# Lending Club Case Study

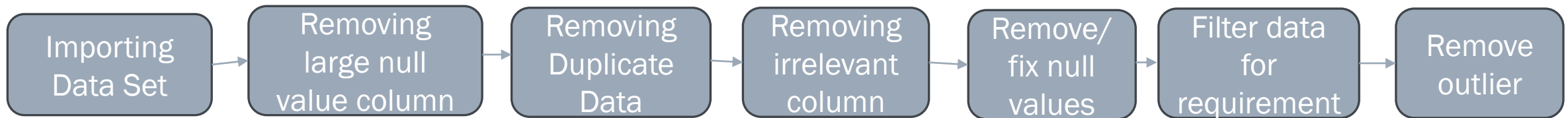PRATHIMA KRISHNAMOORTHI

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# OBJECTIVE

- The primary goal of designing this case study is to solve the problem of Consumer Finance company to identify defaulter customers and helps In analyzing loan approval applicants by considering possible risks.

- Key Features of Case Study

- Real world example for Analysing Exploratory Data Analysis(EDA)

- Helps is improvising realistic problem and different ways to analyse the problem.

- This EDA implentation can help to identify errors, plus better understand patterns within the data, detect outliers or anomalous events, find interesting relations among the variables.
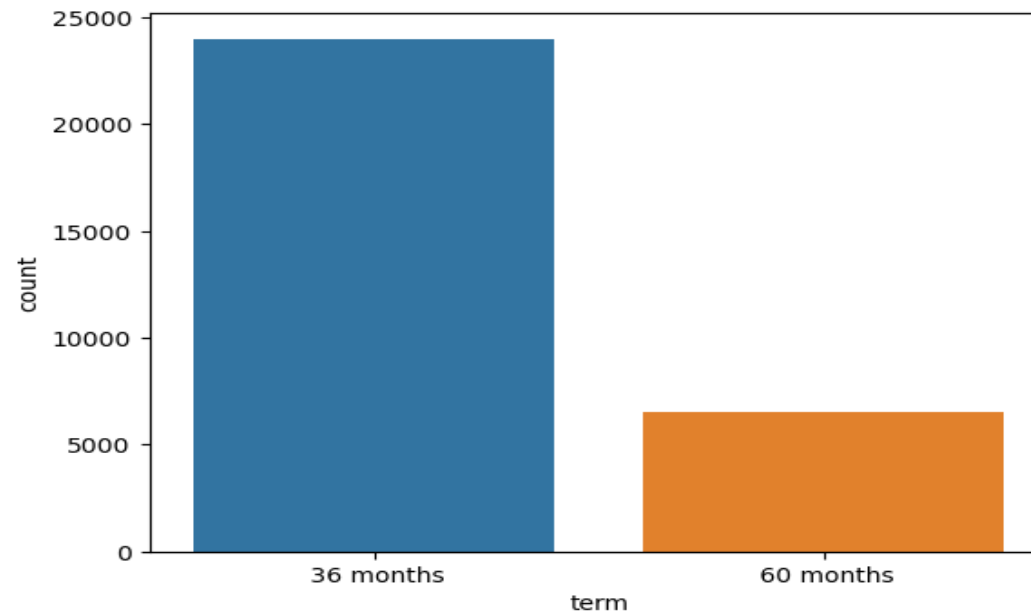
# Business Insight

- The business moto is to take a decision whenever they receive a loan application whether to reject or approve based on their parameters.

- **Dataset Information:**

- The Dataset given has an information about past loan applicants and whether they defaulted or not.Data has detailed regarding approved loan not the rejected ones.It has three status of loans Which is fully paid , Current and Charged off.

- Data Cleanup and Preprocessing Process

Dataset Details:

| Importing Data Set | → | Removing large null value column | → | Removing Duplicate Data | → | Removing irrelevant column | → | Remove/ fix null values | → | Filter data for requirement | → | Remove outlier |

# Customer Count & Loan Term



*The above* graph *shows that the customer with longer the duration, the greater chances of being  charged off.*

# Verification Status and Customer Count
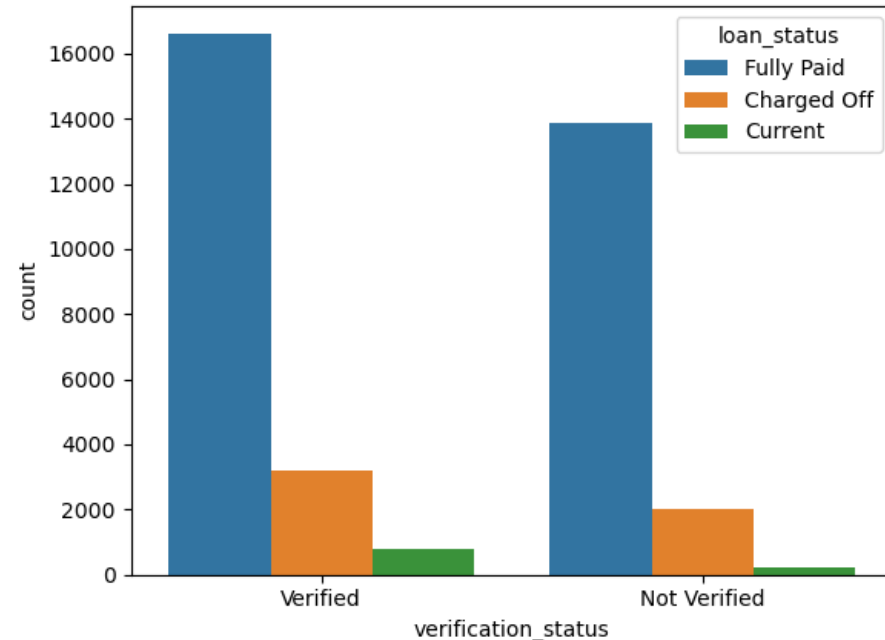


The verified loan status does not get charged Off. So the lending company should verify the application status before loan approval . Hence from the above graph , the number of customer whose verification status is not verified , company can not approve loan for those customers.
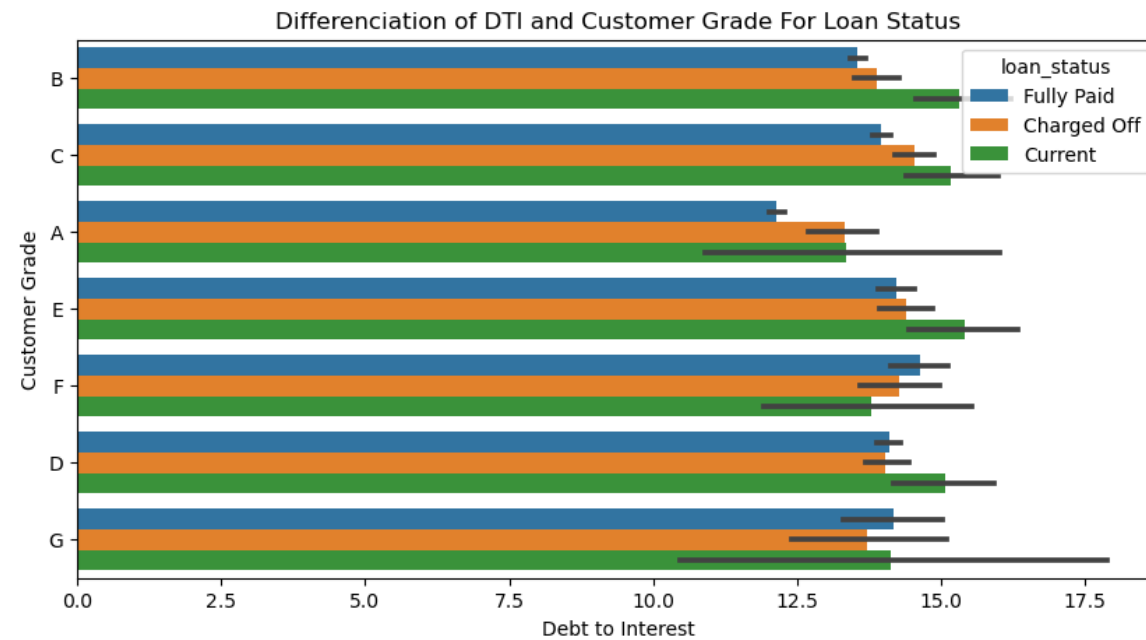
# Issue Year and Loan Amount
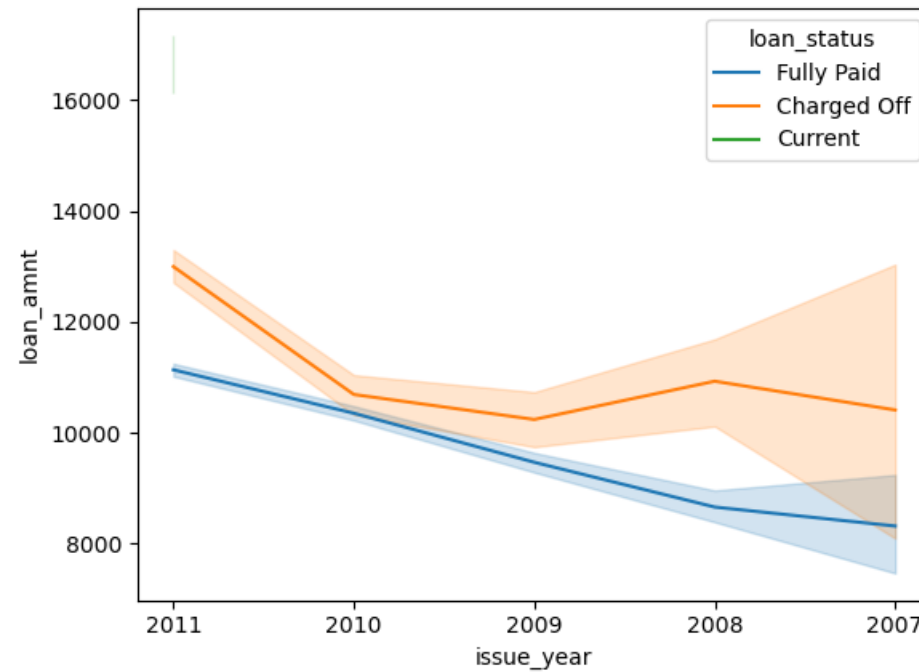


*Based on the above graph, 2011 was the year when loan was charged off the most.*

# Issue Month and Loan Amount
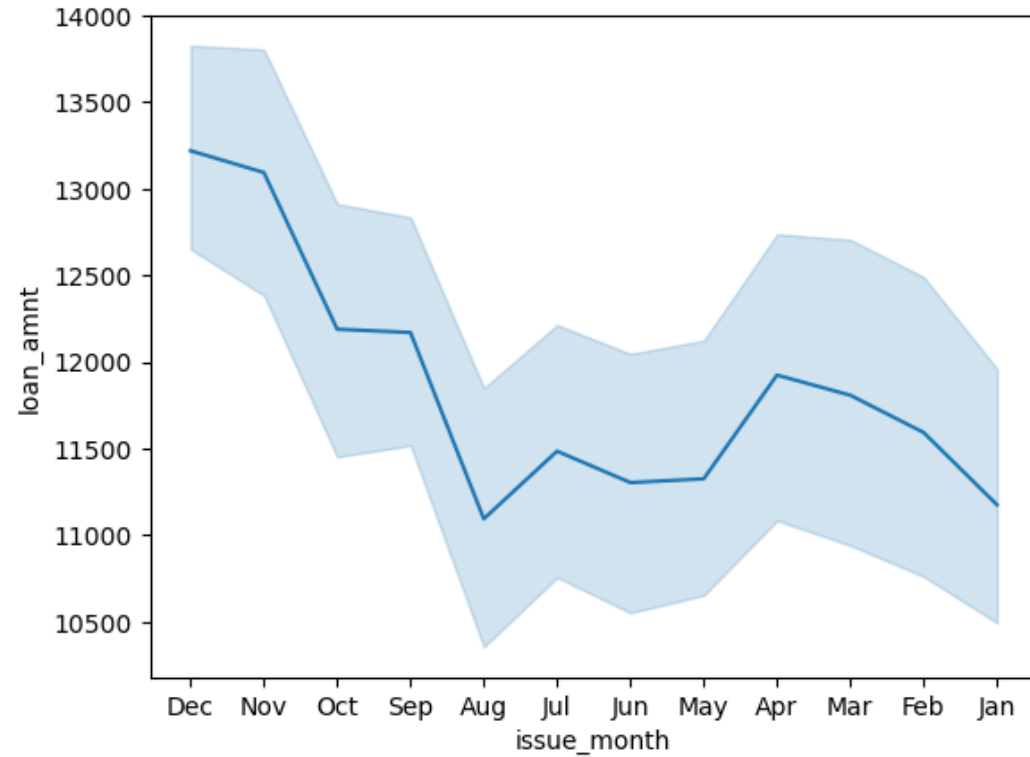


*Based on the above diagram , December is the month where most of the loan is charged off.*

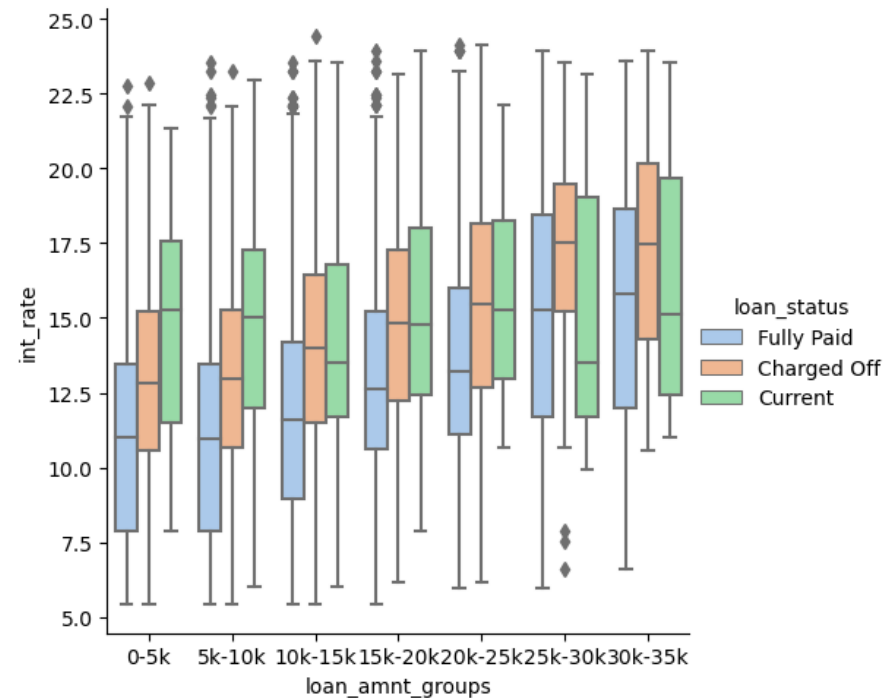# DTI and Customer Grade for loan status -



Differenciation of DTI and Customer Grade For Loan Status

BIVARIATE ANALYSIS - POSSIBLE COMBINATIONS (Interest Rate,Grades,Debt To Income,Annual Income and Other Columns)

& Differenciation of Debt to Interest over Customer grade for loan status

# Loan Amount Groups & Interest Rate



 Analysis - The interest rates for Charged Off loan is high. So, if the period is high and the interest rates are high, it is very likely that the loan will be charged off.Lending Company should refrain from such situation.

# Analysis and Observations

➢The higher the period of the loan, the more chances that it could get 'Charged Off'.

➢Applicant's with already existing debts are likely to have their loan 'Charged Off'.

➢Employees in the higher grade are more likely to apply for loans.

➢The years in which most of the loans are charged of is 2011.

➢December is the month where most of the loans are Charged Off.

➢People who have taken loan for 'Home Improvement' are the ones 'Charged Off'.

➢Loans are 'Charged Off' if the dti value is high.

➢People who have a own house are less likely to have their loans 'Charged Off'.

➢Lending companies should verify the loan application.