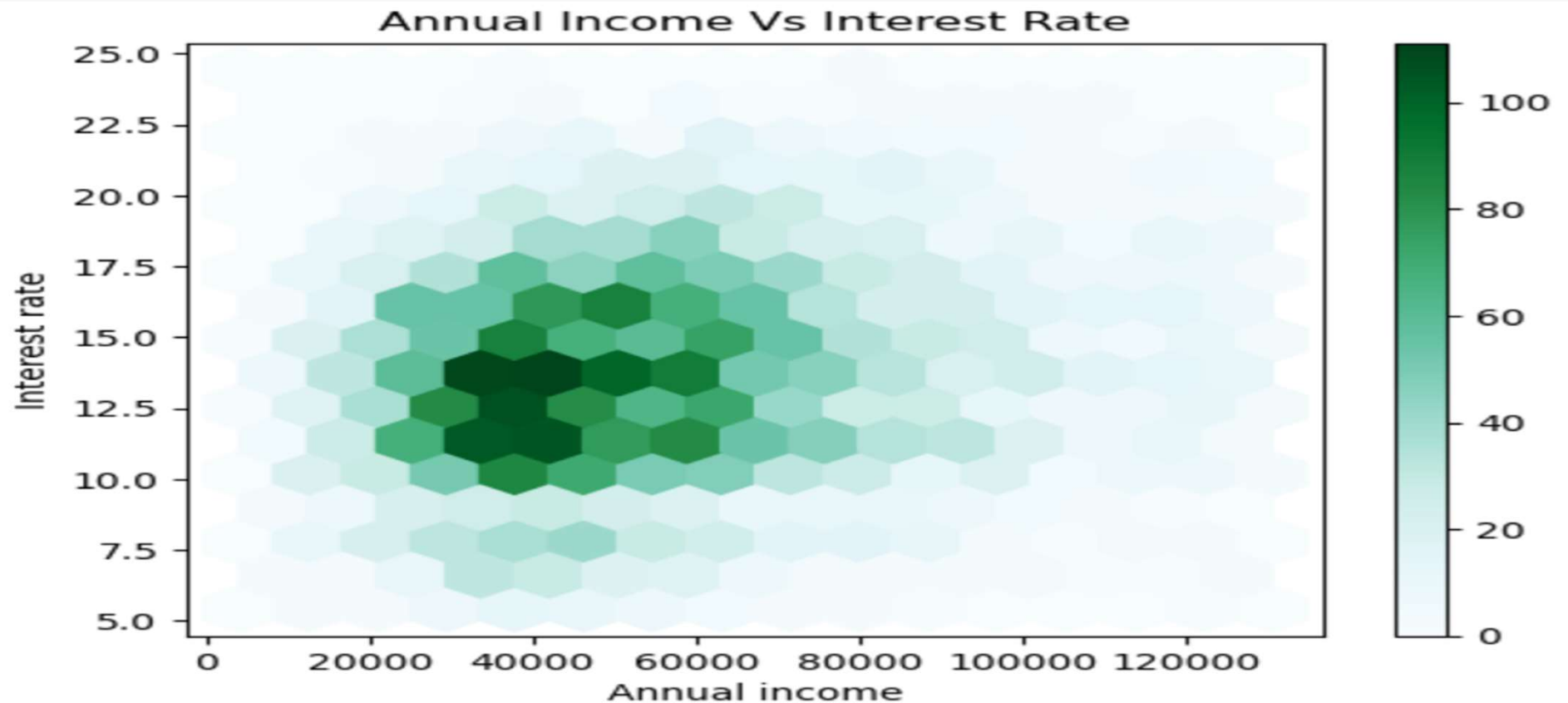
open_acc	
7	557
8	546
6	543
9	518
10	465
5	425
11	382
4	364
12	301
13	263
3	258
14	217
15	168
2	127
16	105
17	102



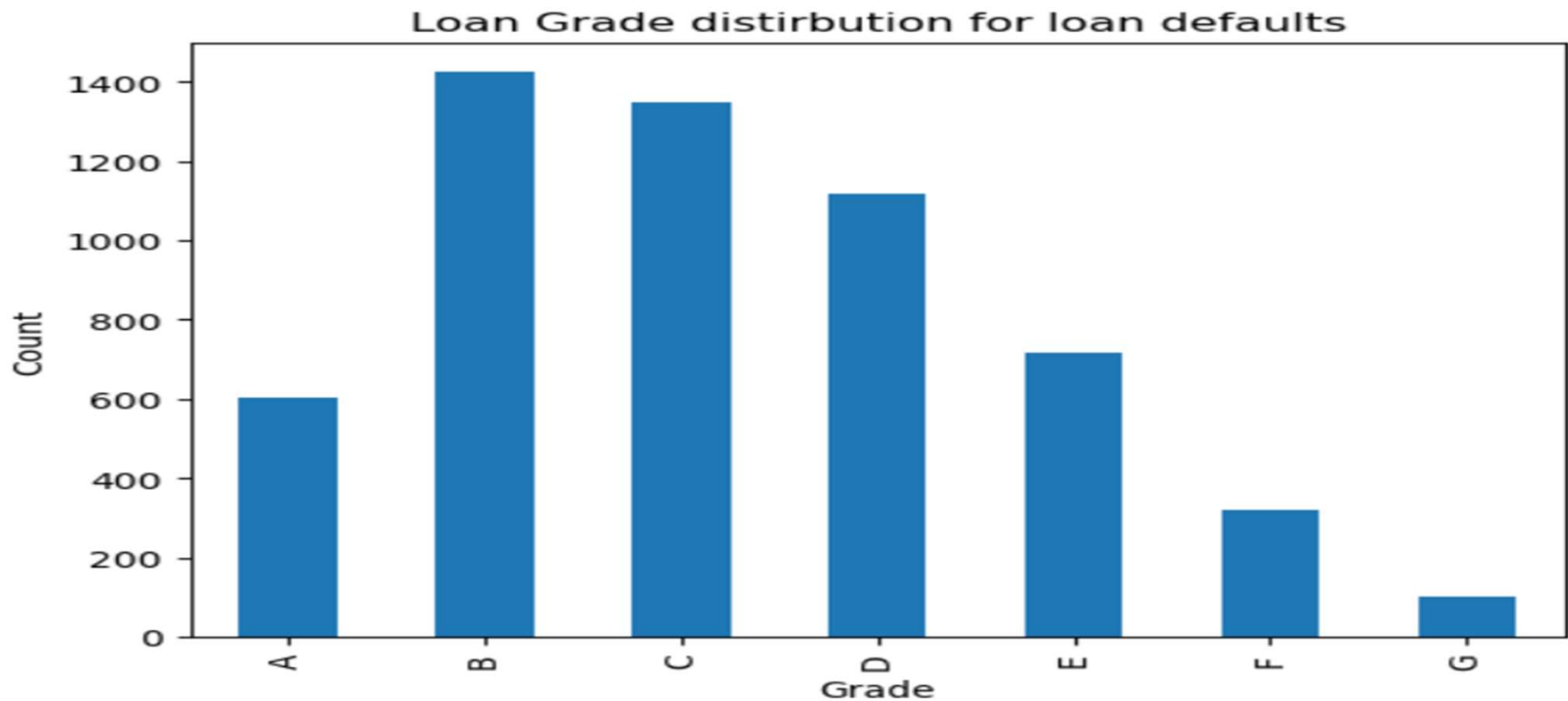
Annual Income Vs Loan Amount: Applicants with an annual income ~ 40000 and applied for a loan of ~ 5000 have defaulted the most. The cluster of highest defaulters is around ~ 15000 to ~ 70000 annual income and ~ 2000 to ~ 15000 loan amount.



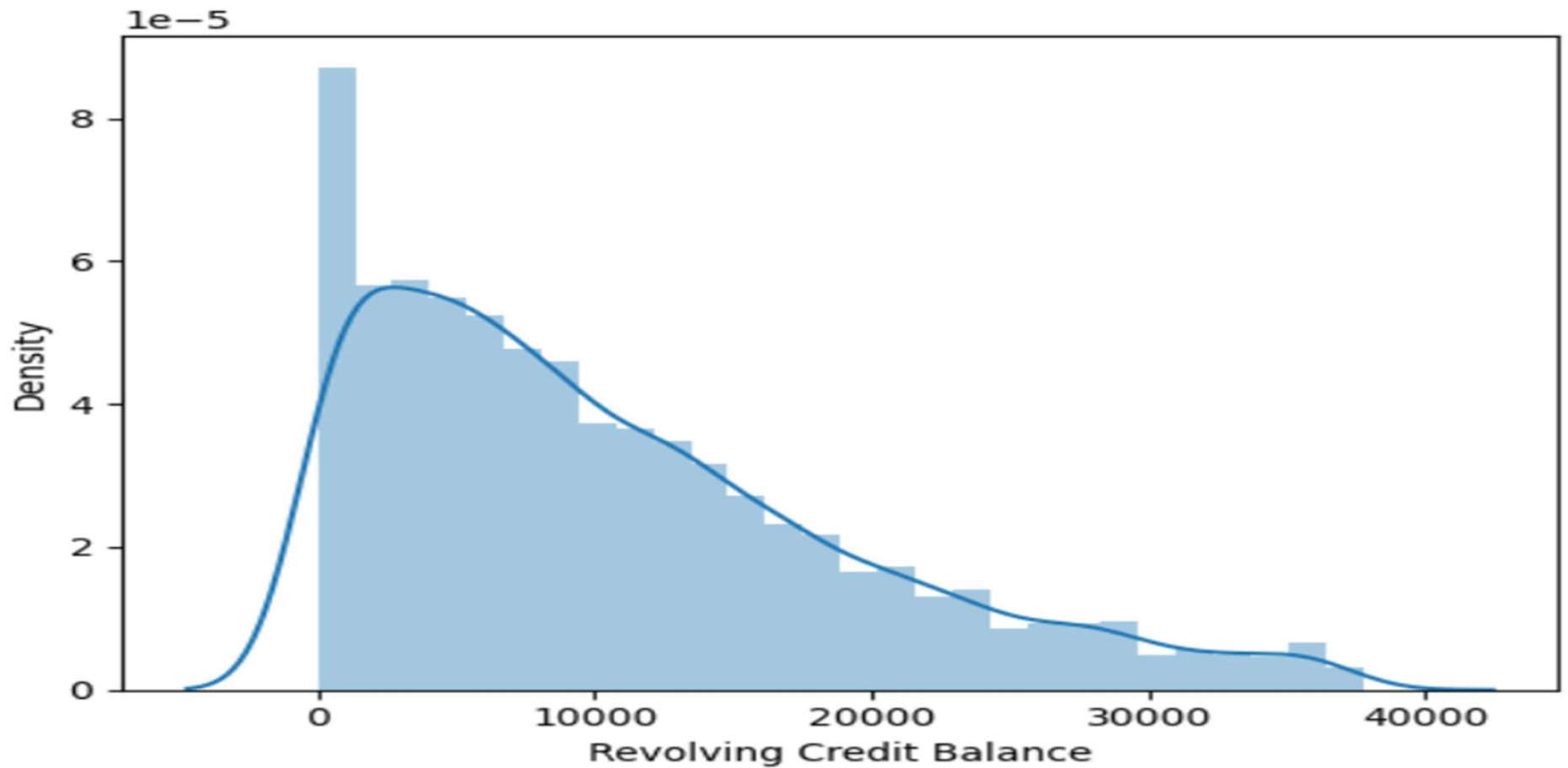
Annual Income Vs Interest Rate: Annual income in the range of ~30000 to ~50000 having interest rate in the range ~11.5 to ~13.5 have the highest defaulters.



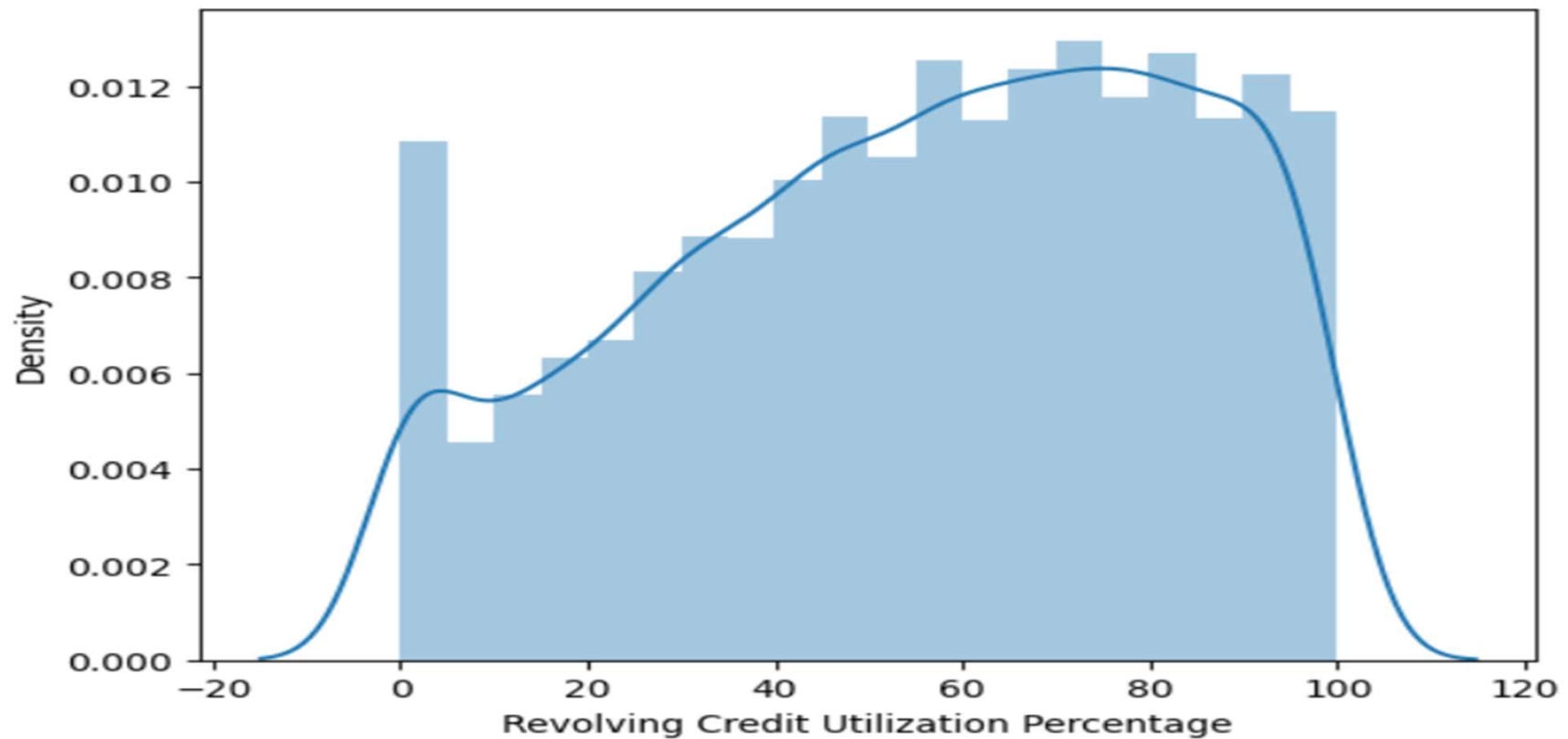
The highest no.of defaulted loans are of grade B followed by grade C and D.



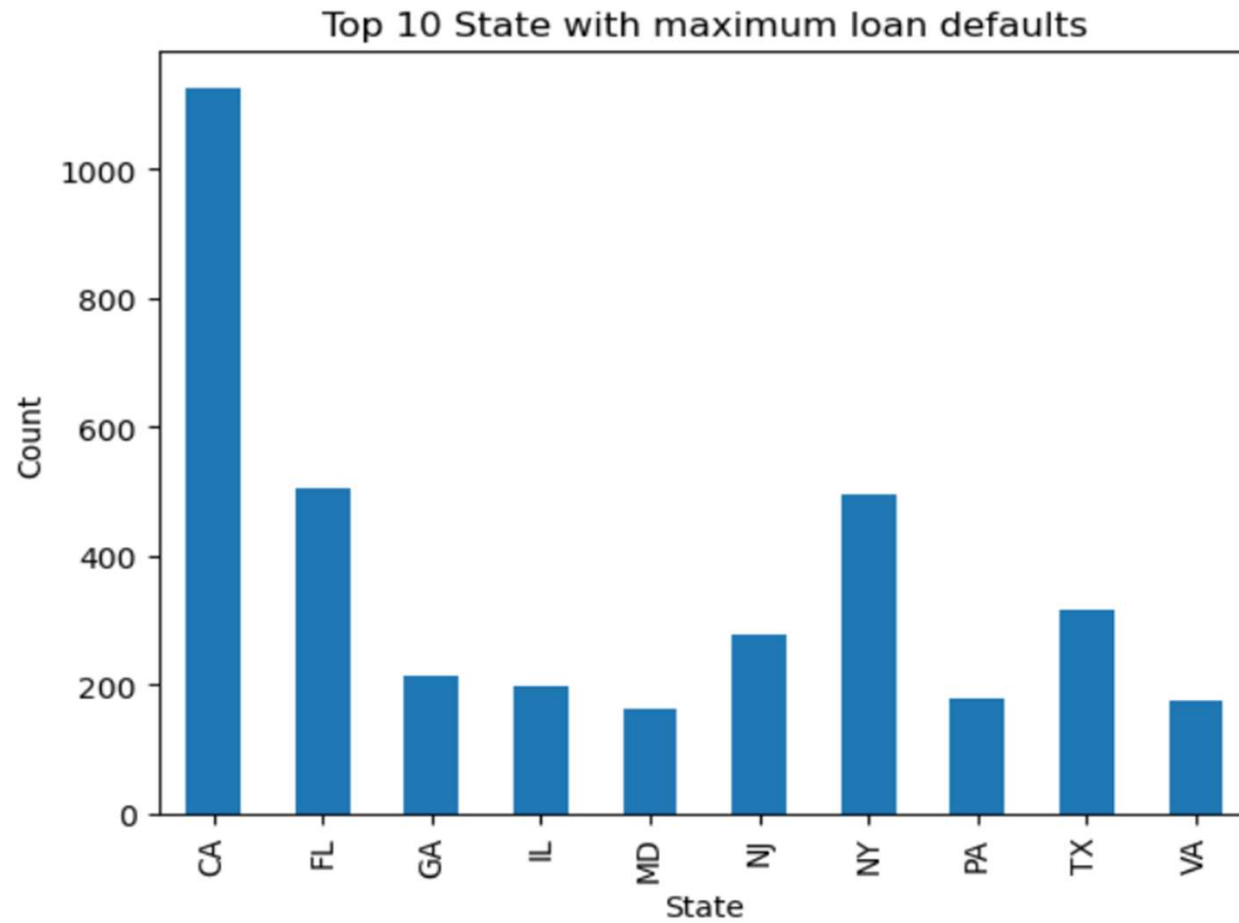
Maximum defaulters have a revolving credit balance of between 0 to 10000.



As the revolving credit utilization percentage is increasing, so is the no. of loan defaults. The distribution graph shows a peak at around 80%.



State with highest no. of defaulted loan counts is CA followed by FL and NY.



As we can see from the heatmap between the top 10 States with defaulted loans, irrespective of the State, debt consolidation has highest share of defaulted loans.

