EDA Case Study

Presented by:

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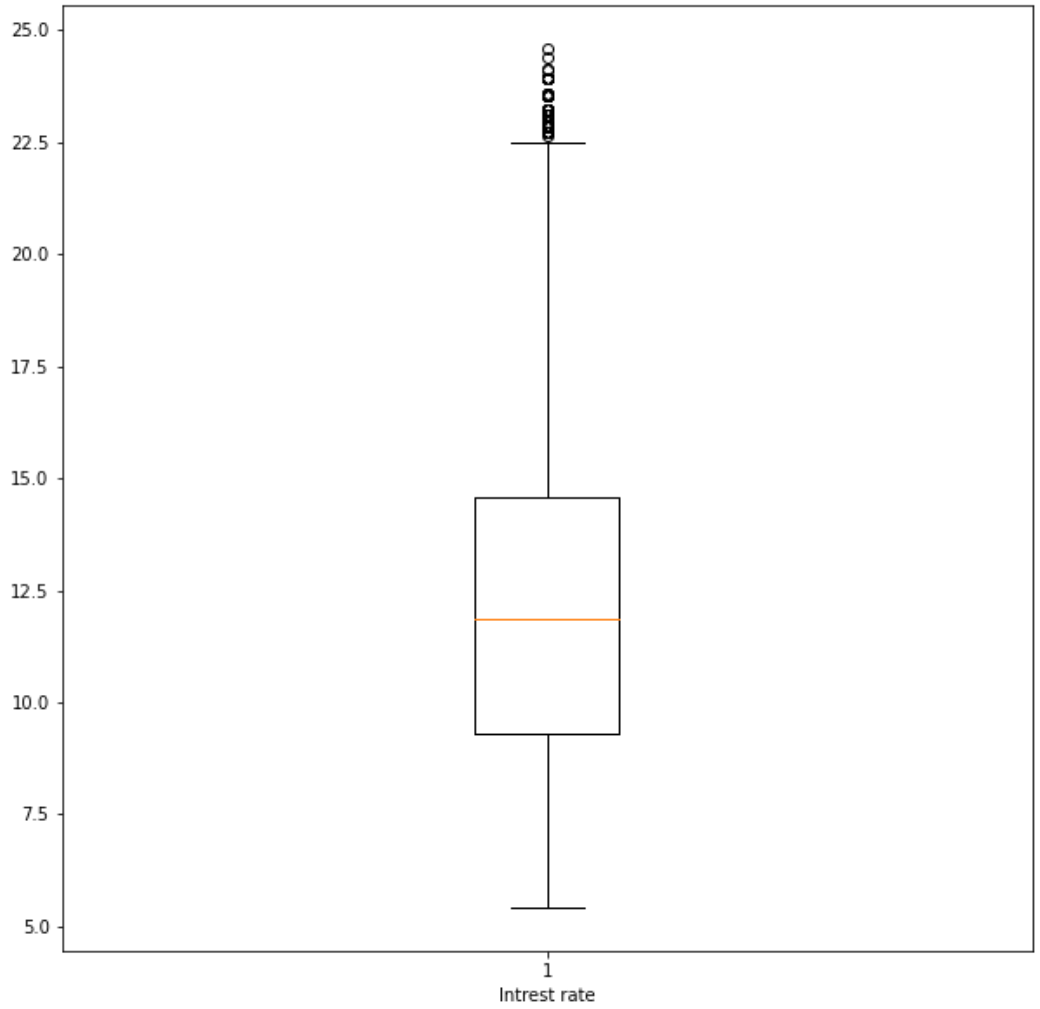
Univariant Analysis

Distribution of Interest rate

Points to be concluded from the graph on the right side.

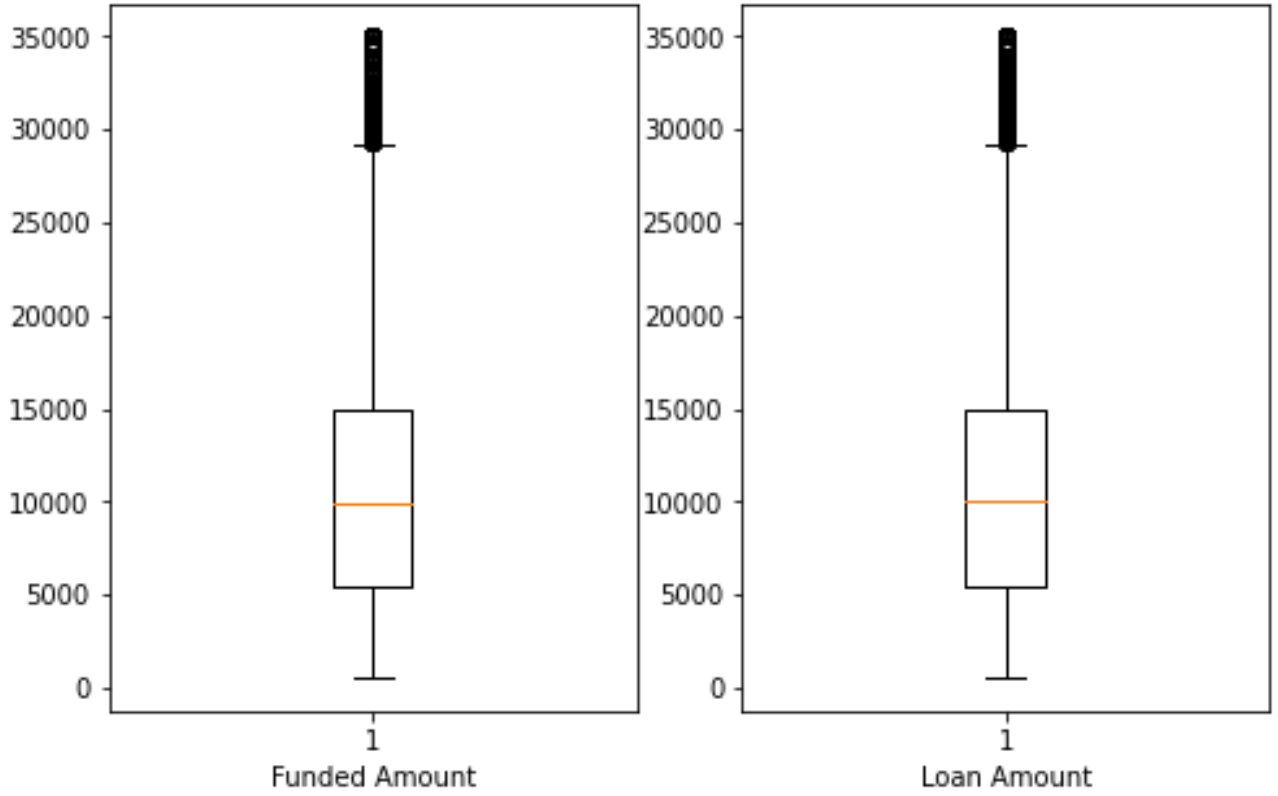
- Average interest rate is 12.05.
- Median is 11.86
- But, we can observe some outliers in the graph.
- We study further about these outliers in Interest rate.



Distribution of Funded Amount and Loan Amount

Points to be concluded from the graph on the right side.

- Average funded and loan amount are 11017 and 11291 respectively.
- Median values are 9950 and 10000 respectively.
- Here we observed funded amount and loan amount are almost equal.
- We study more details further.



Distribution of Employment years

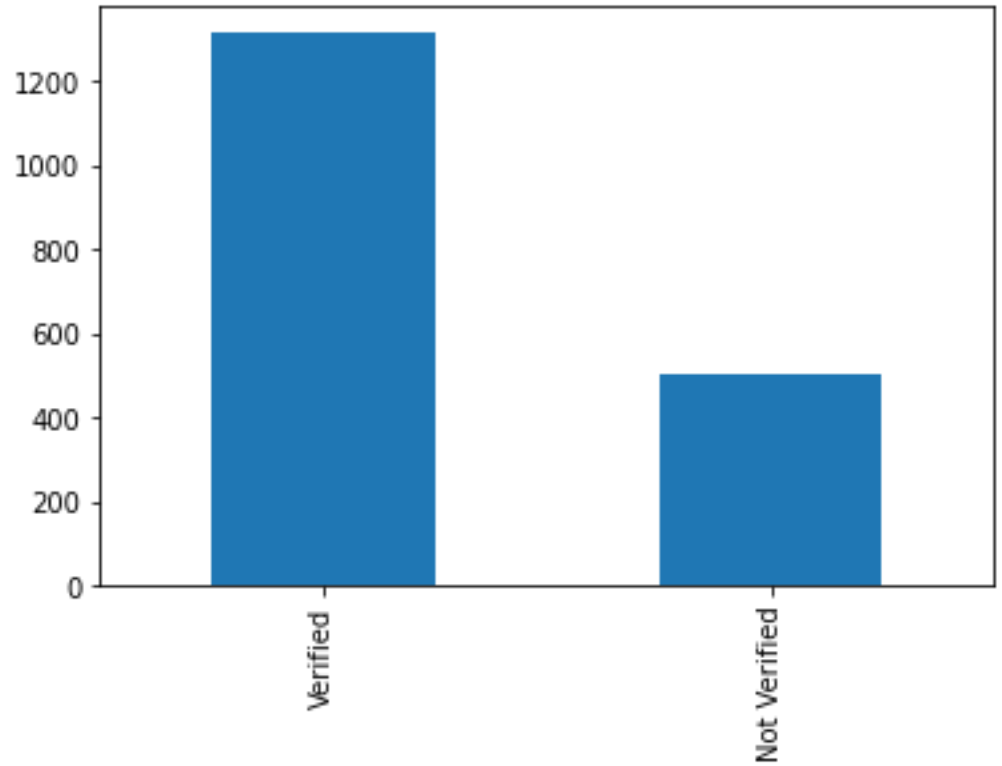
Points to be concluded from the graph on the right side.

- Average employment years are approximately 5 years.
- Median is 4 years.

Verification status vs Count

Points to be concluded from the graph on the right side.

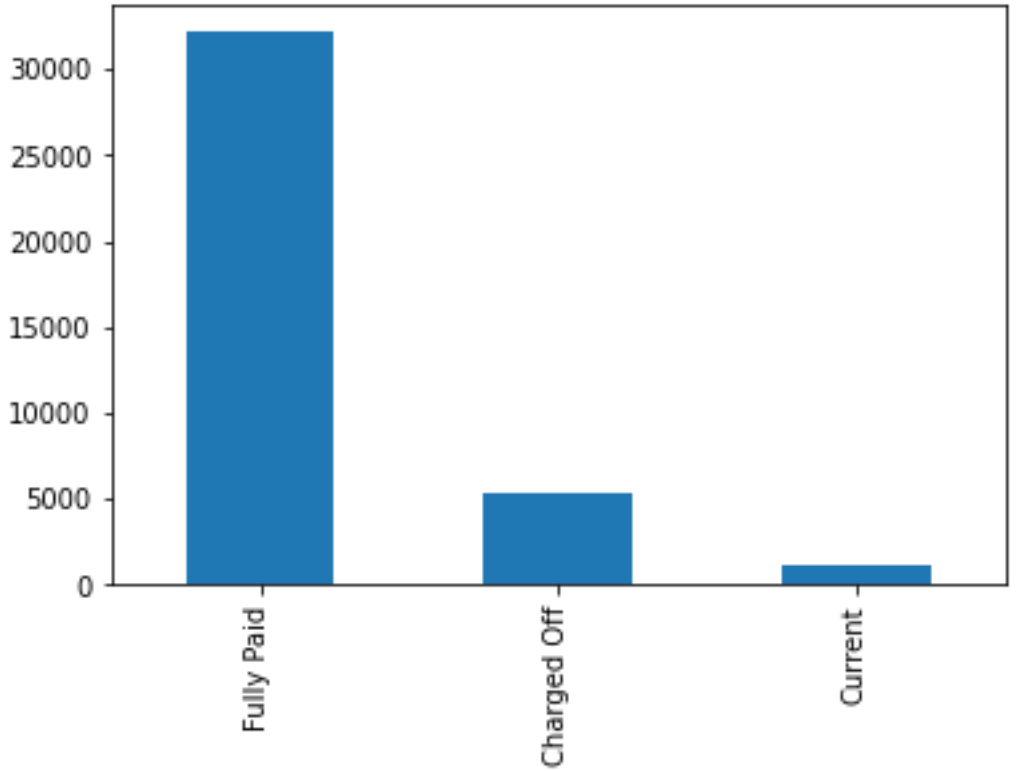
- We can observe that almost 70% of users are verified users



Loan status vs Count

Points to be concluded from the graph on the right side.

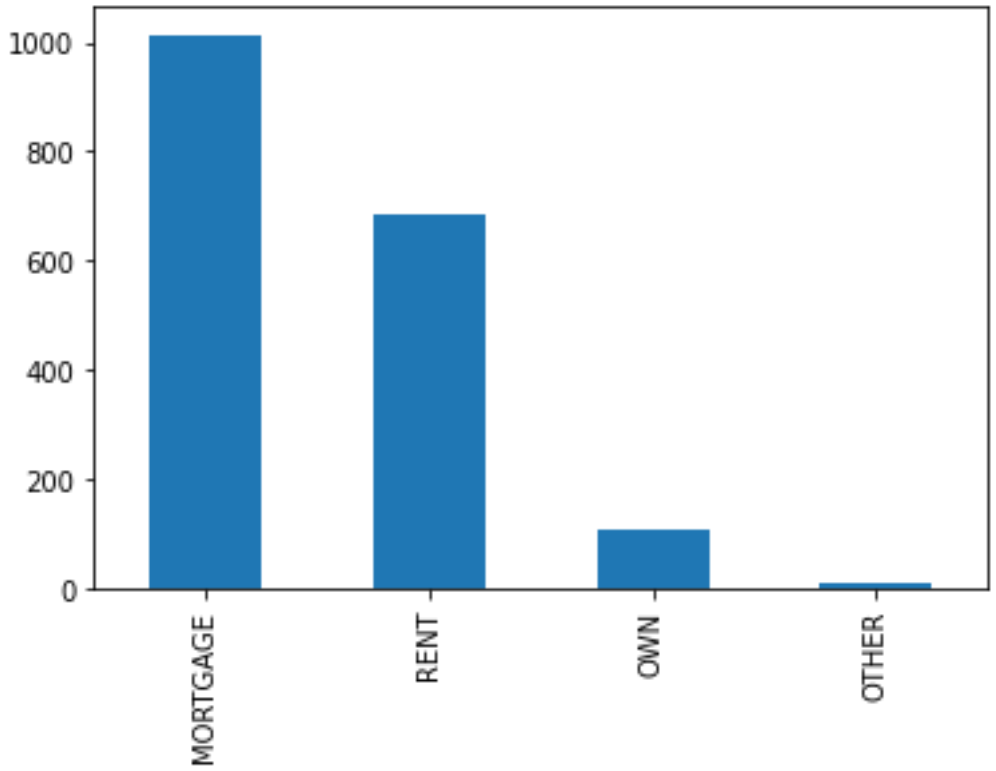
- This shows that many users fully paid their loans.
- Very few are charged off.



House Ownership vs Where Funded amount is less than loan amount

Points to be concluded from the graph on the right side.

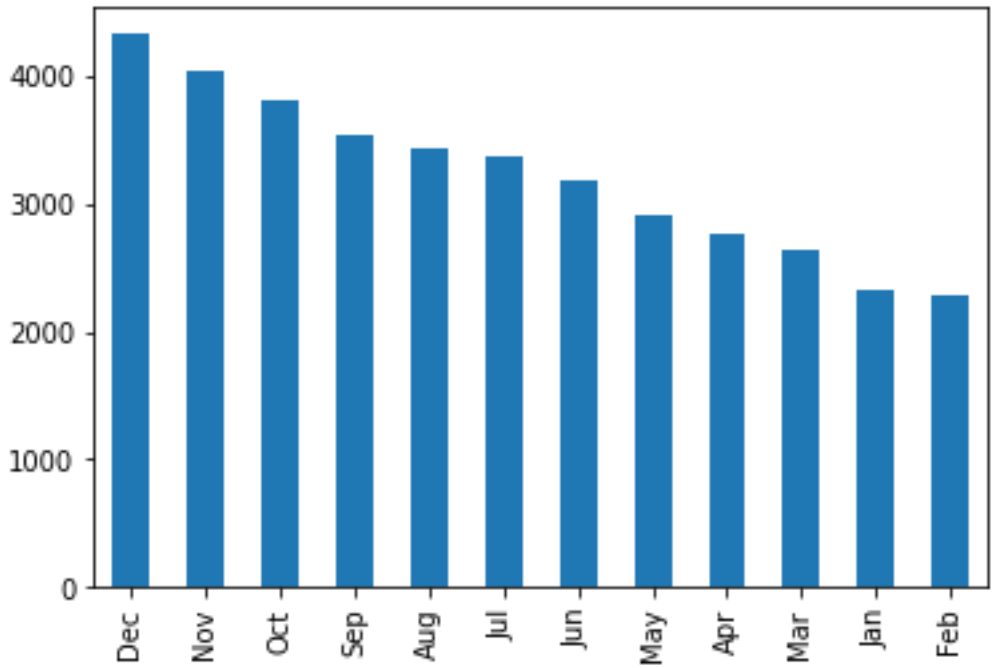
- Here we can observe that who are gone for mortgage loan their funded loan amount is less than asked loan amount.
- If you own a house bank will give you the asked loan.



Month vs Count

Points to be concluded from the graph on the right side.

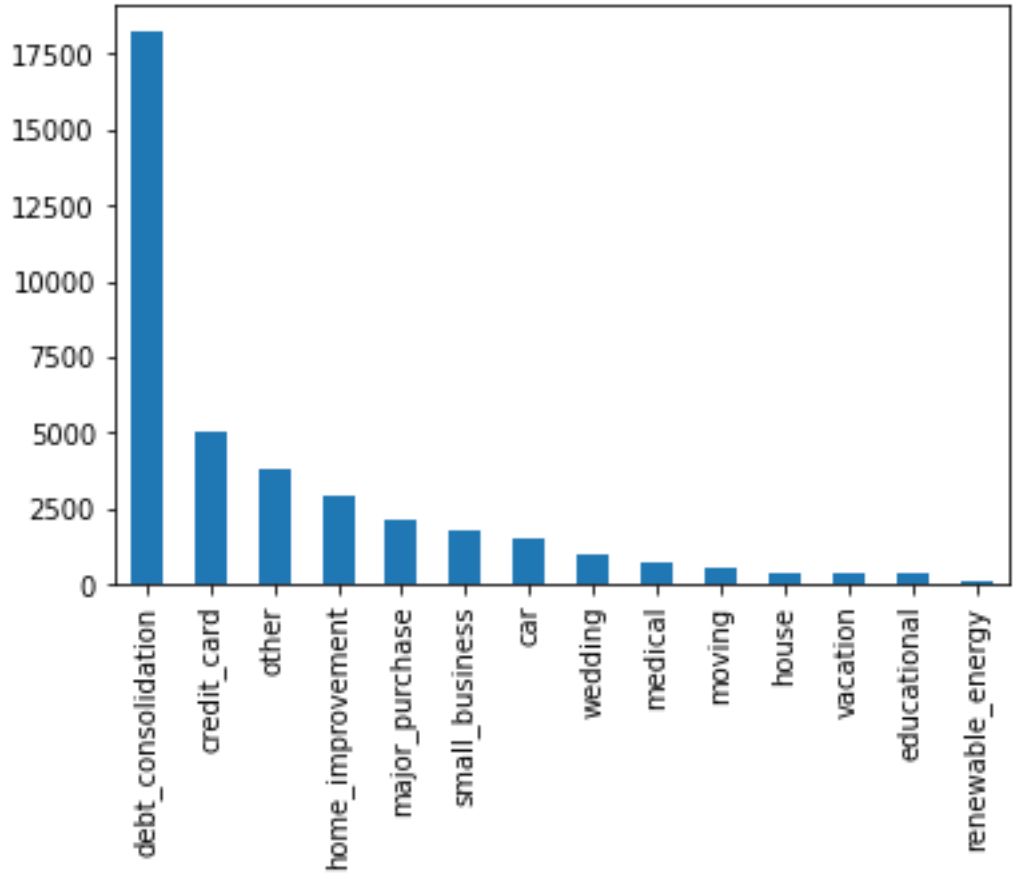
- We can observe that many users apply loan in the month of December.
- And very few members apply loan in the month of January and February.



Purpose vs count

Points to be concluded from the graph on the right side.

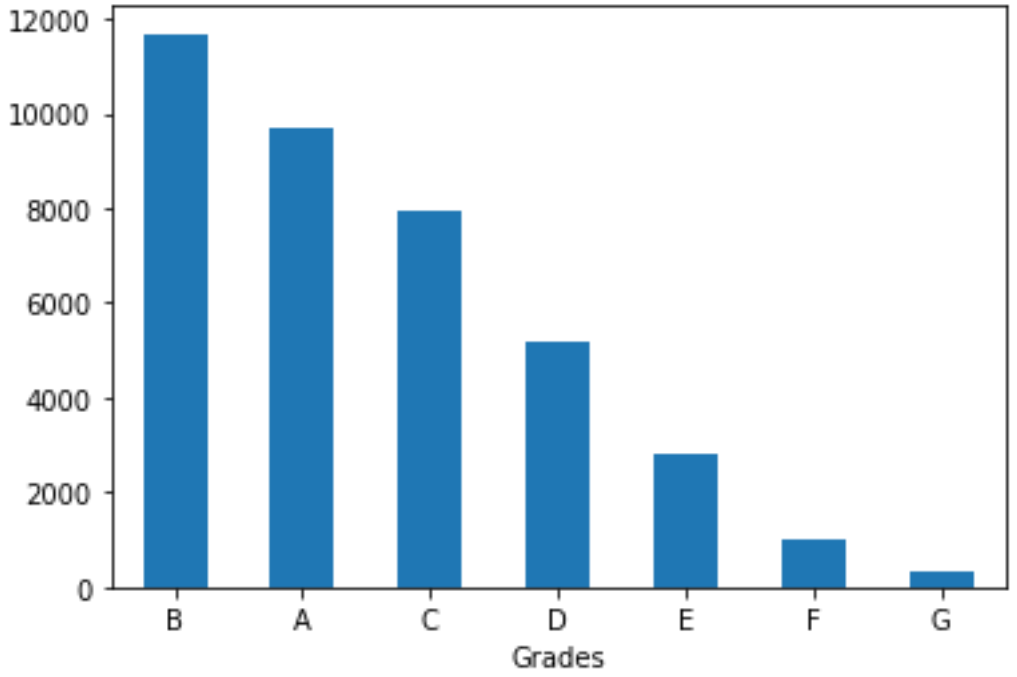
- We can observe that large amount of users taken loan to pay their debt.



Grades vs count

Points to be concluded from the graph on the right side.

- We can observe that there are more number of B graded users.

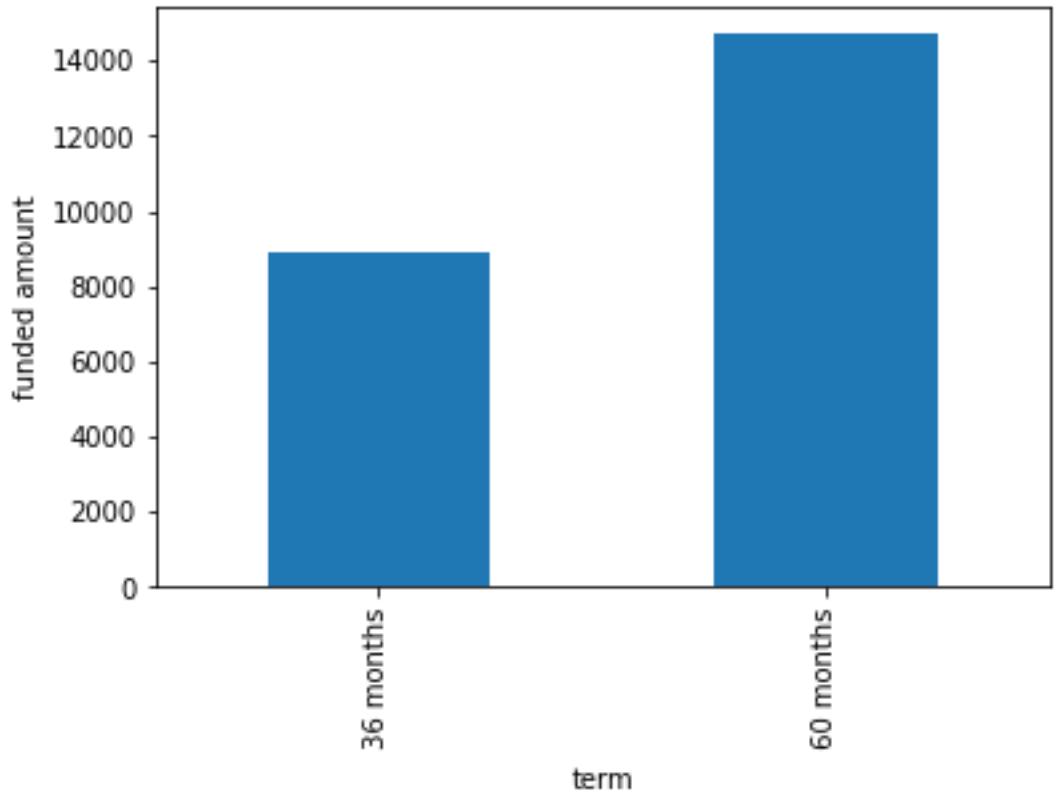


Bivariant Analysis

Term vs Average funded amount

Points to be concluded from the graph on the right side.

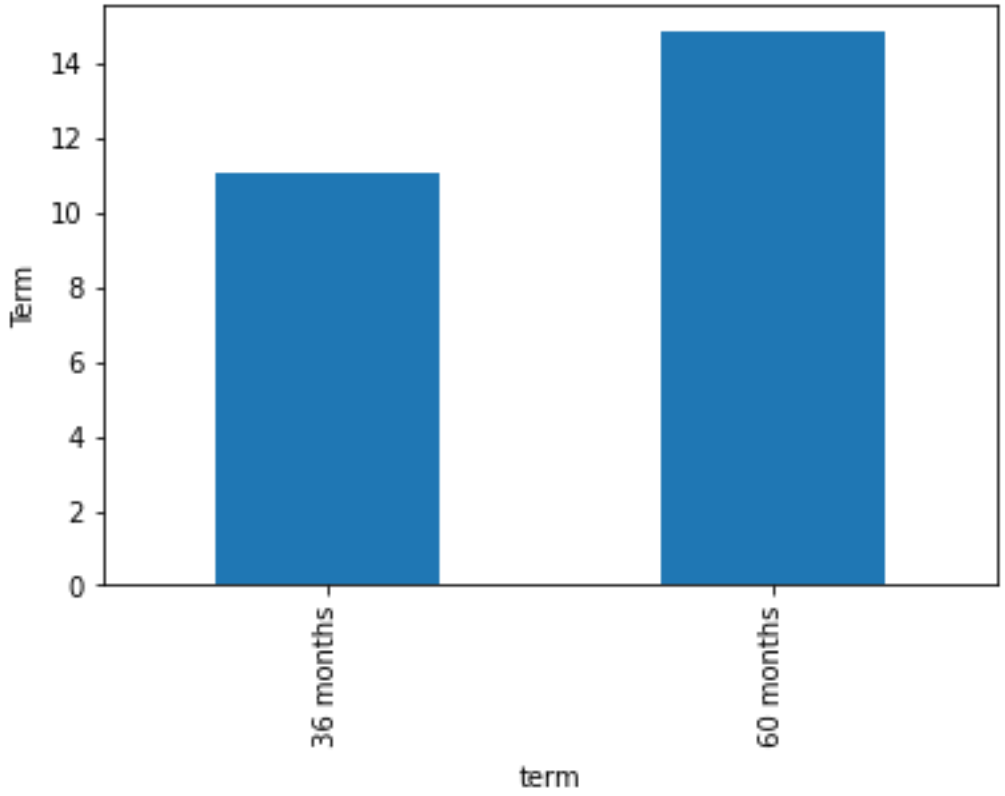
- Average funded amount for 60 months term very high compared to 36 month.
- This is because high amount will be taken for loan for longer term.



Term vs Average Interest rate

Points to be concluded from the graph on the right side.

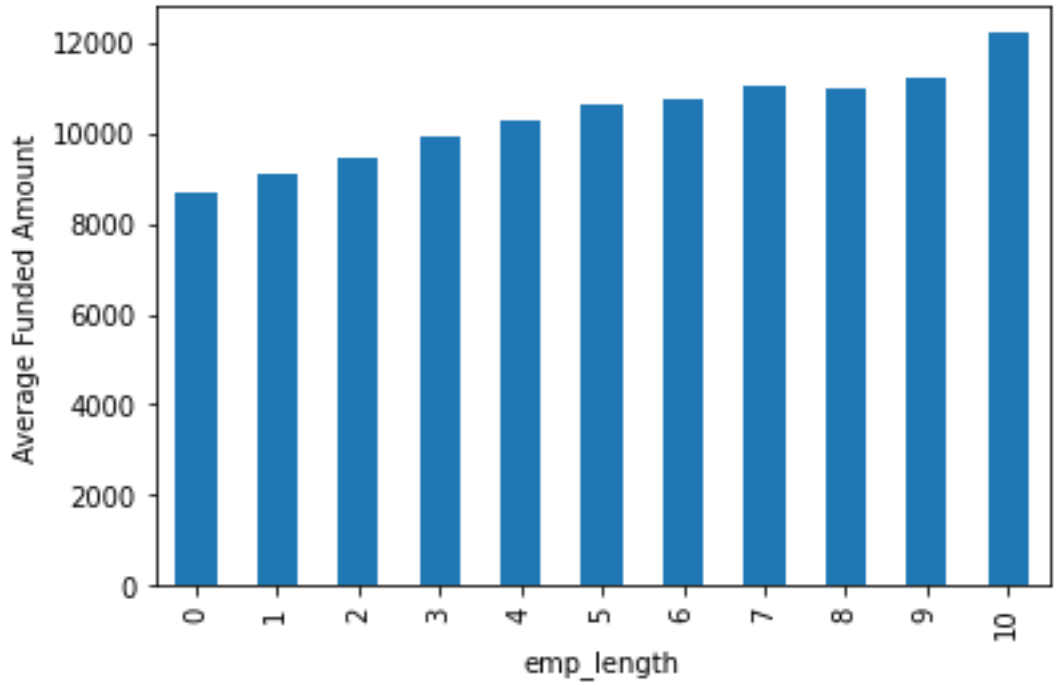
- From previous graph we observed that average funded amount is high for 60 month term.
- And for 60 month term average interest rate is also very high.
- This indicates that the longer the term the more will be the interest rate.
- This can explain why we got outliers in interest rates.



Employment years vs Average Funded Amount

Points to be concluded from the graph on the right side.

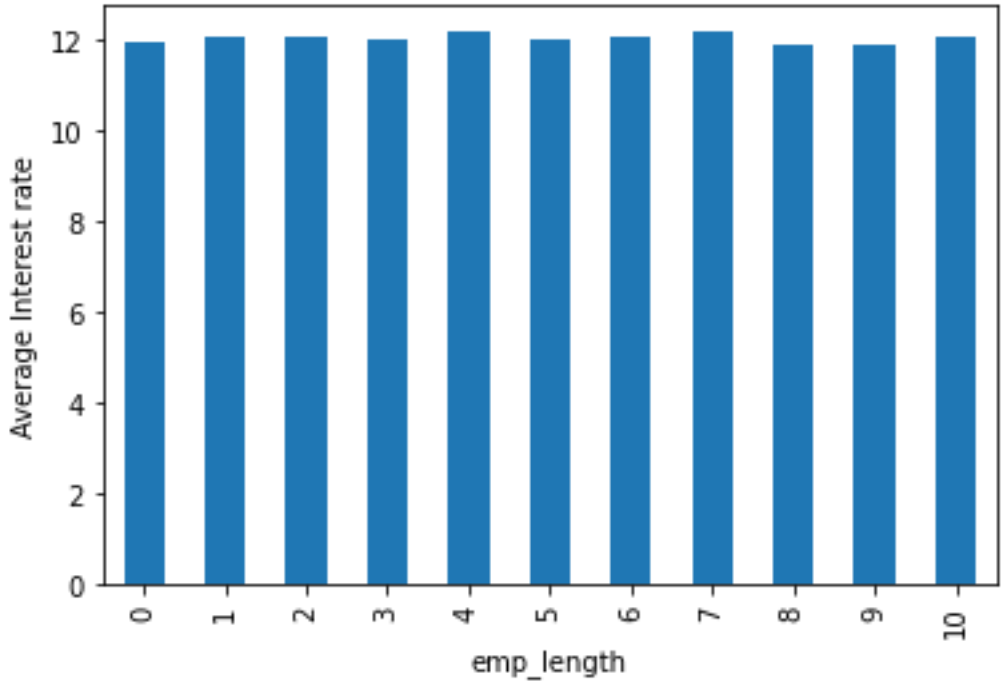
- We can observe that average funded amount increases with increase in employments years.
- If a person is employed for more than 10 years, he or she can opt for more loan.



Employment years vs Average Interest rate

Points to be concluded from the graph on the right side.

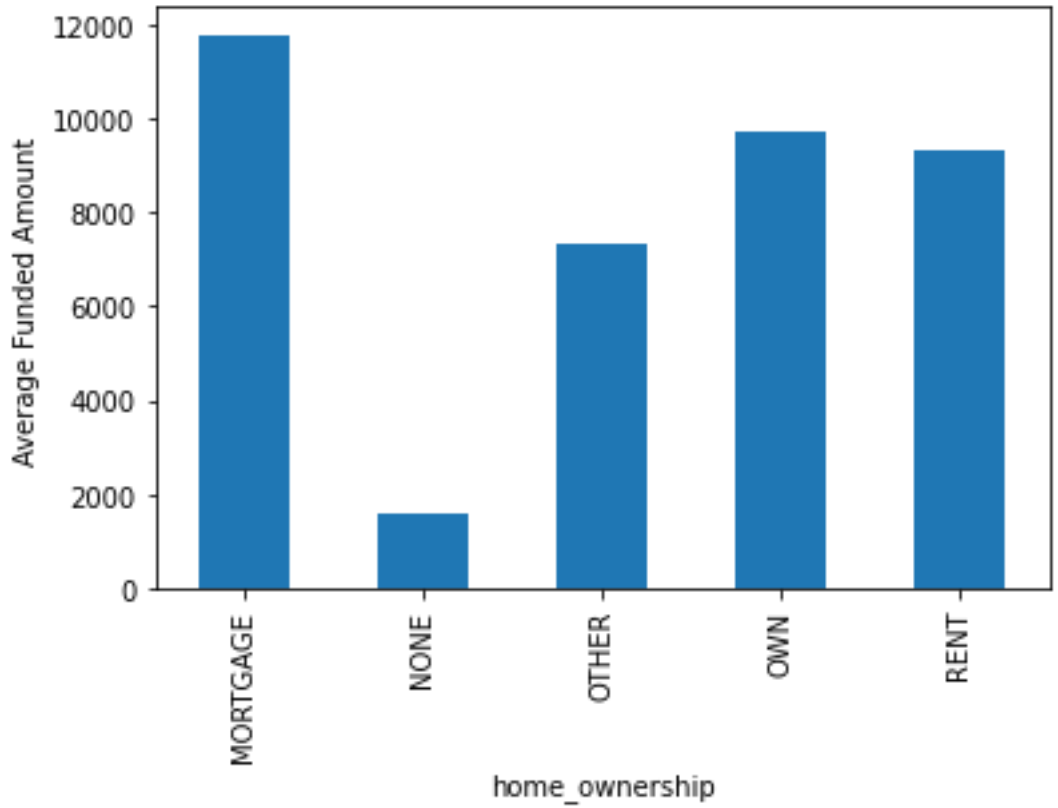
- Likewise previous graph we can’t see any relationship between employment years and interest rate.
- So, Interest rate is not depended on Employment years.



Home Ownership vs Average Funded amount

Points to be concluded from the graph on the right side.

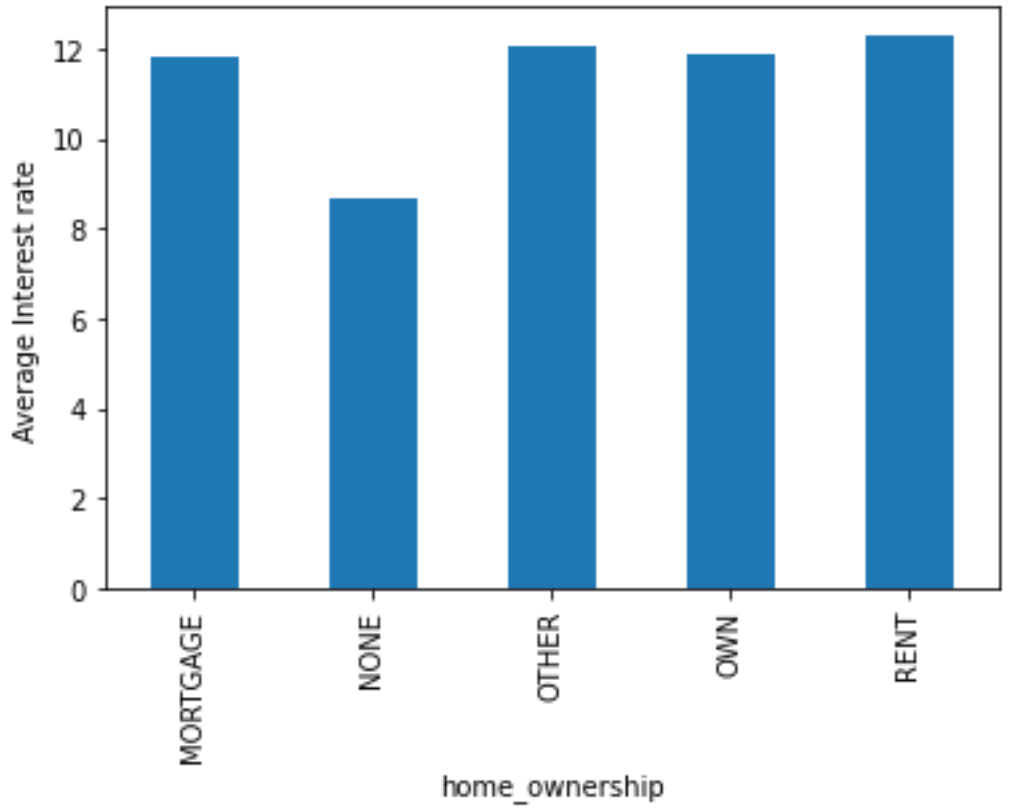
- We can observe that for mortgage house loan, average funded amount is high.
- And if you have own house you can get little more loan than rented house.



Home Ownership vs Average Interest rate

Points to be concluded from the graph on the right side.

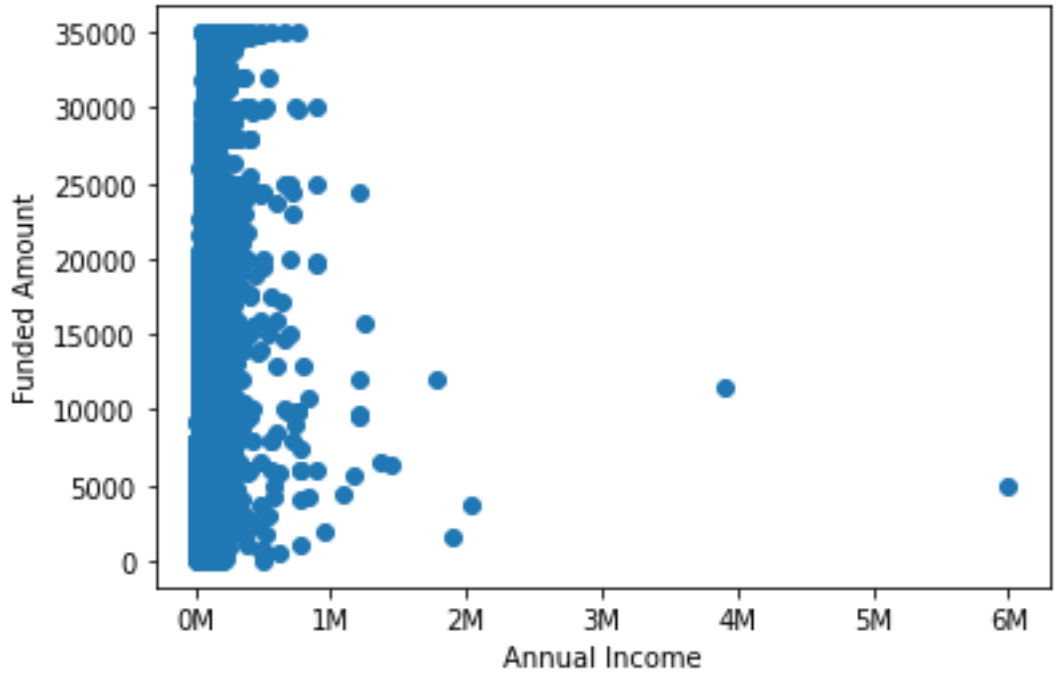
- Unlike previous observation there is no relationship between home ownership and average interest rate



Annual Income vs Funded Amount

Points to be concluded from the graph on the right side.

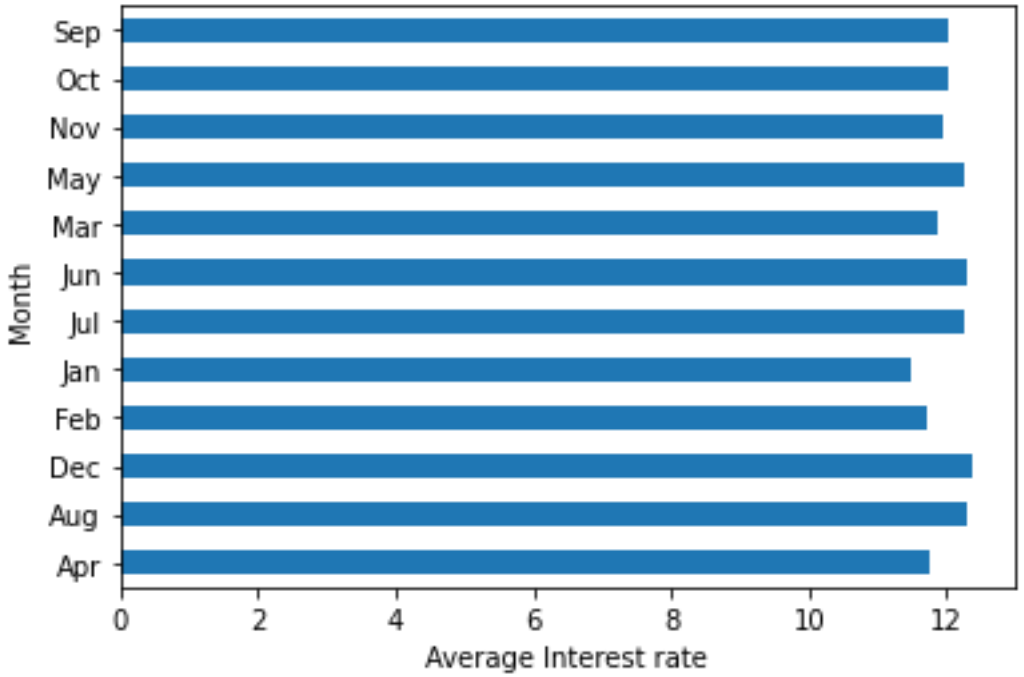
- In this observation we can’t observe any pattern.
- But we can observe that the persons with less annual income is going for higher loan because of some needs.
- And higher annual income persons are not going for the loans.



Average Interest rate vs Month

Points to be concluded from the graph on the right side.

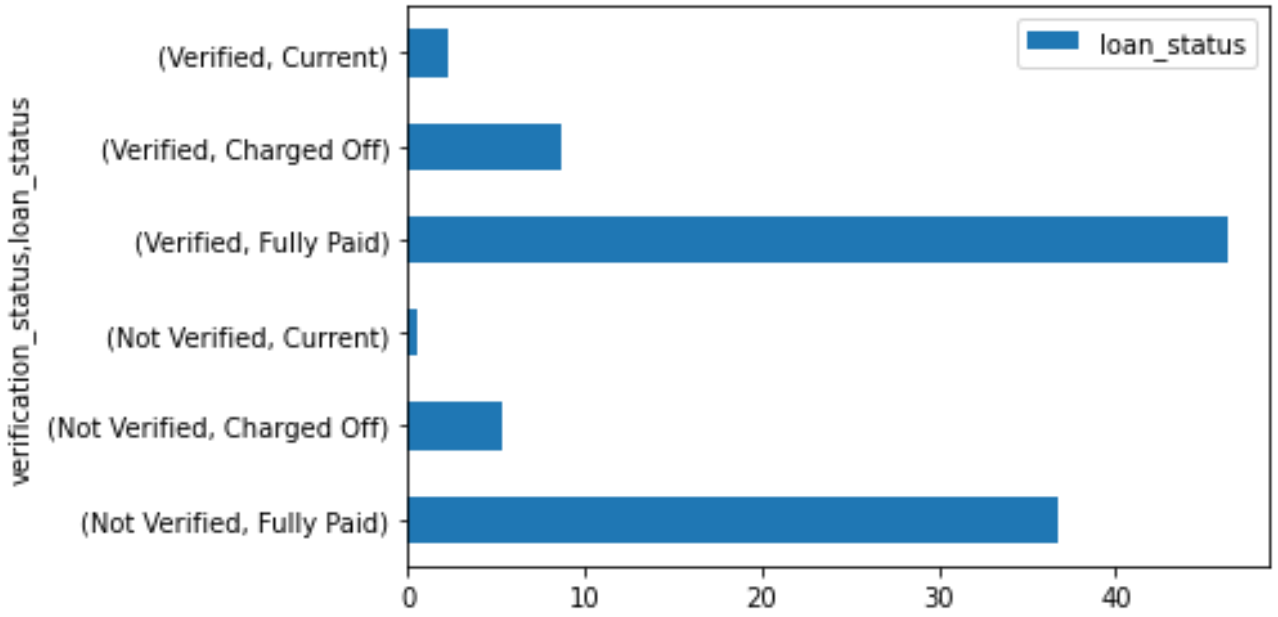
- Here we can observe no relationship between Average Interest rate vs Month
- But, in the month of January the interest rate is little less compared to other months.



Verification status vs loan status percentage

Points to be concluded from the graph on the right side.

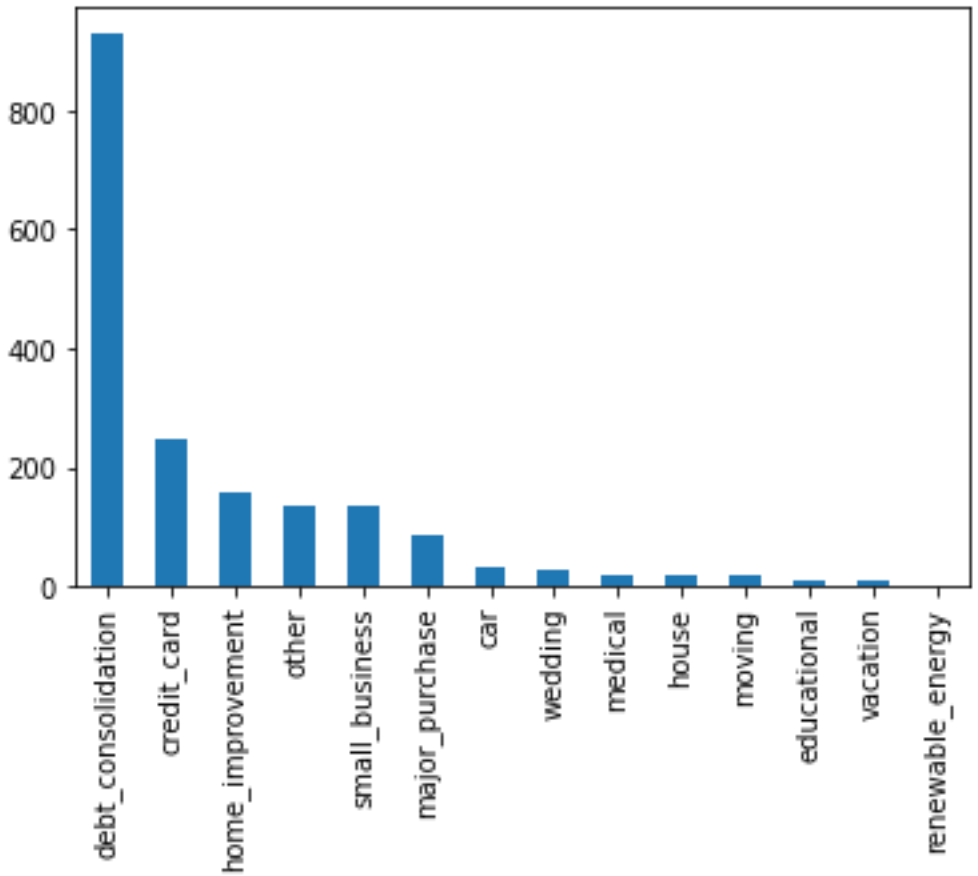
- We can observe that the more percentage of verified users are paid their full loan amount.
- Whereas more percentage of verified user charged off than non verified users.



Purpose vs Where Funded amount is less than loan amount count

Points to be concluded from the graph on the right side.

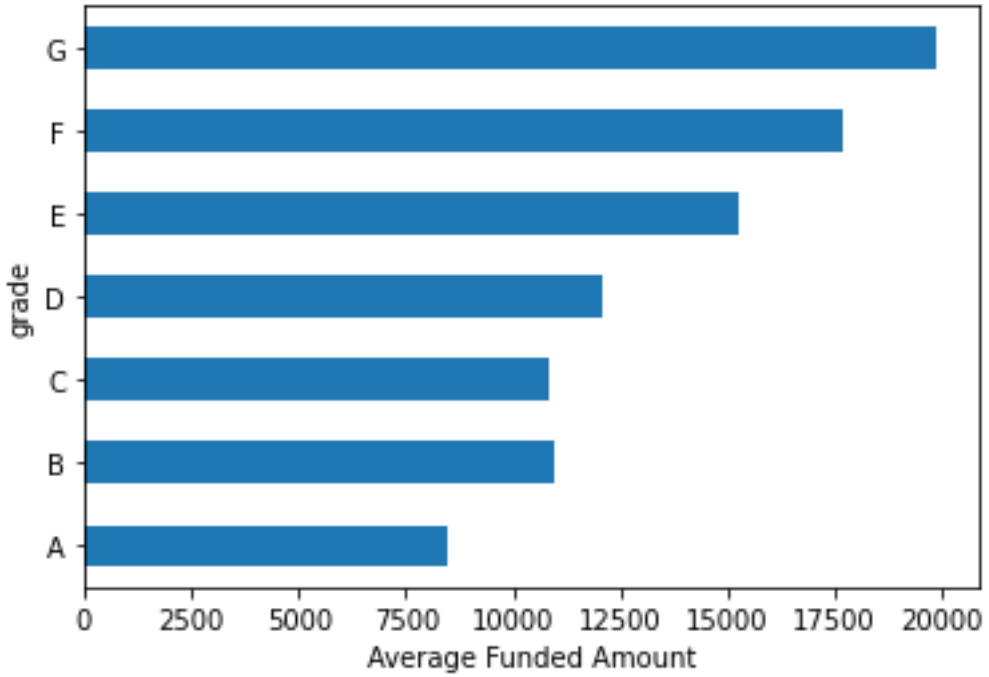
- We can observe that the large number of users who are applied loan for debt consolidation where given loan less than asked amount of loan.



Average Funded Amount vs Grade

Points to be concluded from the graph on the right side.

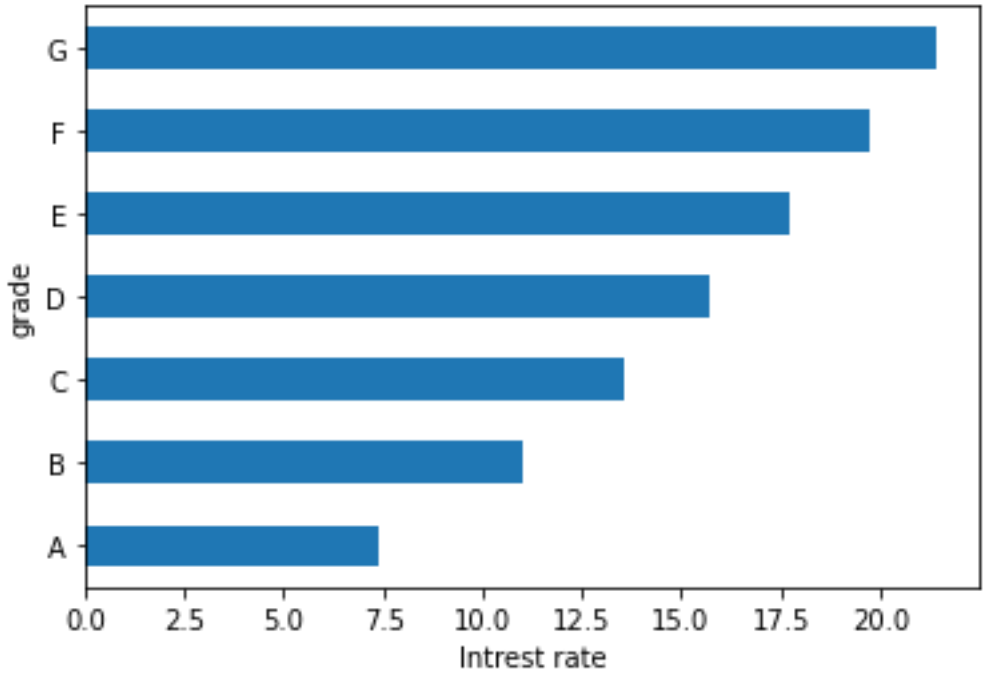
- We can observe that G graded users have gone for more amount of loan.
- Whereas A graded users have gone for lesser amount of loan.



Interest rate vs Grade

Points to be concluded from the graph on the right side.

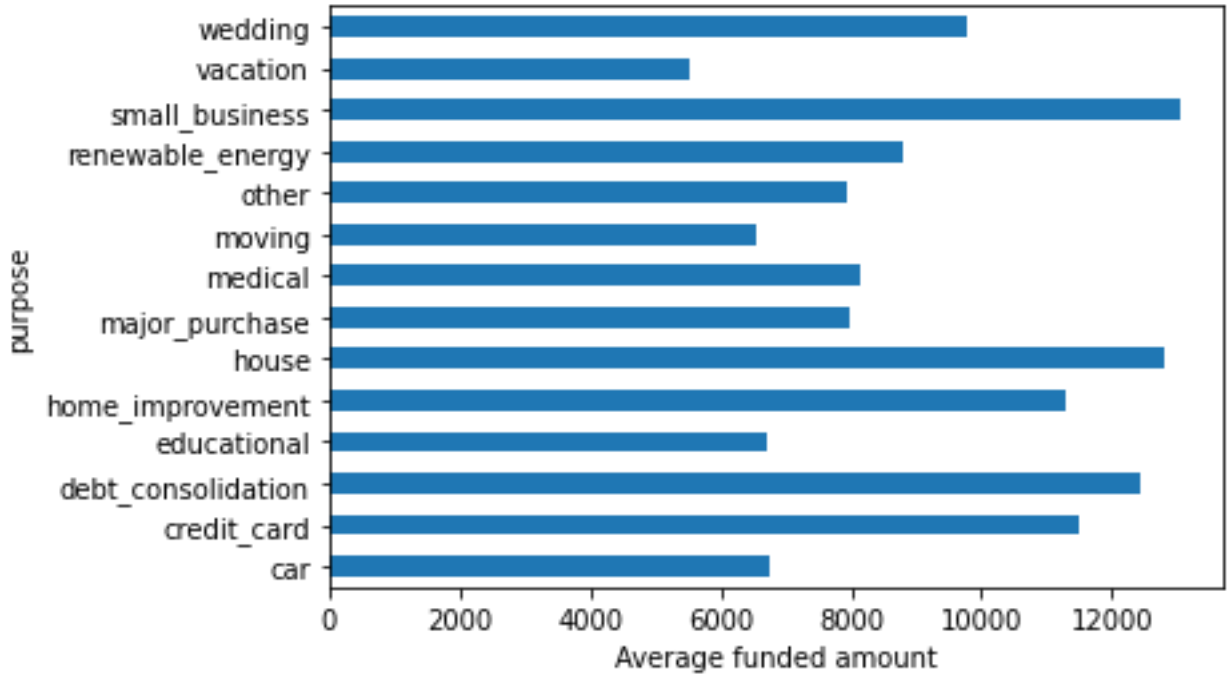
- We can observe that the interest rate of G graded users is very high.
- Whereas A graded users have very low interest rate.
- This can justify the observation of previous graph



Average Funded Amount vs Purpose

Points to be concluded from the graph on the right side.

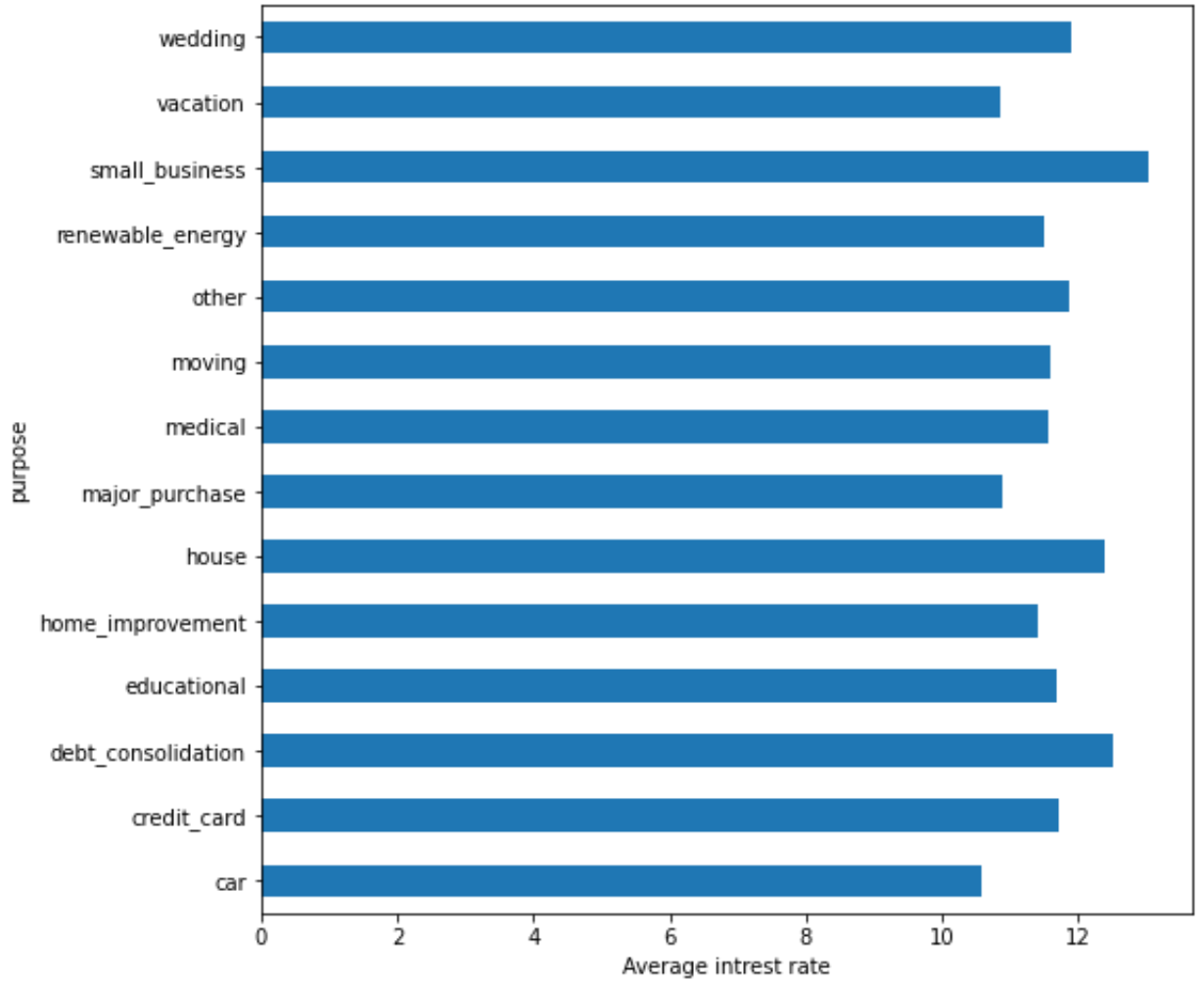
- Here we can observe that average funded amount is high for small business and house loan
- For education and moving funded amount is low.



Average Interest rate vs Purpose

Points to be concluded from the graph on the right side.

- We can observe that interest rate for small business purpose is very high.

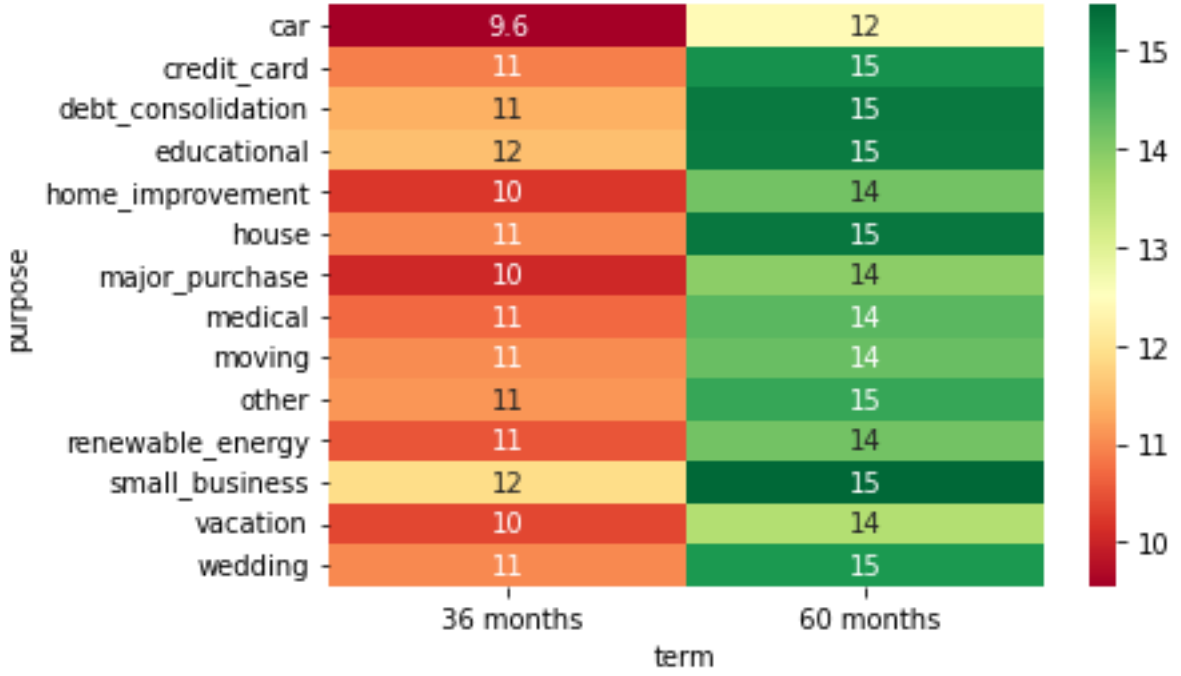


Multivariant Analysis

Term, Purpose and Average Interest rate

Points to be concluded from the graph on the right side.

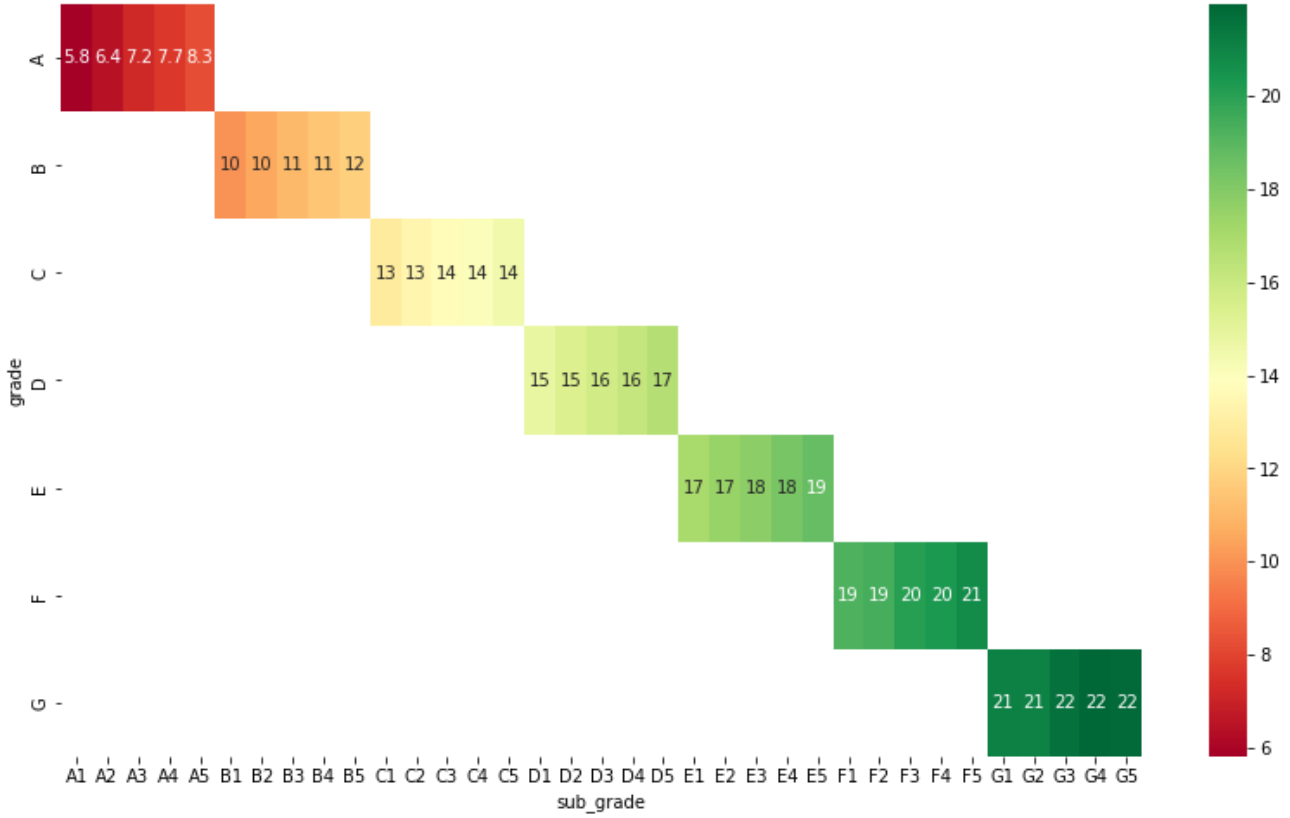
- We can’t anything very interesting from this observation.
- This is very relatable to the previous term vs average interest rate observation.



Sub grade, Grade vs Interest rate

Points to be concluded from the graph on the right side.

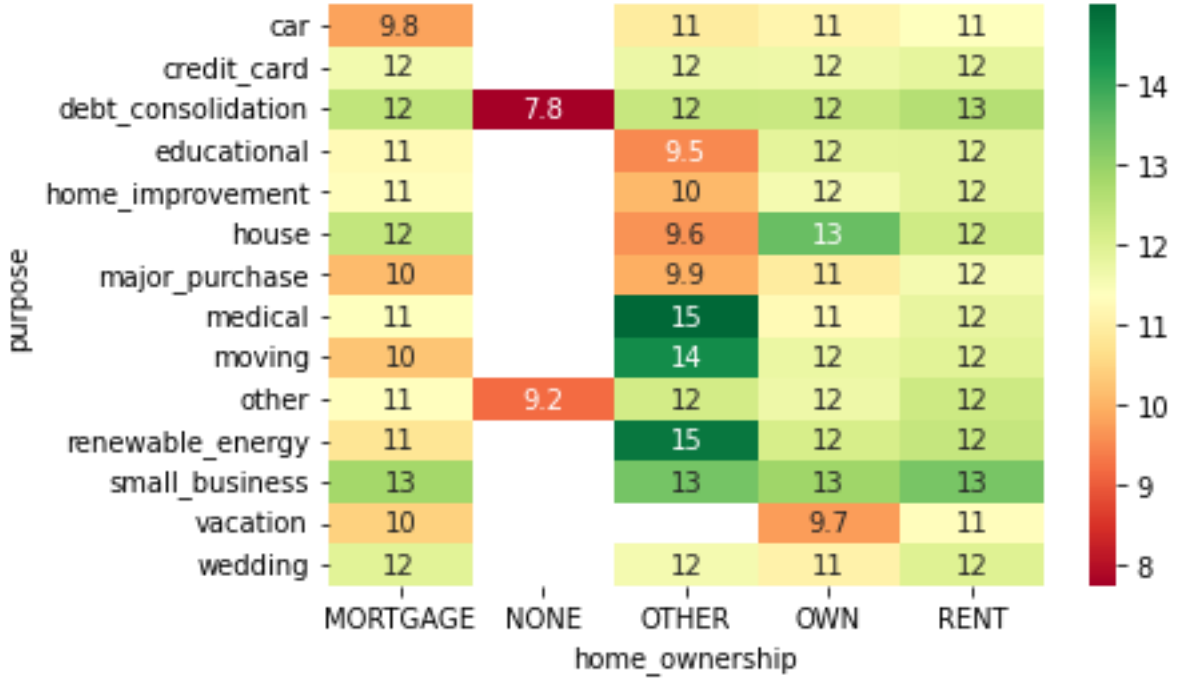
- Here we can observe that for increase in Grade the interest rate increases.
- And even within the grades we can observe the increase in interest rates.



Home Ownership, Purpose vs Average Interest rate

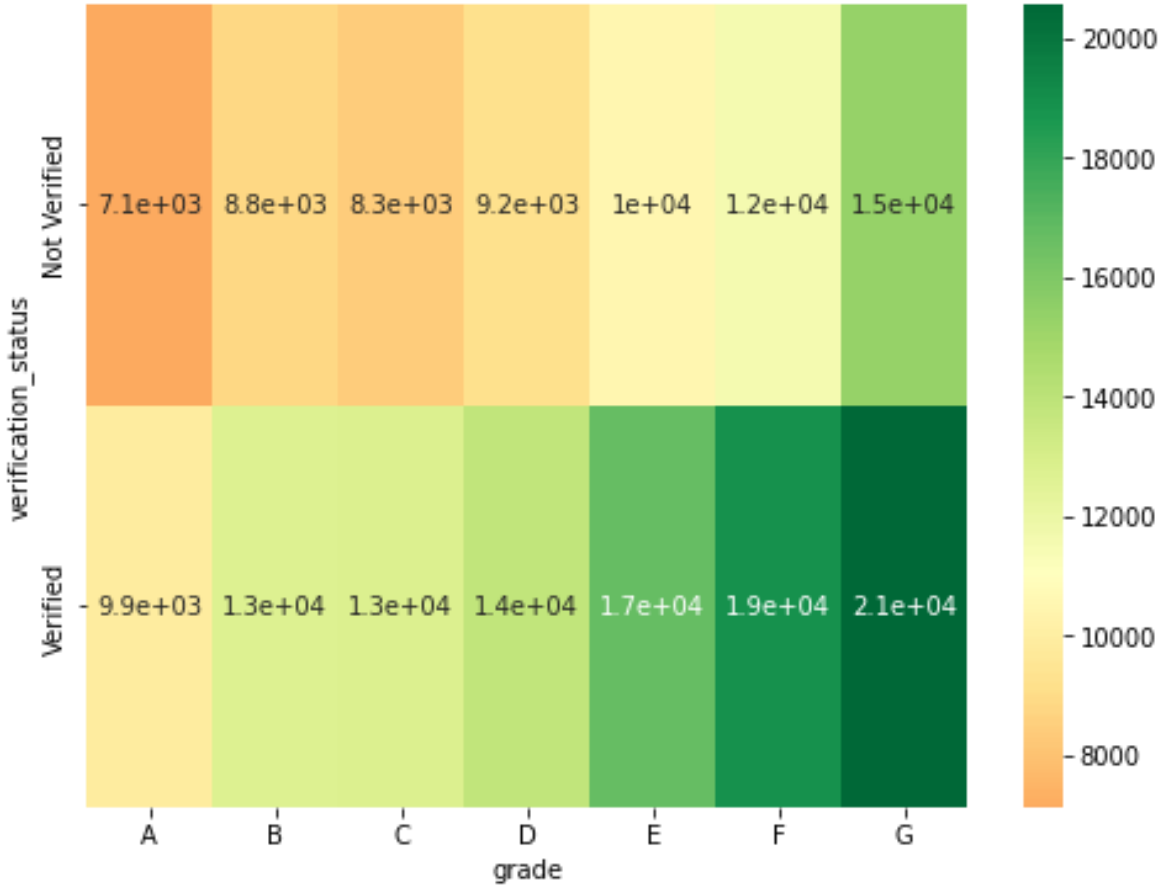
Points to be concluded from the graph on the right side.

- From this observation we cannot say any significant relationship.

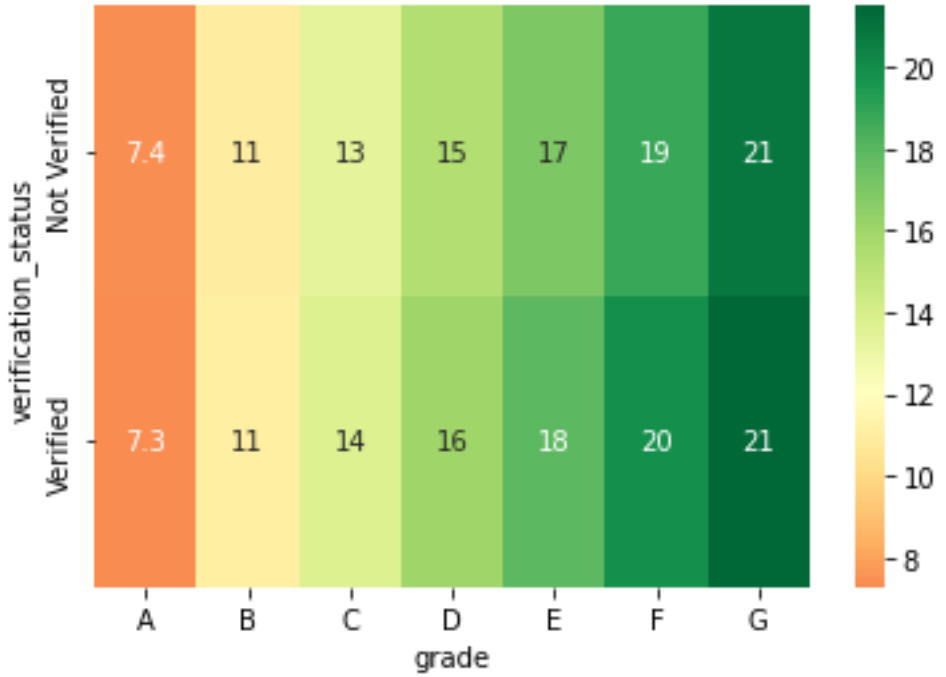


Here are some of the observation which I found no significant relationship:

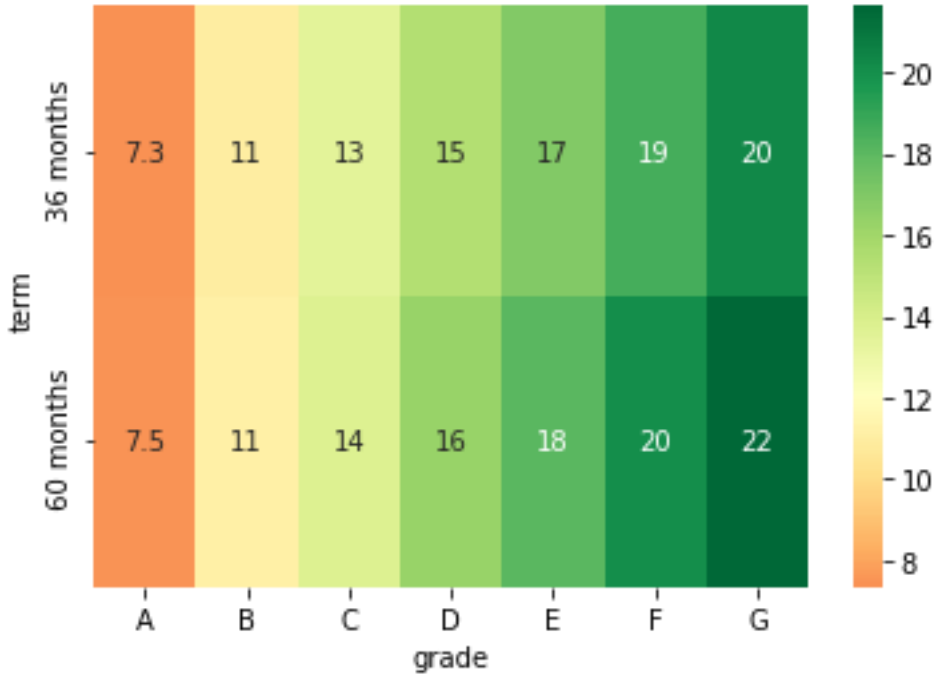
Grade, verification status vs avg funded amount



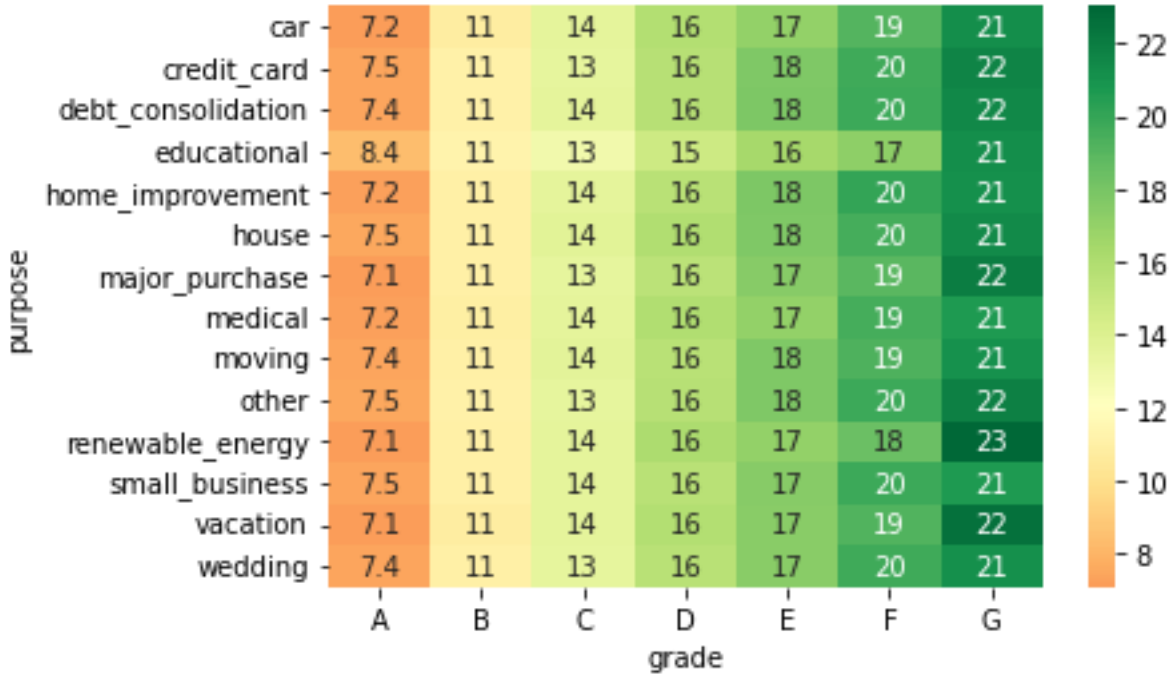
grade, verification status vs avg intrest rate



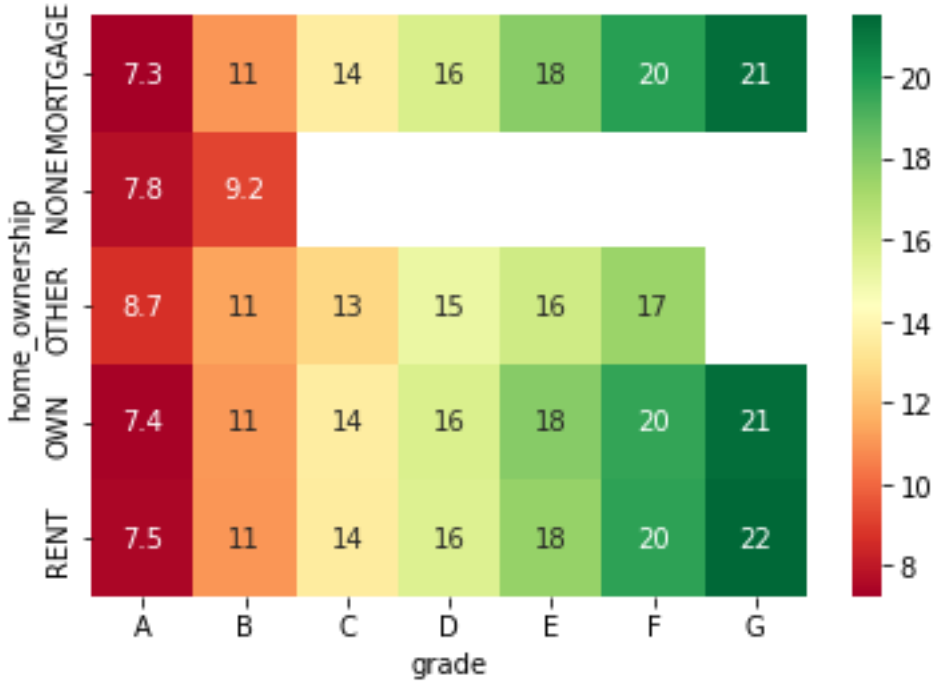
grade, term vs avg intrest rate



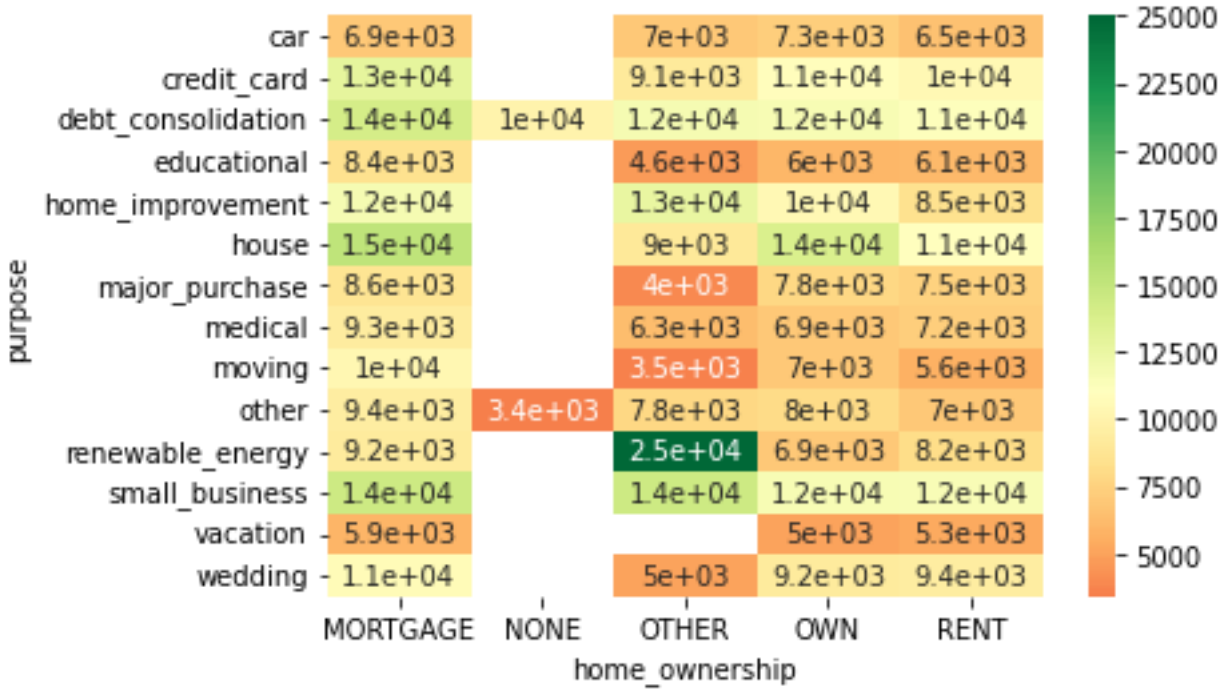
grade, purpose vs avg funded amount



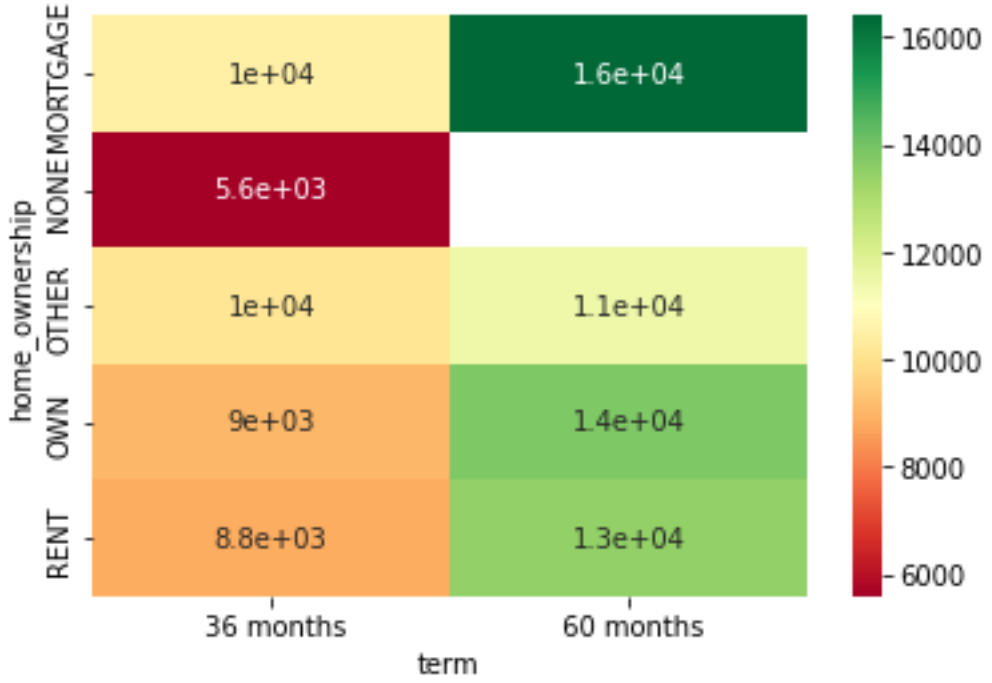
grade, home ownership vs avg intrest rate



purpose, home ownership vs avg funded amount



term, home ownership vs avg funded amount



term, home ownership vs avg Interest rate