# Introduction of the dataset

Dataset belongs to company called Lending Club, it contains all the loans which have been issued by Lending Club from 2007 to 2018.

The [Lending Club](https://www.lendingclub.com/) is a peer-to-peer lending service (it lends money to customers by matching lenders to borrowers), based in the United States. This company enables borrowers to create loan listings on its website by supplying details about themselves and the loans that they would like to request. On the basis of the borrower’s credit score, credit history, desired loan amount and the borrower’s debt-to-income ratio, Lending Club determines whether the borrower is credit worthy and assigns to its approved loans a credit grade that determines payable interest rate and fees.

Dataset contains close to 2 million loan records, precise count of records = 2,260,668

Dataset contains various attributes based on which the credit lending decision takes place, this includes

1. Deb to income ratio
2. Annual Income
3. Home ownership type (Rented, Mortgage, Owned)
4. Employment details.

Dataset also contains geographical information like

1. State from which loan has originated.
2. Zip code.

It also has issued loan details like

1. Funded Loan Amount
2. Issued month and year.
3. Loan Term (36 or 60 months)
4. Interest rate.

Post loan has been issued, loan performance needs to be tracked, and this dataset also contains those details

1. Loan Status (Current, Paid Off, Charged Off, Delinquent)
2. Loan Grades.
3. Delinquency details.

# Data Analysis objective

* How lending club has performed in terms of number of loans and funded loan amount?
* Identify details around the loan term and funded loan amount, typically bigger loans are associated with longer term.
* Typically lenders favor applicants with lower DTIs, analyze the dataset to check if this holds good. Identify the sweet spot number for DTI.
* Identify relationship between funded amount, annual income and interest rate.
* Identify geographically how loans are funded.

# Visualizations

## Year wise loan trends

## Loan Amount and term relation

## Loan funded amount, annual income and interest rate relation

## Loan funded amount by state.

## DTI Trend

## R Code

# Link to dashboard

# Executive Summary

* 2.2 million Loans have been funded by lending club.
* Total funded loan amount is close to $ 33 billion
* Year on year there has been steady growth in number of loans funded and total funded loan amount.
  1. Year 2012 to 2015 saw the maximum growth.
  2. Highest number of loans issued was in 2018, close 500,000 loans
  3. Maximum total loan funded amount was in 2018 close to $8 billion.
* Loan distribution across term
  1. Lending club offers only loans with 2 terms 36 months and 60 months.
  2. For 36 months loan:
     1. Median loan funded amount is $10000.
     2. Majority of the funded loan amount ranges from close $6000 to $16000.
  3. For 60 months loan:
     1. Median loan funded amount is $20000.
     2. Majority of the funded loan amount ranges from close $15000 to $25000.
* Relationship between funded loan amount, annual income and interest rate
  1. Higher the annual income more is the funded loan amount.
  2. As the annual income increase the interest rate drop by couple of percentage points.
* Median annual income is $65,000. Majority of lenders are having annual income less than $200K.
* Lower the DTI higher the probability of getting the loan approved. Median DTI is close to 18% (17.82%). Above 38% DTI probability of loan getting funded is less.
* California has the highest total funded loan amount, followed by Texas, New York and Florida. Total Loan funded amount in California is greater than $4 billion.
* Loan performance
  1. Out of 2.2 million total loans, Close to 900K loans are current and 1 Million loans which are paid off.
  2. Charge of percentage is close to 12% (exact 11.57 %). So essentially 12% of loans are bad loans and remaining close 88% are good loans.
* Loan Purpose
  1. Debt consolidation is major primary purpose of taking loan from lending club.
  2. Second major purpose of taking loan is for paying credit card bills.