

The chart is a stacked area plot with a y-axis ranging from 0 to 35 in increments of 5. It features two data series: a blue area at the top and an orange area at the bottom. The blue area starts at a height of approximately 20 at the left edge, remains relatively flat until the second tick mark, then gradually decreases to about 16 at the third tick mark, and finally drops sharply to approximately 12 at the fourth tick mark. The orange area starts at a height of approximately 12 at the left edge, remains flat until the second tick mark, then increases slightly to about 13 at the third tick mark, and finally rises more significantly to approximately 26 at the fourth tick mark. The total height of the stacked areas remains constant at approximately 32 throughout the chart.

EDA – Lending Club Case Study

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Data Cleaning

- ✓ We have removed the column which has only null values
- ✓ We have removed the column which has only one value (ex:- only zeros)
- ✓ We populate median value for the missing values for some of the columns

Univariant Analysis

By using univariant analysis, we analyze the amount field and remove the outlier in the data.

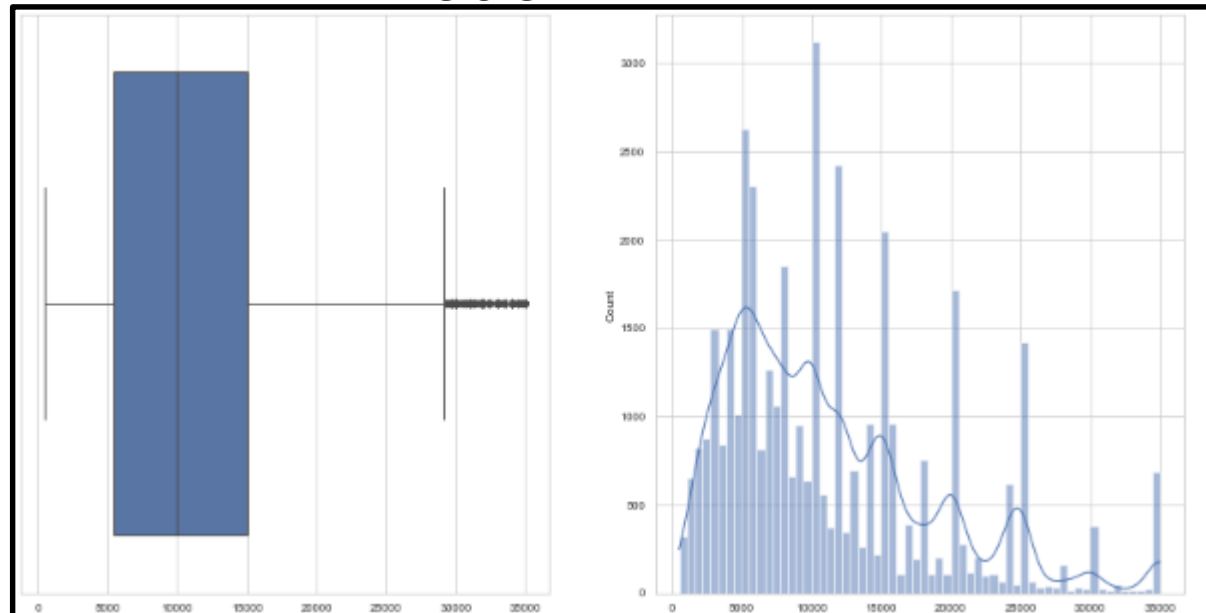
Example:-

If we take, loan_amnt field by setting upper limit we treated outlier and normalize the data.

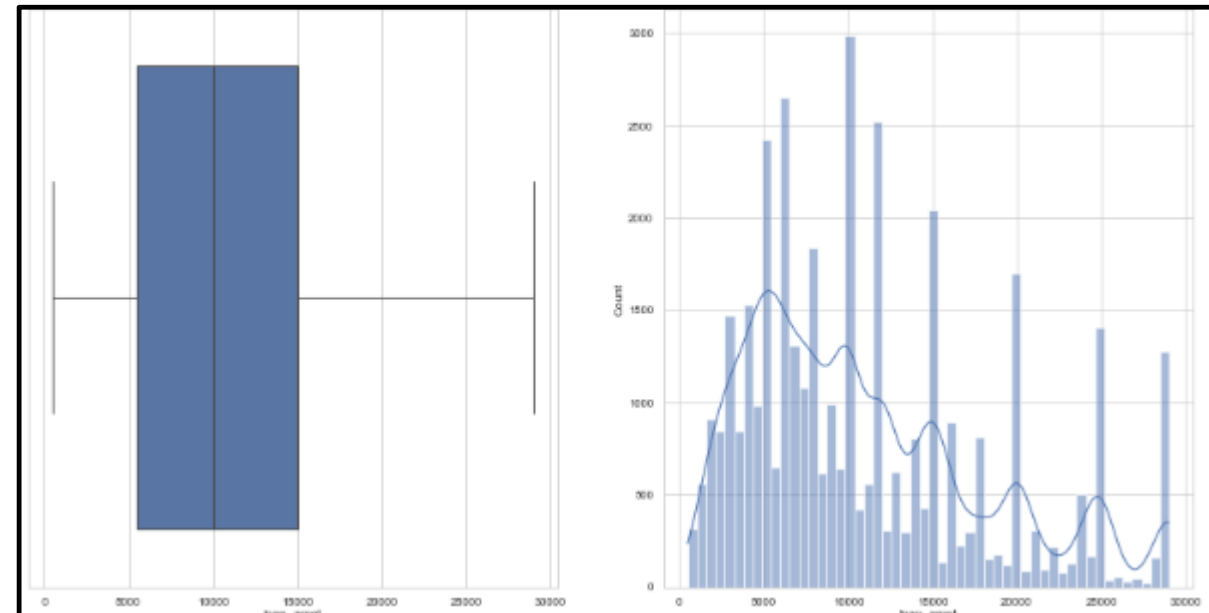
Like wise we have done outlier correction for all the amount fields

```
upper_limit = 29000
lower_limit = 0
loan_data['loan_amnt'] = np.where(loan_data['loan_amnt'] >= upper_limit, upper_limit, np.where(loan_data['loan_amnt'] <= lower_l
```

Before



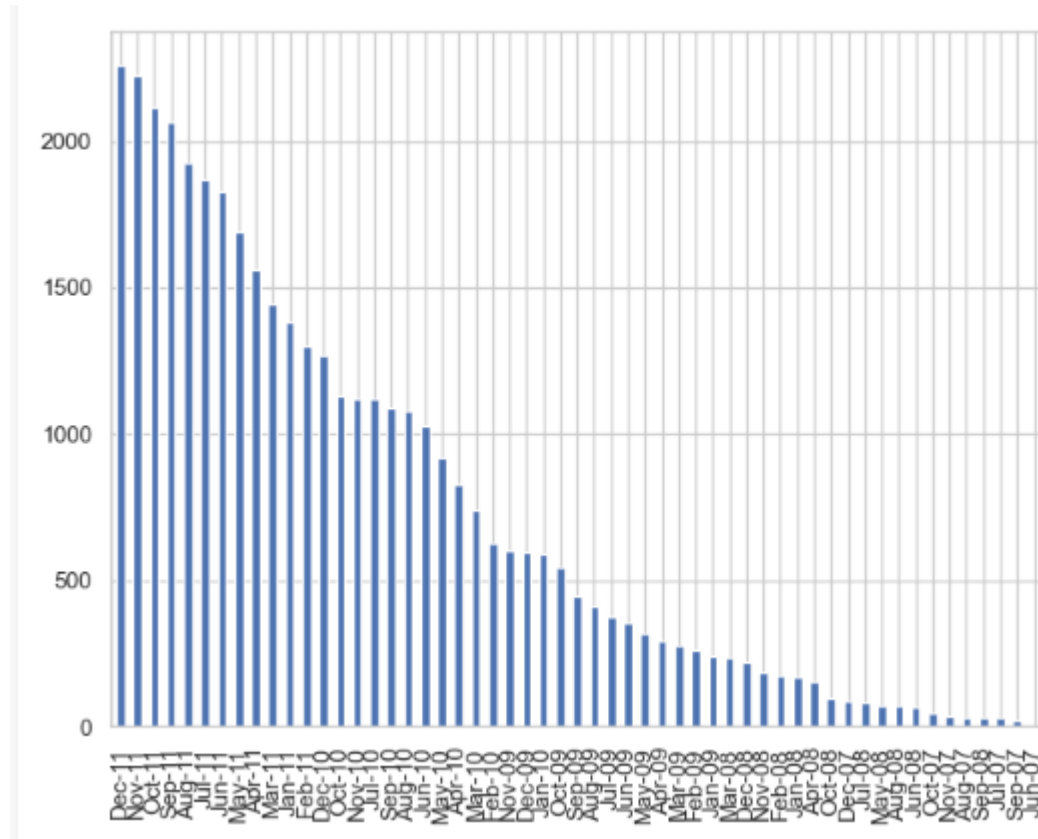
After



Univariate Analysis

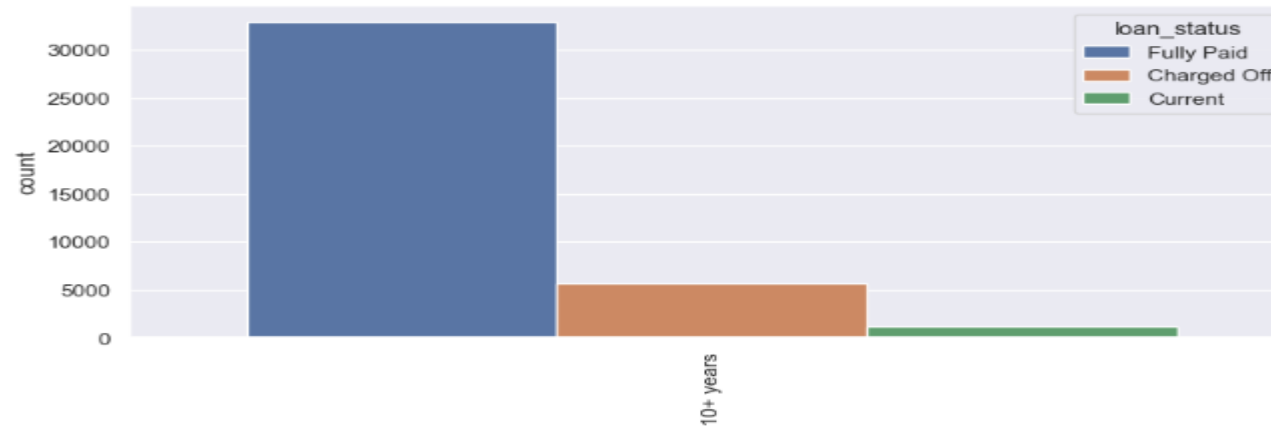
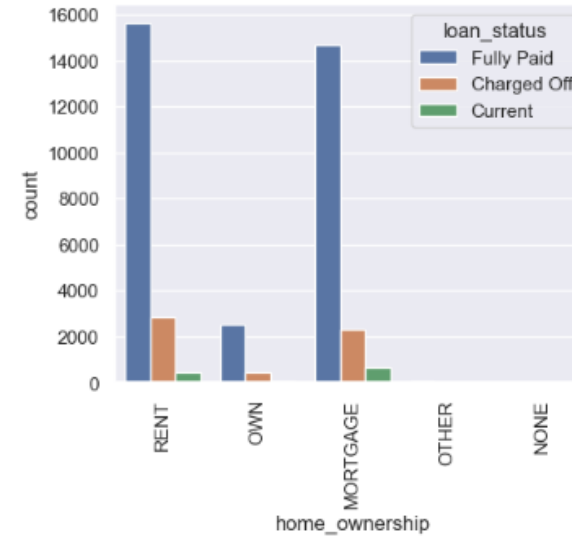
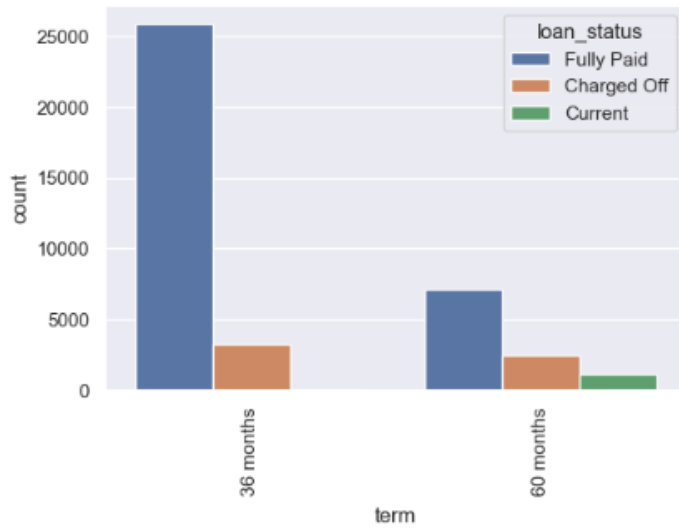
By using univariate analysis, we analyze the issue_d column and the below inferences

- Most number loan sanctioned in the period from May 2011 to Dec 2011.
- Most number of “charged of loan from in this period May 2011 to Dec 2011.

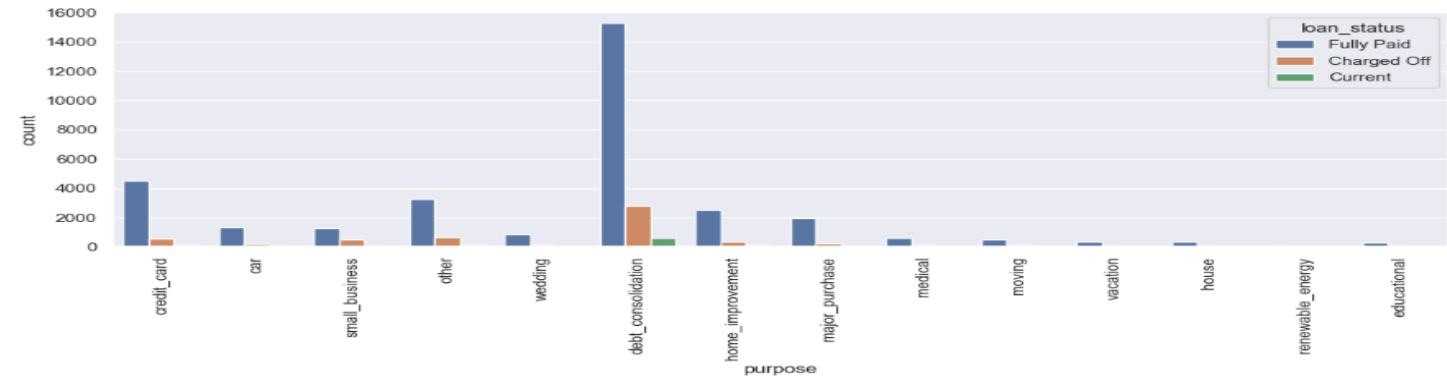
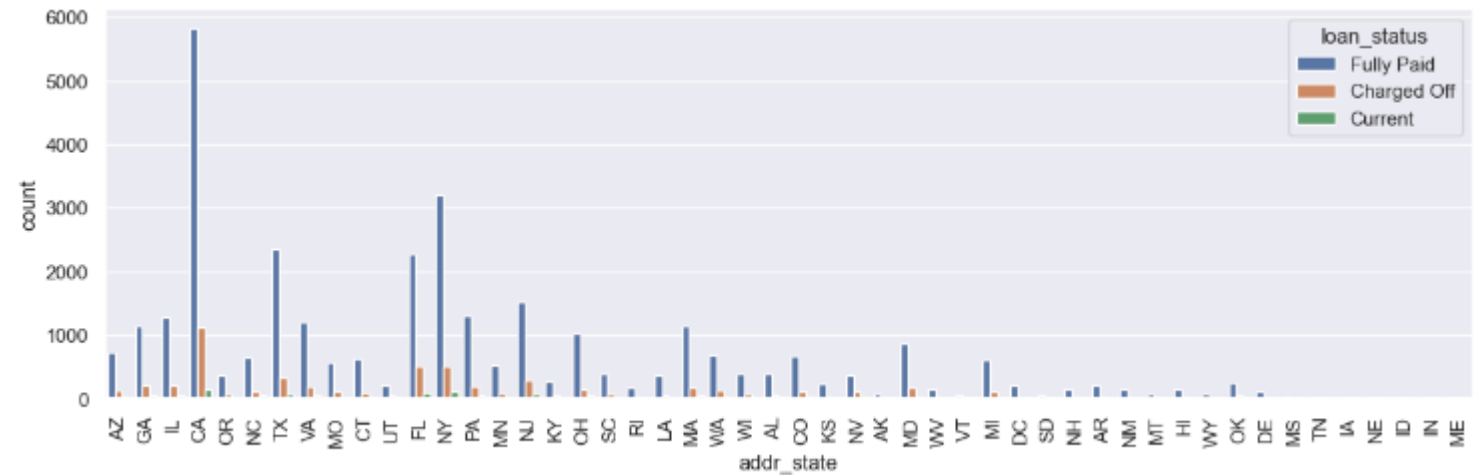
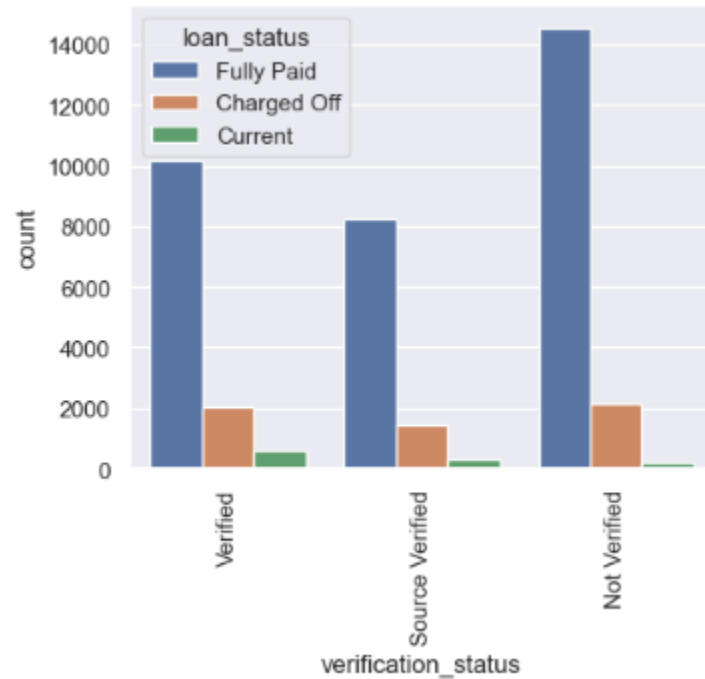


Bivariate Analysis

In Bivariate analysis, we working with categorical columns - with loan_status
There are columns with one value across all the rows, ignoring such columns
analyzing them using bar-charts



Bivariate Analysis



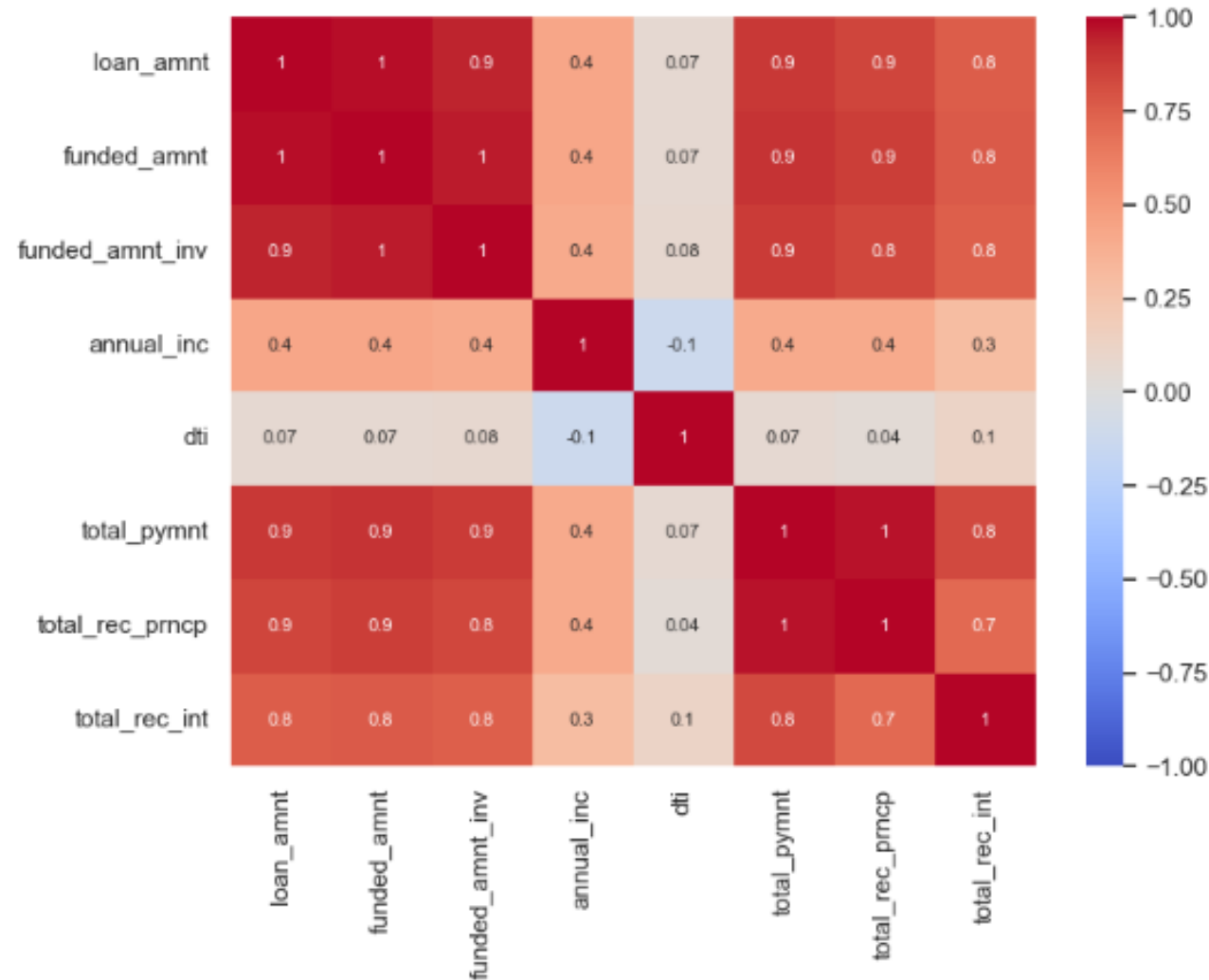
By using this analysis we have inferred the below findings.

- Employee has 10 years of experience, taking more loan.
- Most of loan charged off which term is 60month compared to 36 months
- CA,NY TX, FL are the states where loans given are more
- Most of the loan sanctioned for “Debt-consolidation” purpose

Multivariate Analysis

In Multivariate analysis, we plot heat maps using amount fields,.

- loan_amnt, funded_amnt, funded_amnt_inv are Highly correlated
- Total_pymnt, total_rec_prncp, total_rec_int are Highly correlated



Inferences

- ✓ Most of loan has sanctioned without proper verifying the income
- ✓ Most loans which sanctioned from May 2011 to Dec 2011 is "Charged Off"
- ✓ Employee has 10 years of experience, taking more loan.
- ✓ Most of loan charged off which term is 60month compared to 36 months
- ✓ CA,NY TX, FL are the states where loans given are more
- ✓ Most of the loan sanctioned for “Debt-consolidation” purpose

Recommendation

- ❖ Since most of loan has sanctioned without proper verifying the income, process needs to tighten there, to avoid financial loss