

# Lending Club Case Study

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# Objective

The Objective of this case study is to implement EDA technique on a Lending Club Data

Benefits of the case study:

- Gives a idea about how EDA is useful to solve business problems.
- How the data is used to minimize loss of money while lending it to clients.
- It improves our understating of visualization and what charts to use for real life data.

# Business Understanding

- The business objective is to take a decision whenever they receive a loan application whether to reject or approve based on certain variables.

## **Dataset Details:**

The data given below contains information about past loan applicants and whether they 'defaulted' or not. Data has details regarding approved loan not the rejected ones. It has 3 status of loan which is Fully Paid, Current and Charged-Off.

## **Data Clean-up and preparation process:**

**Importing The Libraries & Data**

**Removing Null Values Columns**

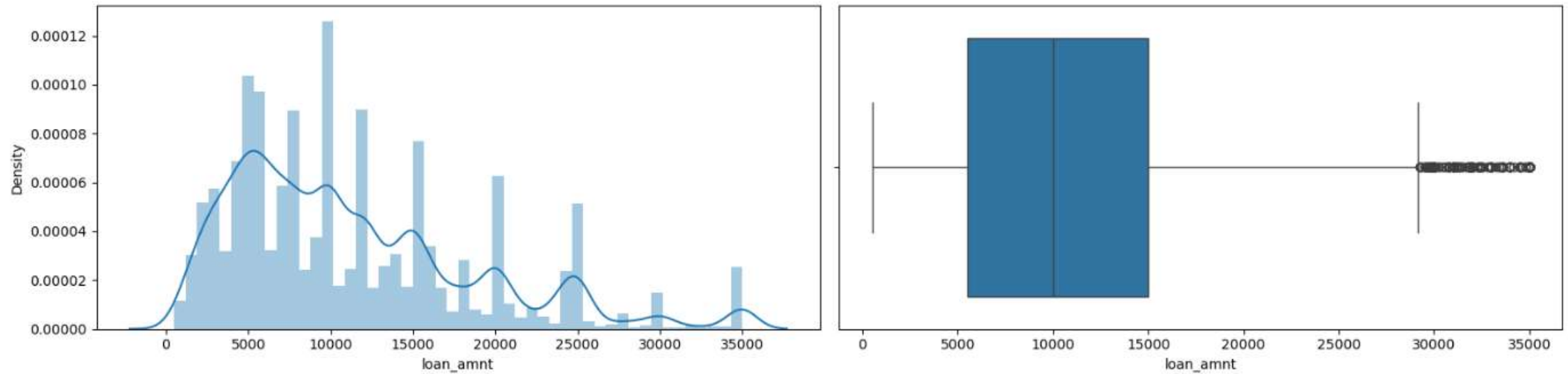
**Removing Duplicate Data**

**Data Conversion**

**Deriving New Columns**

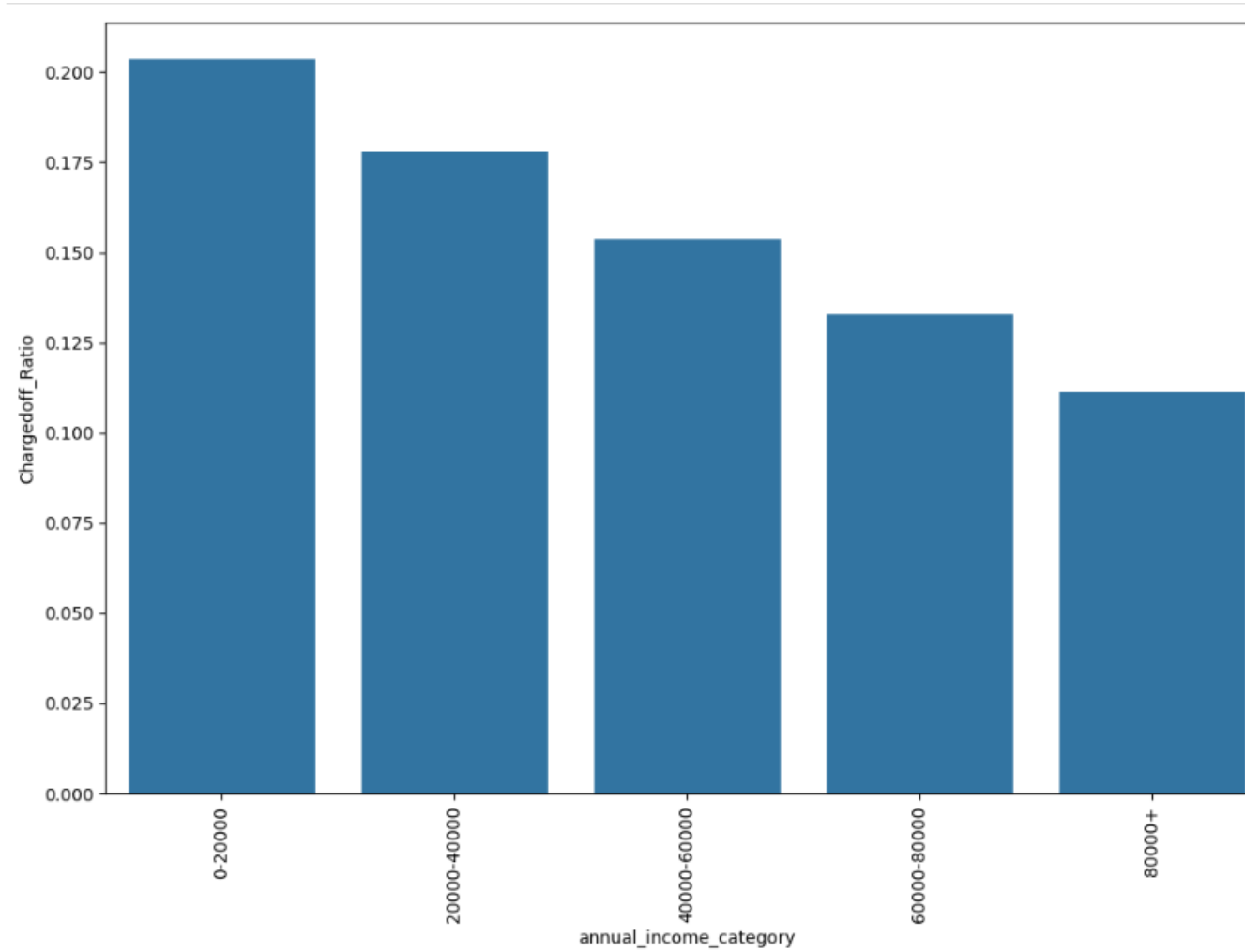
**Analyse The Columns Using Proper Plots**

# Loan Amount

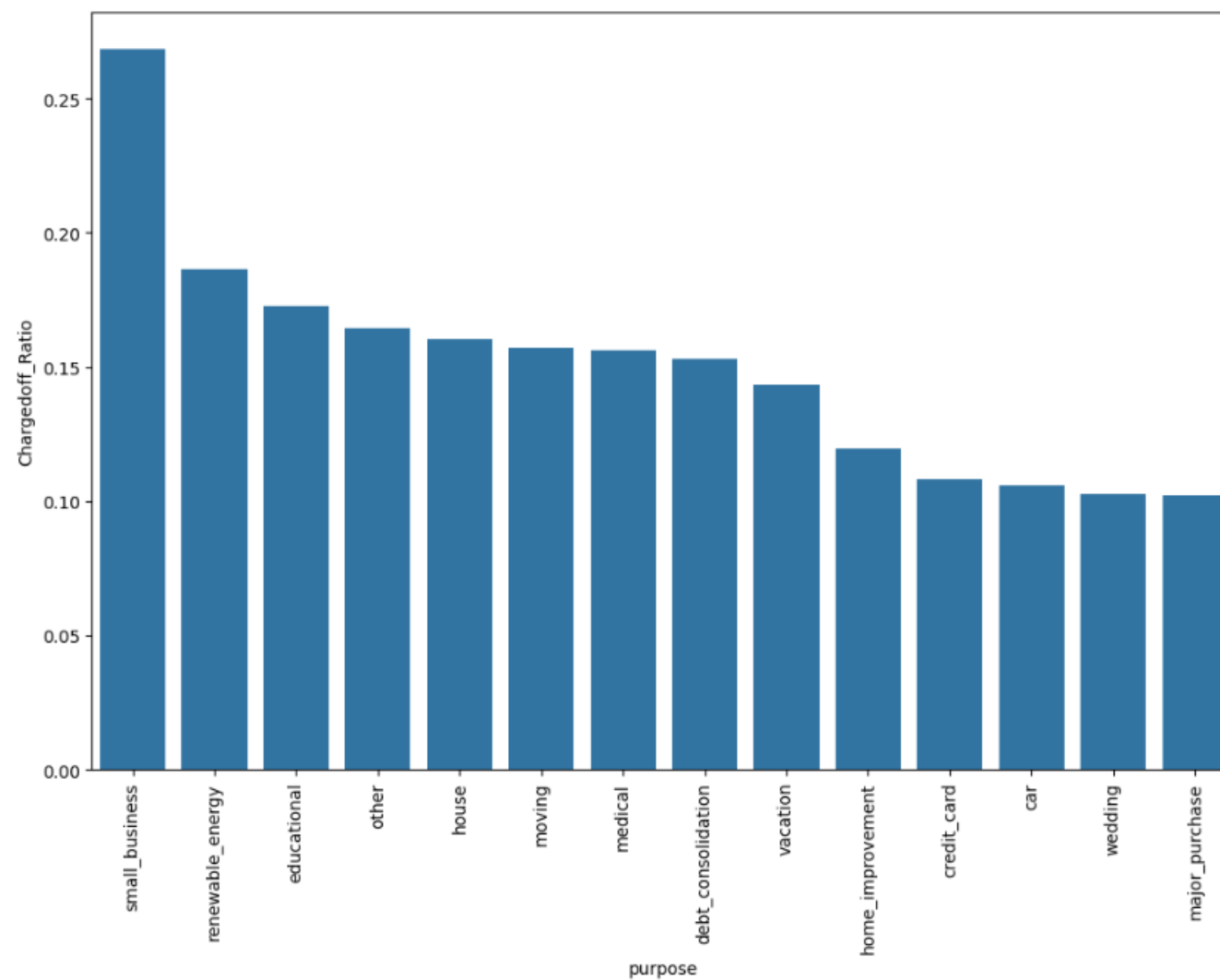


Analysis : most of the loan amount is between 5k to 15k

# Loan Status VS Income

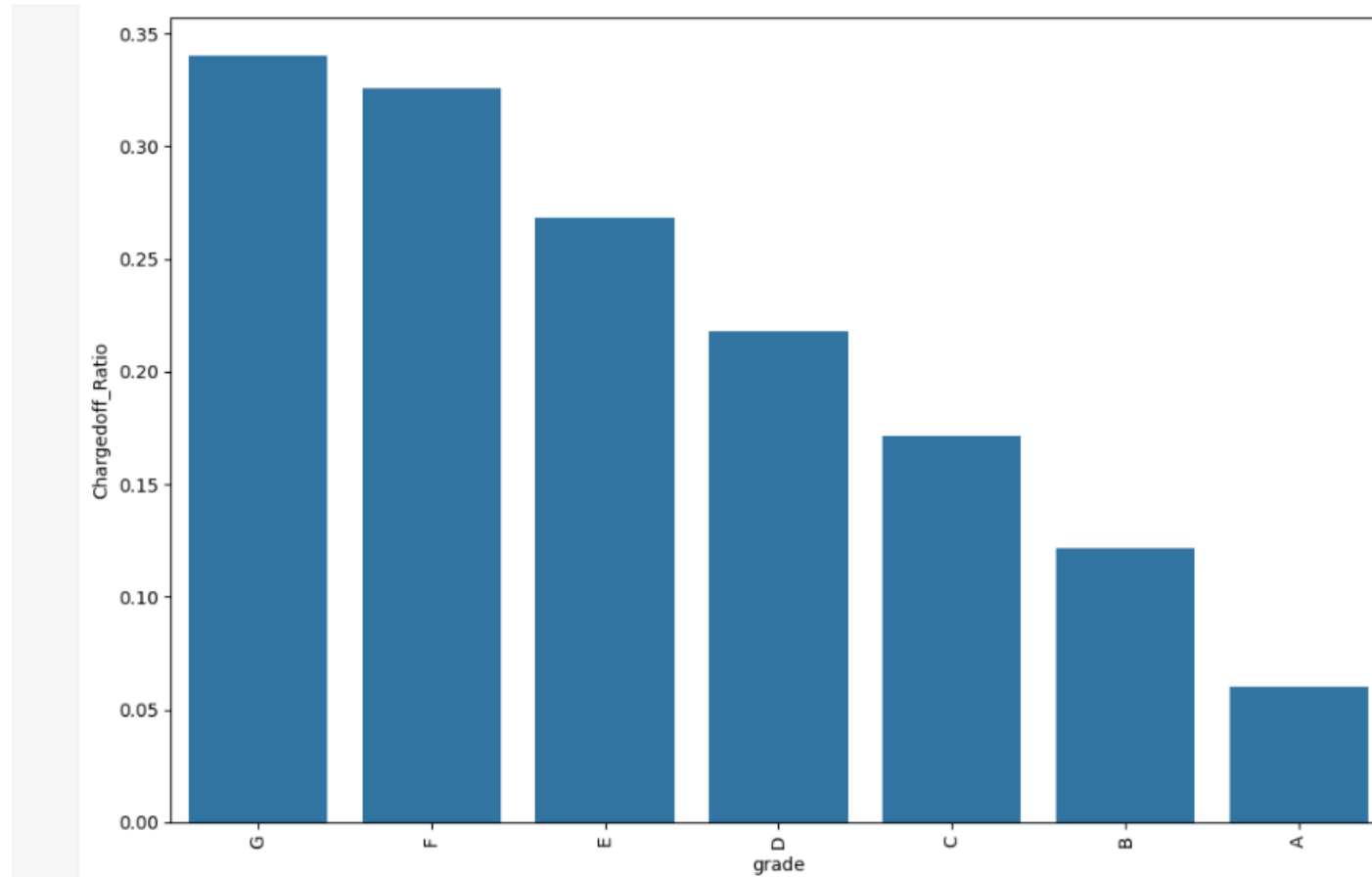


# Loan Status VS Purpose Of Loan



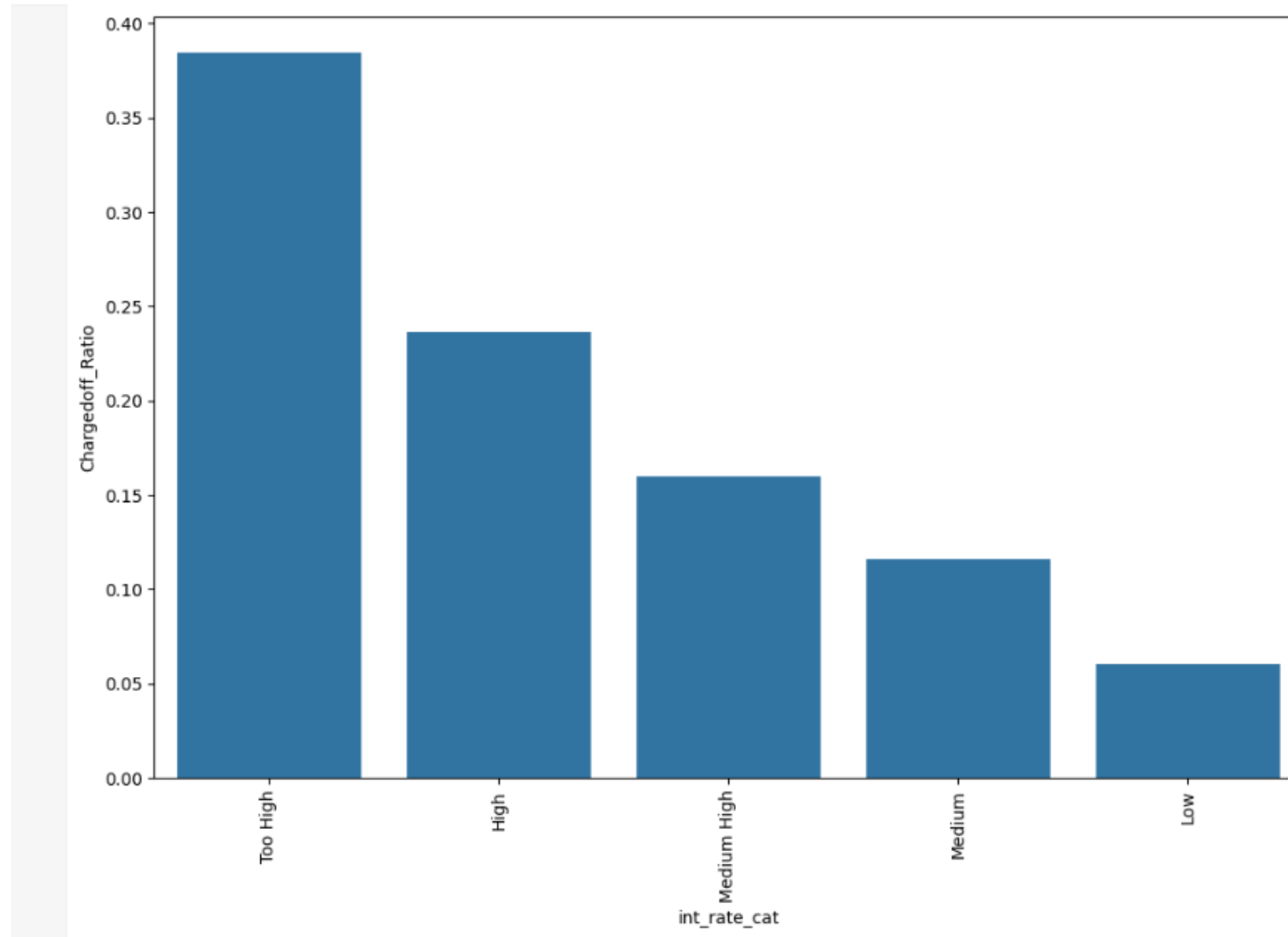
Analysis: Small business purposes have more chances of getting into Defaulters

## Grade VS Loan Status



Analysis: Grade G has the high chances of Charged Off and Grade A has the less chance of Charged Off  
Chances of ChargeOff increasing from Grade A to G in increasing order

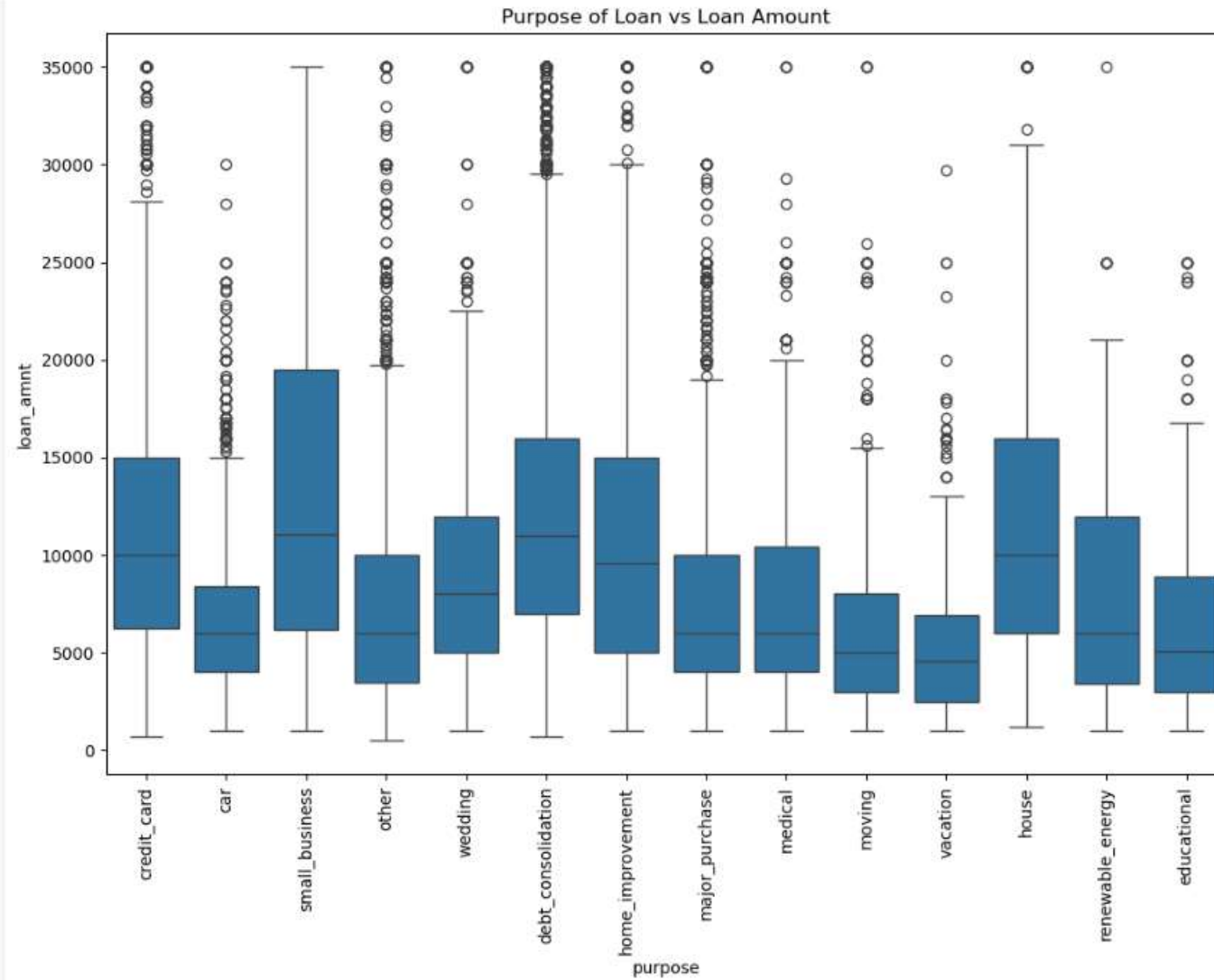
# Interest Rate VS Loan Status



Analysis : As the interest rate is increasing chances of Charged Off also increasing

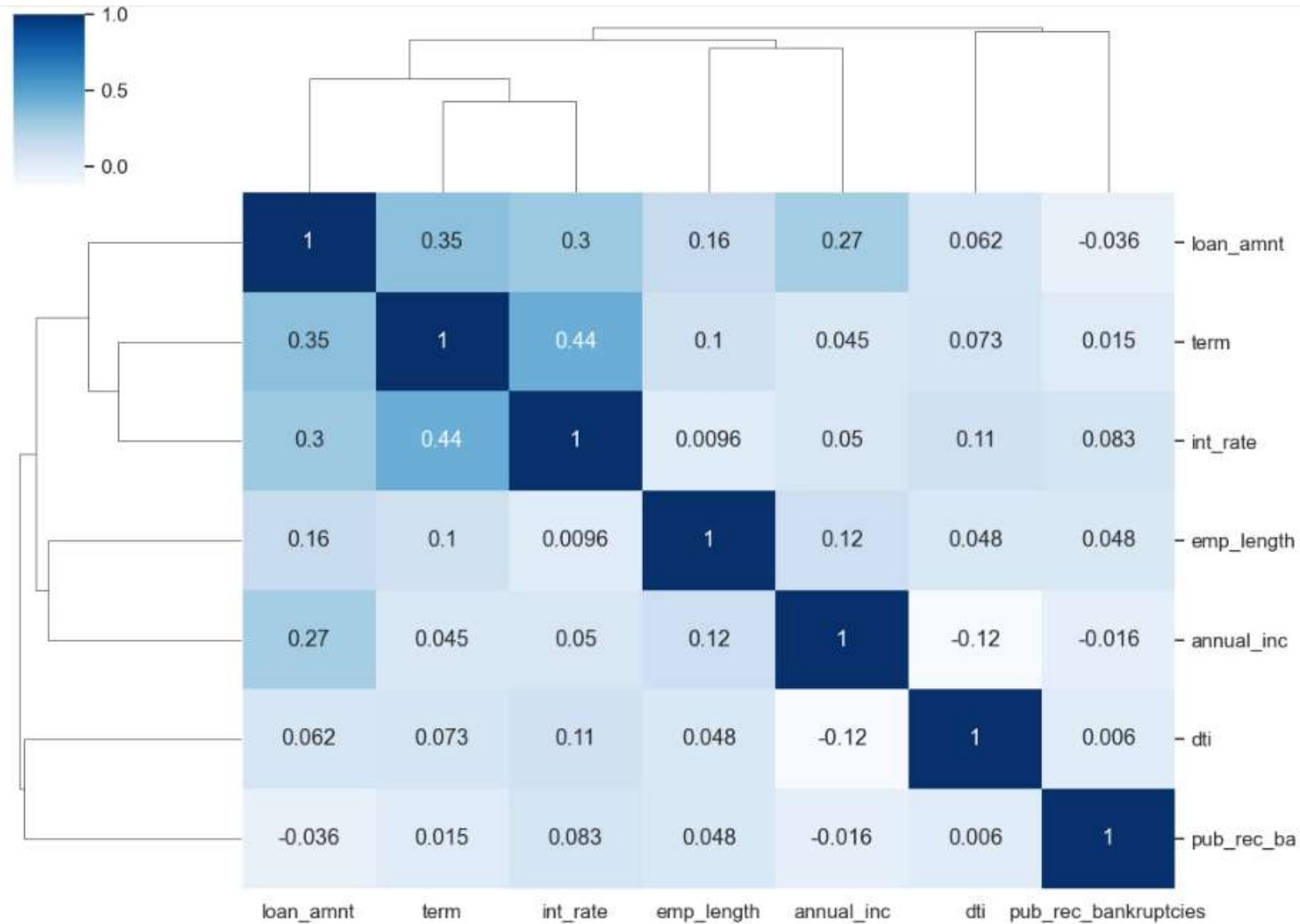


# Purpose VS Loan Amount



Analysis: Median and 75th Percentiles of loan amount are high for Small Business purpose and then Credit card and debt consolidation

# Correlation Plot



Analysis :  
--> loan\_amnt VS pub\_rec\_bankruptcies & annual income VS dti has Negative Correlation  
--> term VS loan amount & term VS interest rate & annual income VS loan\_amount has Strong Correlation  
--> pub\_rec\_bankruptcies has weak correlation with annual\_inc, loan\_amnt