# Welcome

# Lending Club Case Study

# Data Understanding

- Various columns how impacting loan default nature

- Most columns are customer characteristic

- Dataset has few columns all carrying without data, These columns can be dropped.

# Data Cleaning

- Dataset most import columns are *loan_amt, term, Interest_rate,Grade, subgrade, annual income, purpose loan, DTI(Debt to income), employment length, loan date, home ownership, verification status, loan_status*

- *Loan_status has customer with current status which are not considered to analyse default or non default tendency as loan payment is still in progress. These rows can be dropped*

- *Columns with high missing values can be dropped*

- *Funded amount and loan amount are same. One column can be dropped.*

# Data Cleaning

- Meta data of customer like member_id, url , zip code, wont impact customer loan default tendency , like fields can be dropped.

- Columns related to applicant demographics and loan characteristics are can be retained

- Columns related to customer behavioural variables can be ignored(can be dropped)

# Data Analysis

- **Loan amount to loan status Analysis**
- Increase in loan amount shows increase in chance of loan default

# Loan amount to loan status Analysis

- Loan status on x axis and loan amount on y axis
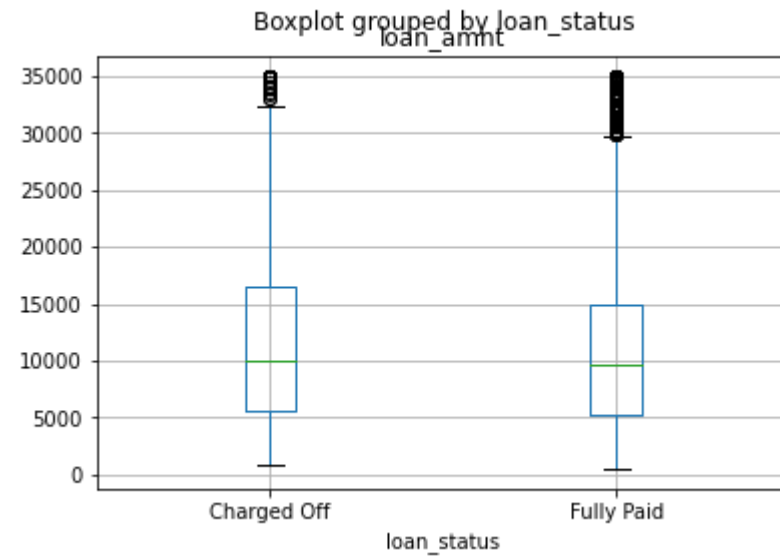
# Interest rate influencing loan status Analysis

- Increase in interest rate is significantly impacting loan status. More increase in interest rate causes customer to default the loan

- Box plot to see behaviour of interest rate on loan status



Boxplot grouped by loan_status
int_rate
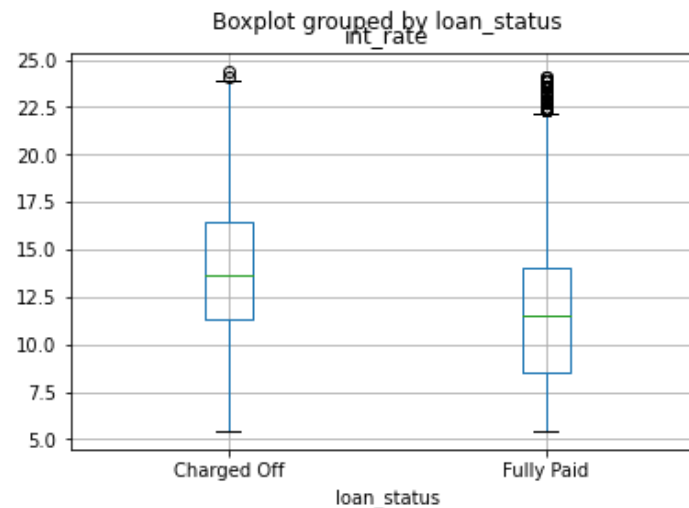
# Term Analysis

- Increase term from 36 to 60 months has influence in chance of defaulting the loan.

Boxplot grouped by loan_status
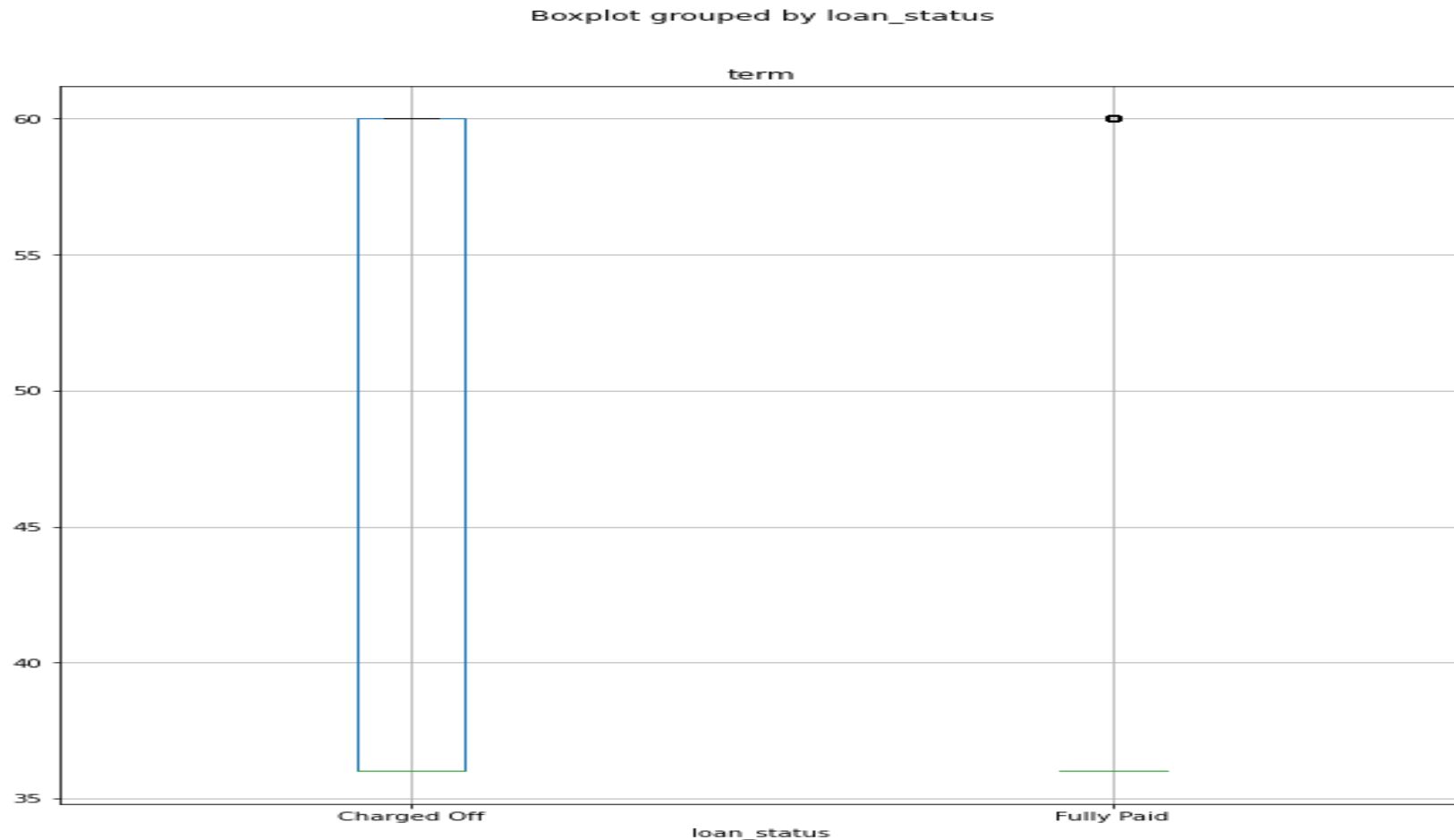
# Debt To Income(DTI) Analysis

- Debt to income ration increase will also increase chance of customer defaulting the loan



Boxplot grouped by loan_status
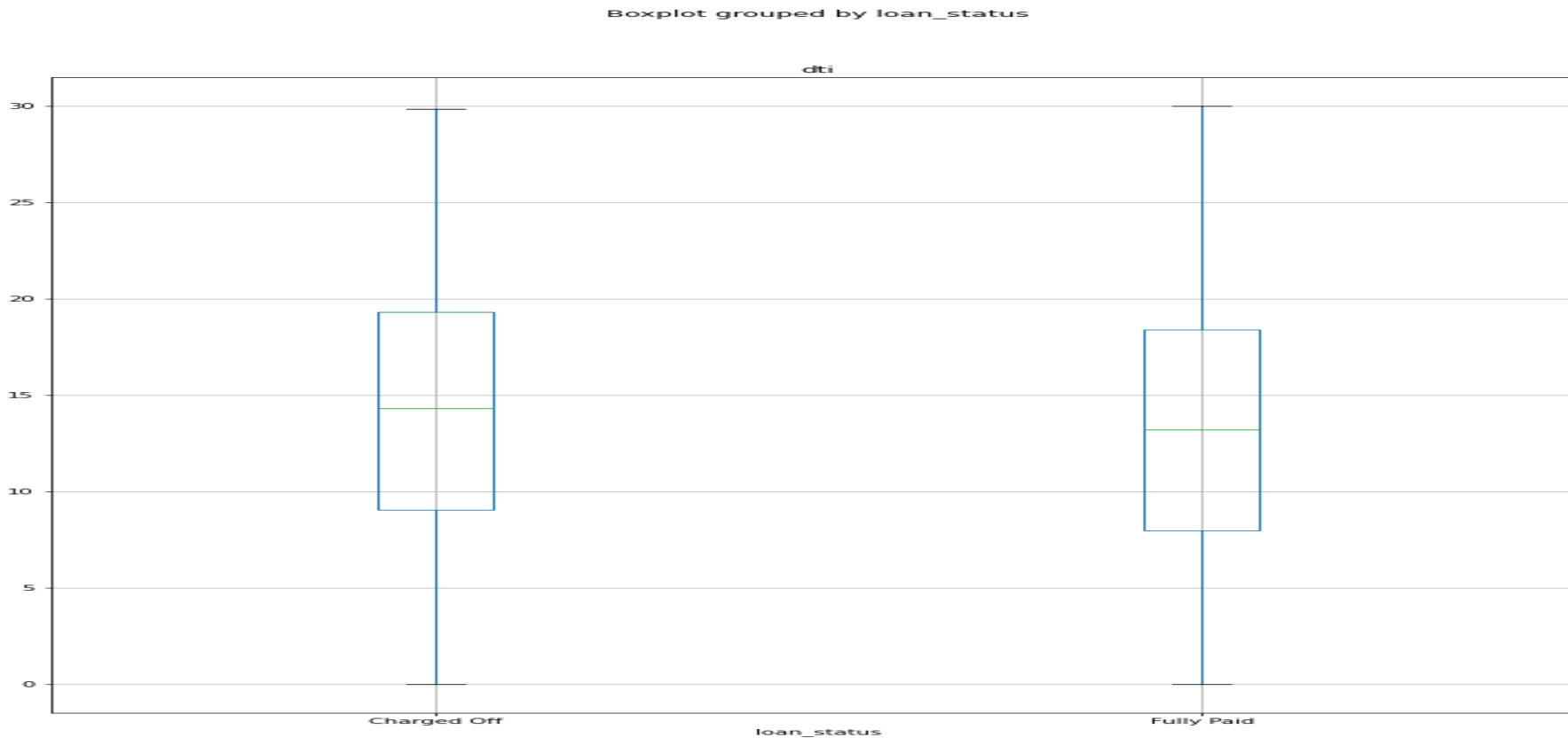
# Recommendations

- Applicants having more loan amount, more interest rate, having more months has term, more Debt to Income(DTI) ratio are have more chance of defaulting the Loan.

- Customers having more income has less chance of defaulting the loan.