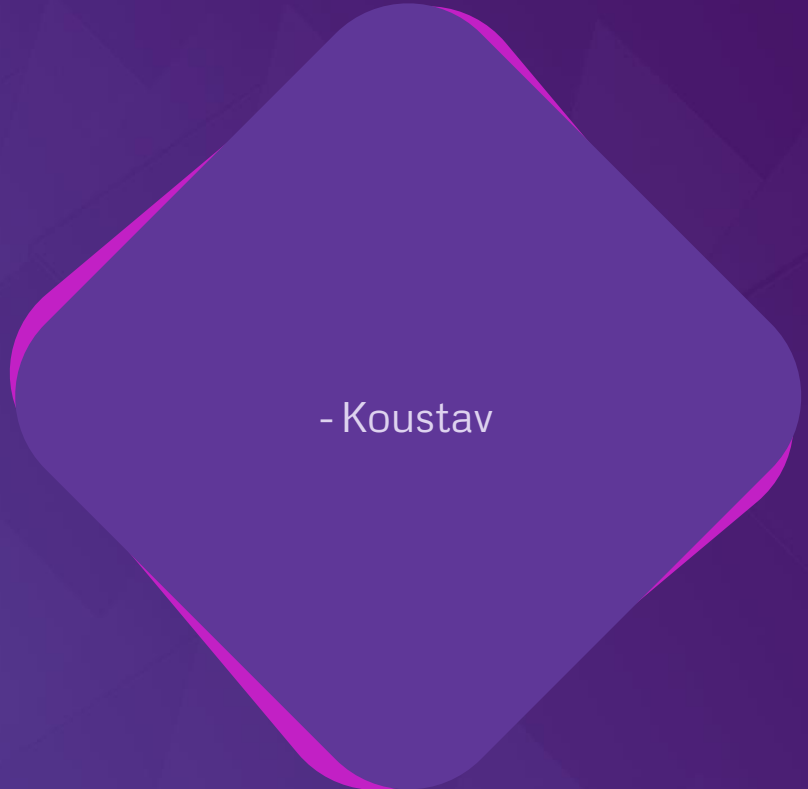




# Gramener Case Study



- Koustav

## BUSINESS OBJECTIVE

**You work for a consumer finance company which specializes in lending various types of loans to urban customers. When the company receives a loan application, the company has to make a decision for loan approval based on the applicant's profile. Two types of risks are associated with the bank's decision:**

- ✧ If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company**
- ✧ If the applicant is not likely to repay the loan, i.e. he/she is likely to default, then approving the loan may lead to a financial loss for the company**

# DATA EXPLORATION

There are 111 variables in loan dataset.

We have to find a solution to minimize the risk of losing money while lending to customer.

LETSGO!!

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## DATA CLEANING AND MANIPULATION

### Dealing with Missing values :

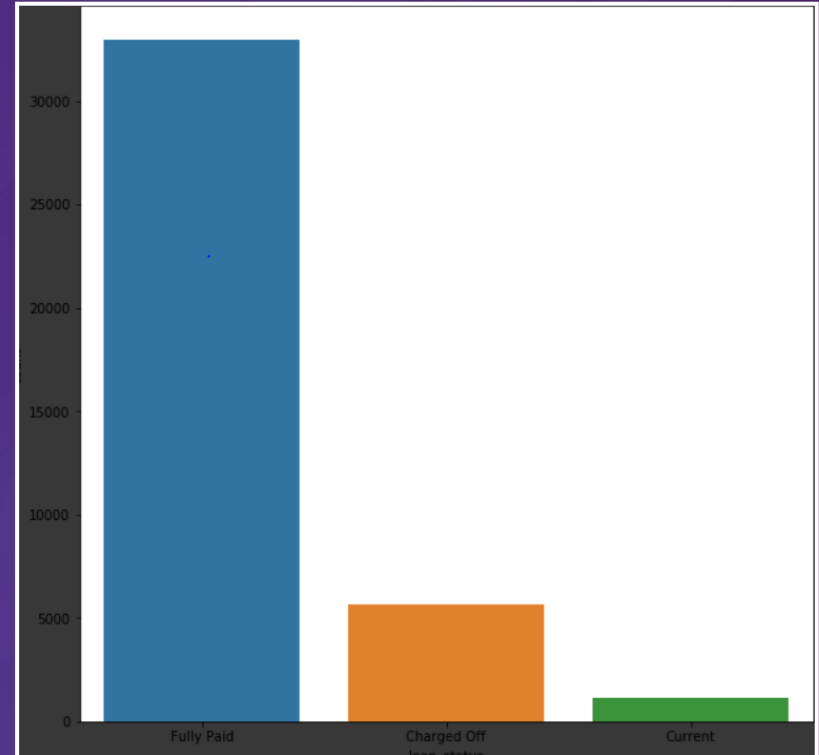
- In this dataset 54 variables contain all the observations as NA so they are removed.
  - 14 columns have more than 70% of 0 so they are removed.
- 
- Some columns are unnecessary so remove it.

# ANALYSIS OF LOAN STATUS

- So out of 39717 loans granted 5627 were charged off.

- For 1140 members status is current.

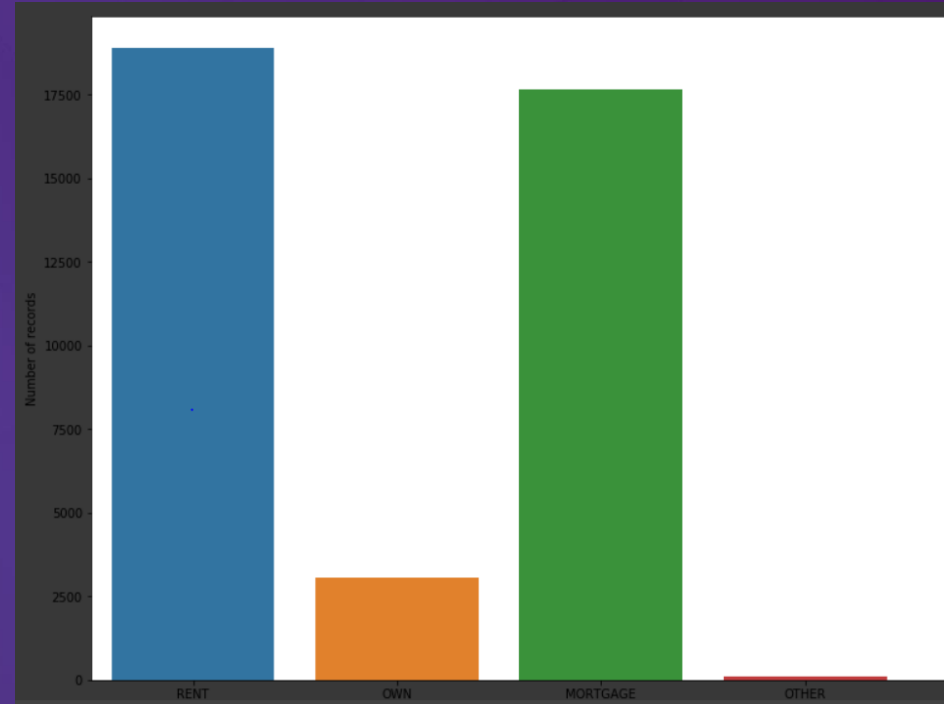
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# HOME OWNERSHIP

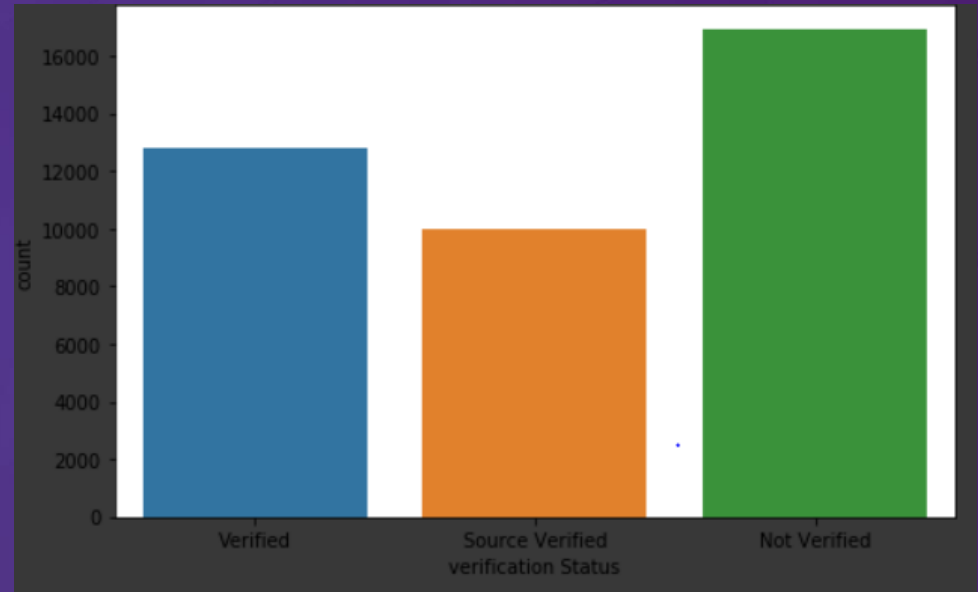
- From the graph it is clear that in charged off case most of the members have rented and mortgage homes.

- 
- 2839 people are living in rented home.
  - 2327 people are already on a housing loan.

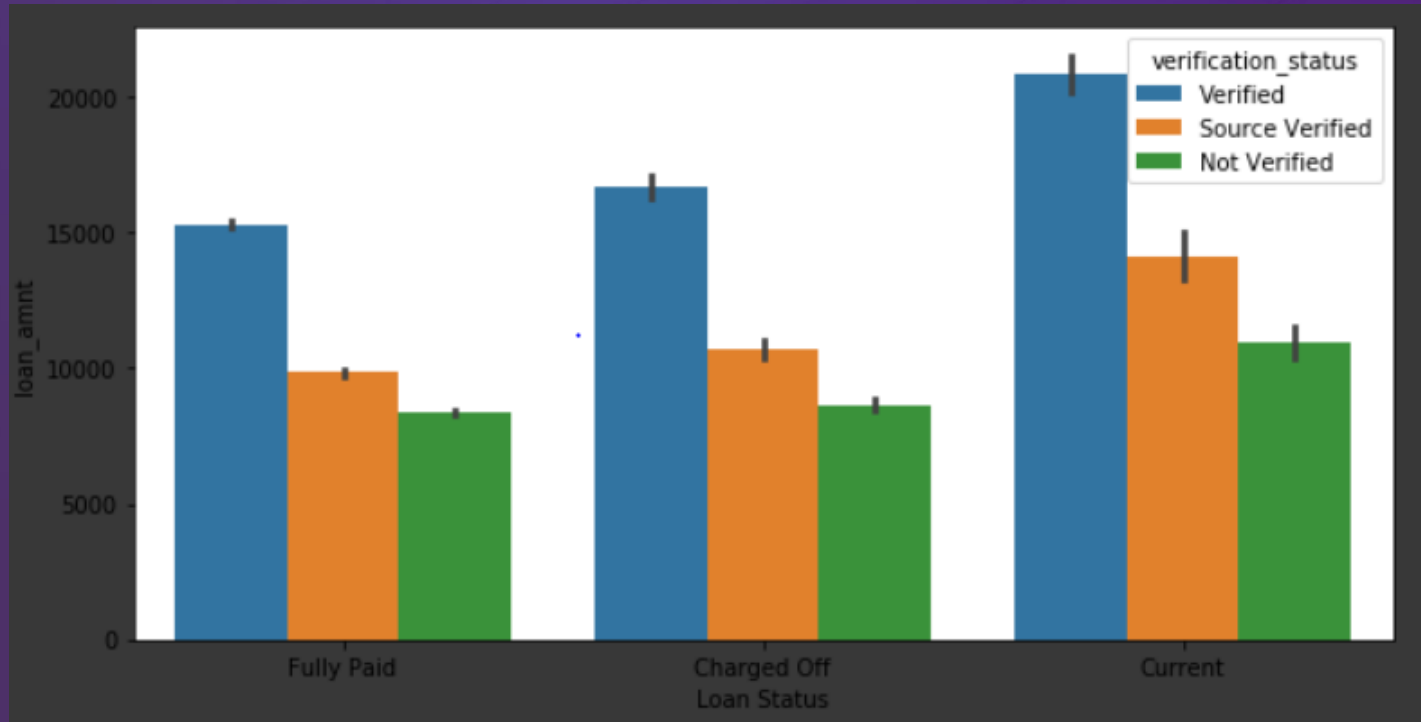


# Verification Status

- This analysis shows the bank's carelessness.
  - With out verifying the income of the person they granted loans
- 



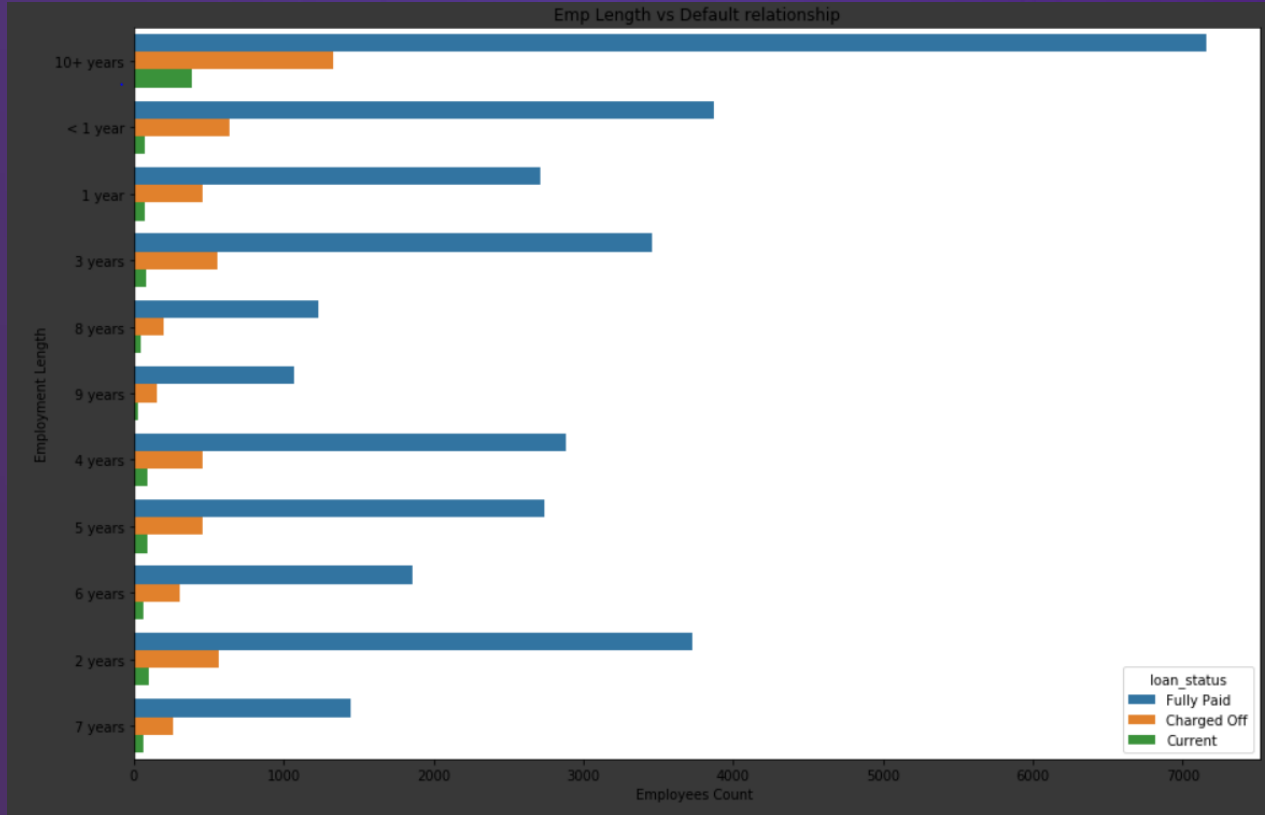
## Loan Status VS Loan Amount



Still there are a lot of not verified loans

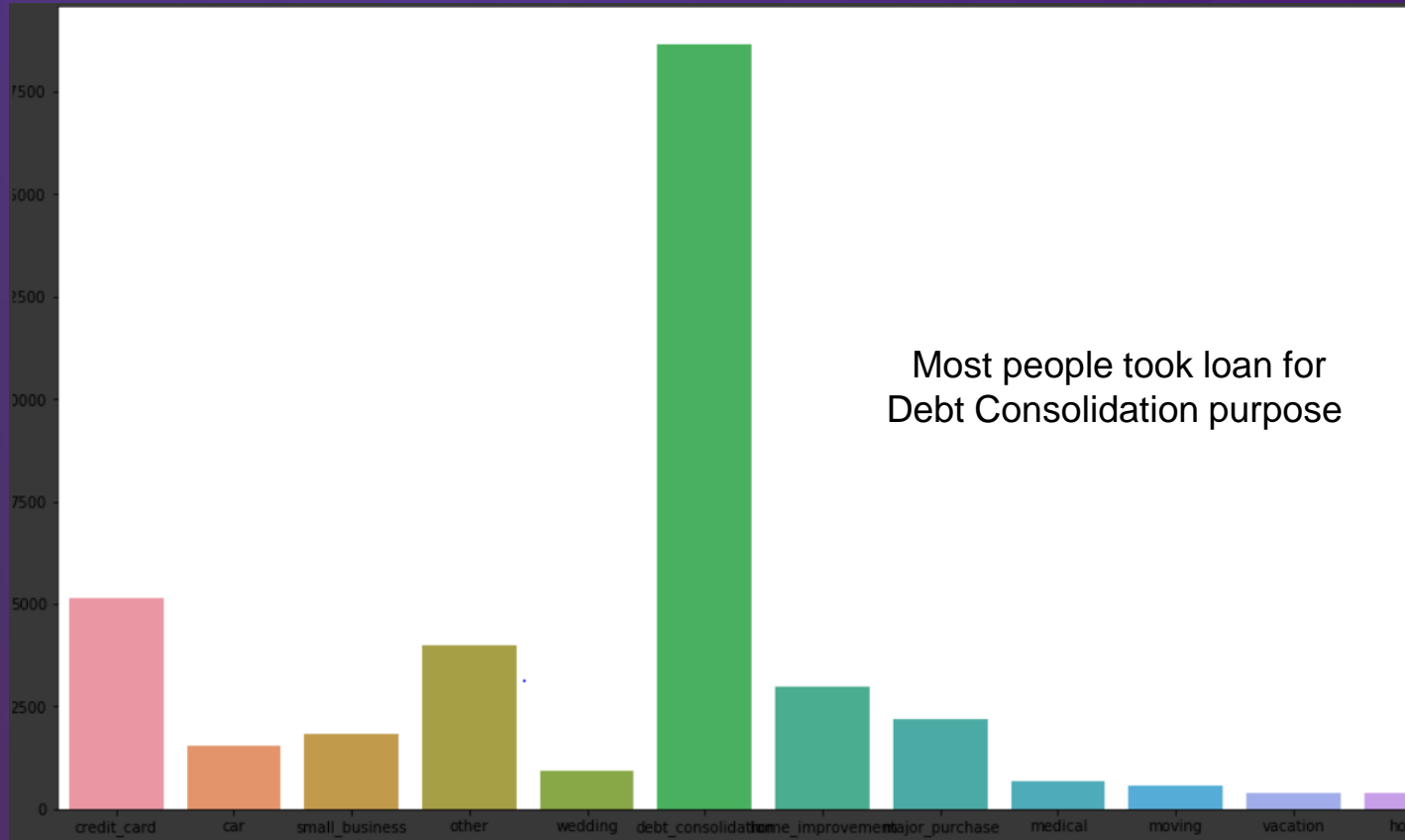


## RELATIONSHIP WITH EMPLOYEES

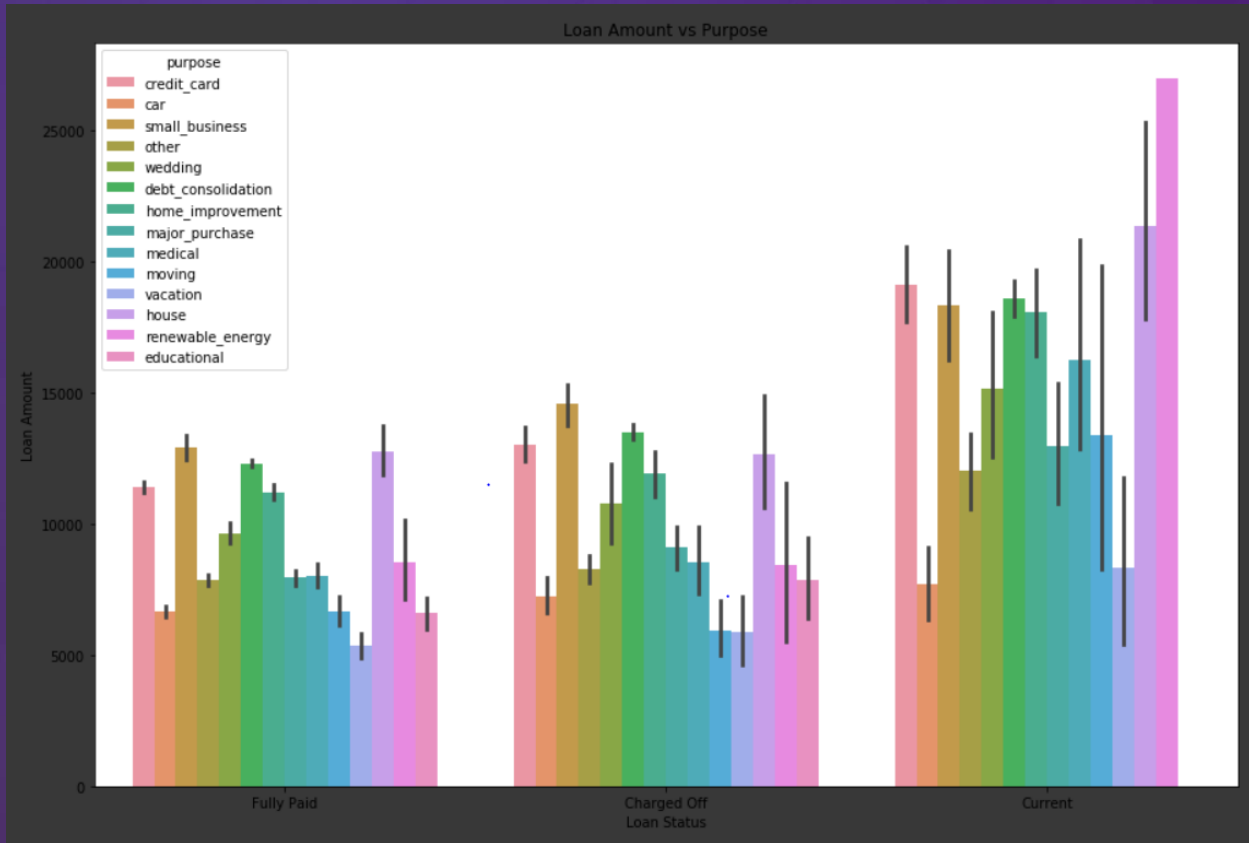


Employees with 10+ years  
are genuine to the bank

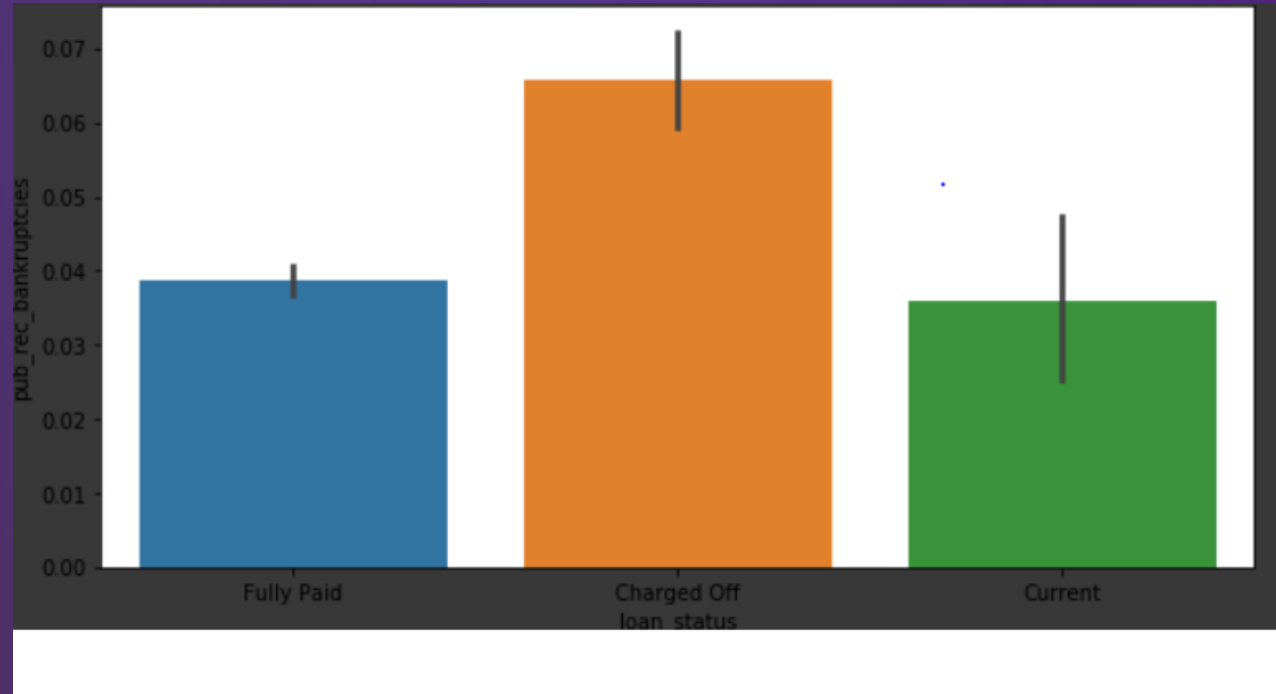
## REASON FOR TAKING LOAN



# LOAN AMOUNT VS PURPOSE

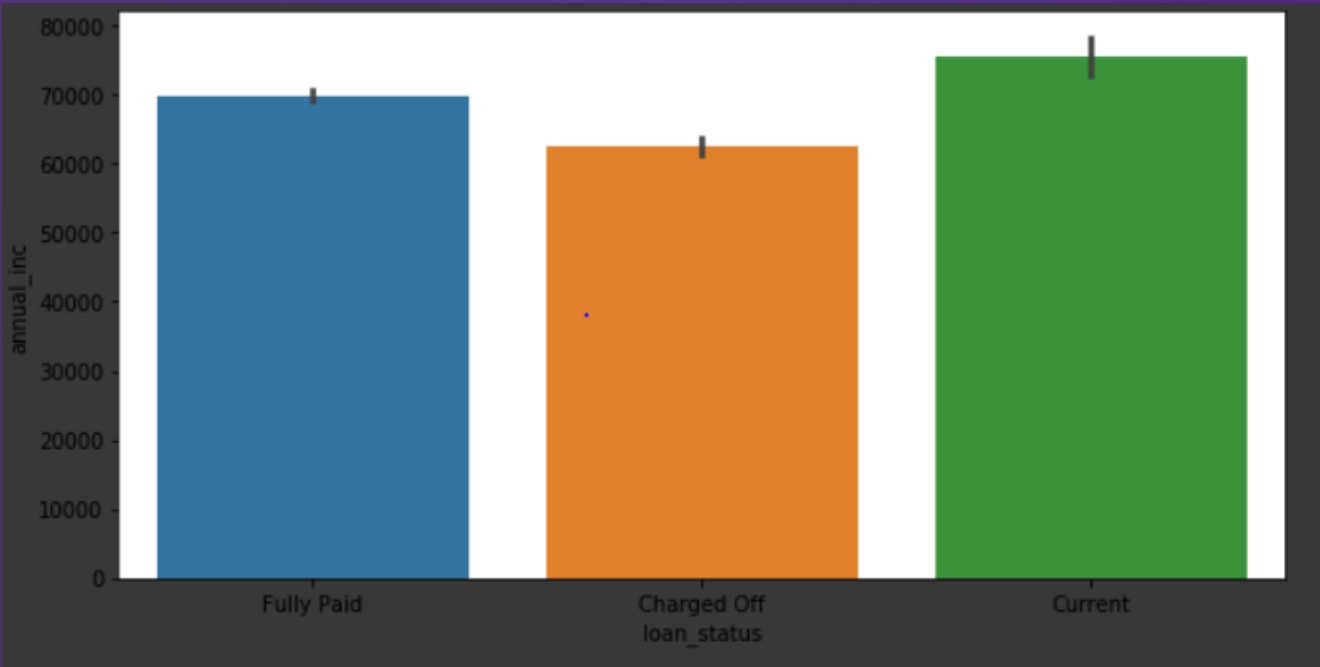


## PUBLIC RECORD BANKRUPTCIES



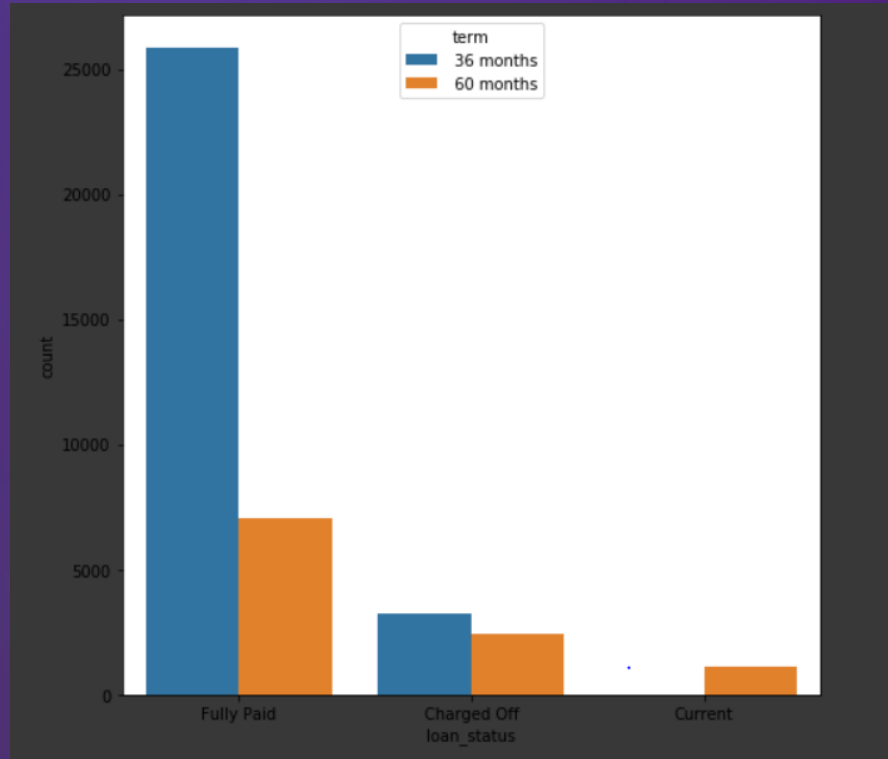
As usual charged off  
catagories are most  
bankruptcies

## STATUS VS ANNUAL INCOME

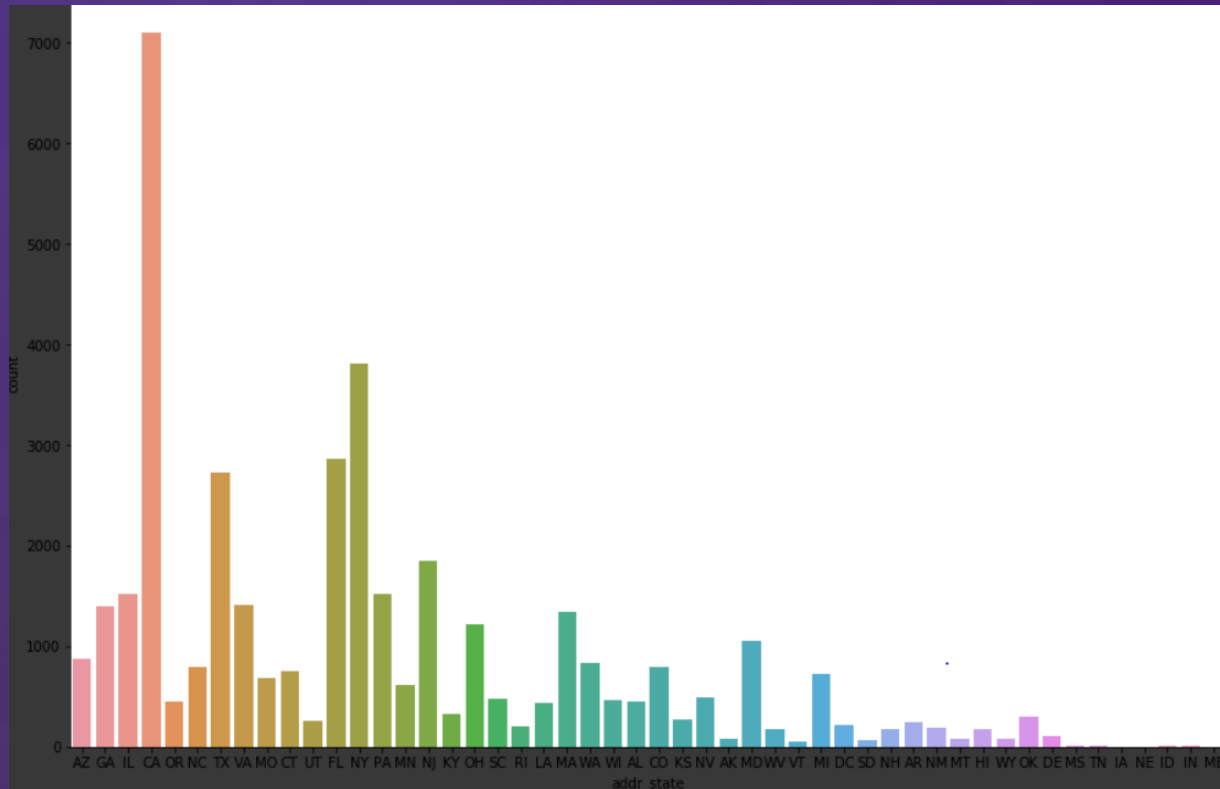


It is found that people with annual income less than 70000 are found out as charged offs

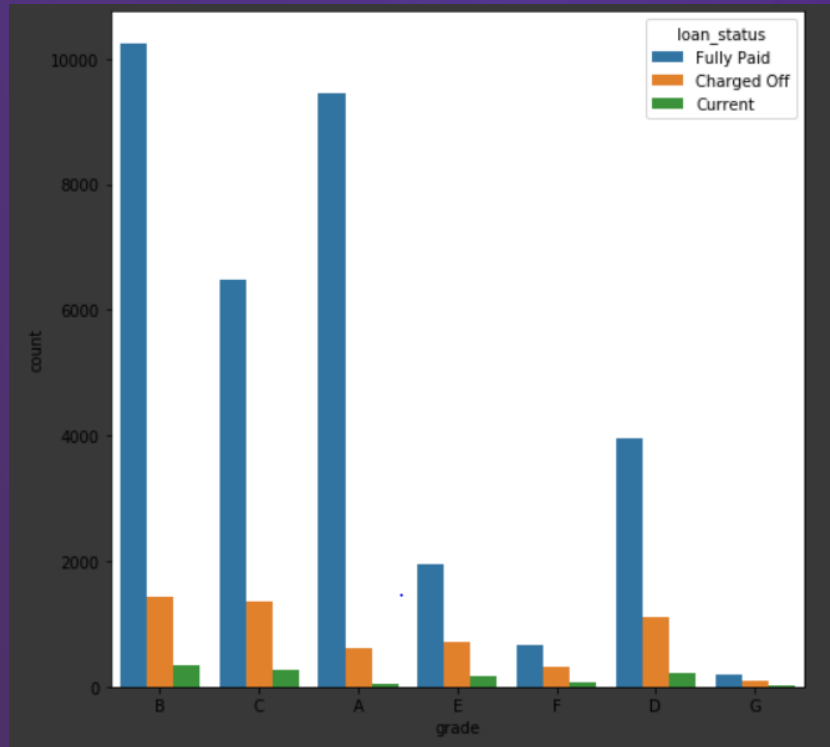
## LOAN STATUS WITH RESPECT TO TERMS



## PLACE WHERE PEOPLE HAS TAKEN MOST NUMBER OF LOANS



## NUMBER OF EMPLOYEE WITH LOANS AT VARIOUS GRADES



It clearly indicates that People with Grade B have applied for maximum loans and also with highest rate who have cleared loan



# Example

Brandom,  
Living in Sunnyvale, California. Working for past 8 Years with CCD.

Loan amount needed : \$15000

Salary Yearly:\$58000

Term:36

Purpose: other

Home ownership: Mortgage

Sub grade: C1

Description: Plan to use for personal care

Title: Looking for a loan Personal

Verification status: Source verified

Brandom is living in California. We are receiving too many loan applications from California ,  
This guy is with CCD Good making around 50k per year. He has Mortgage oh that's need to be checked. He is working for past 8 years and has mortgage as well. His history reveals his credit grades are C having subgrade C1 little risk here it seems. Anyways let see his purpose for loan, he has not filled it from our broad list of category and has mentioned as Others so what the reason he is looking for personal use case. Oh, so he is having mortgage at 8 year experience and if we look at loan he is asking for is \$15000 which is almost 1/4th of his salary and that too in term of 36 months. So Assuming a interest rate of 15% his monthly installment would come around \$500 which is around 10% his monthly income and he has mortgage too. He is C grade as well. This guy is risky can charged off in Between.  
Hence DENIED LOAN.