# Lending Club Operations assessment

BACKGROUND: The Lending Club is a peer-to-peer lending platform where members provide loans to one another. The platform offers anonymized data on loans and borrowers for public access.

BUSINESS PROBLEM: The team aims to investigate various hypotheses using Lending Club loans data to understand how different factors influence one another. Hypothesis testing and statistical tests will be employed to explore the following relationships:

a. Interest rates vary for different loan amounts (Less interest charged for higher loan amounts).

b. Loan duration directly affects interest rates.

c. Interest rates vary based on the purpose of loans.

d. A relationship exists between FICO scores and home ownership, implying that individuals who own homes will have higher FICO scores.

DATA AVAILABLE: LoansData.csv

The dataset contains the following variables, along with their data types and explanations:

Amount.Requested: Numeric. The amount (in dollars) requested in the loan application.

Amount.Funded.By.Investors: Numeric. The amount (in dollars) loaned to the individual.

Interest.rate: Character. The lending interest rate charged to the borrower.

Loan.length: Character. The length of time (in months) for the loan.

Loan.Purpose: Categorical variable. The purpose of the loan as stated by the applicant.

Debt.to.Income.Ratio: Character. The percentage of the consumer's gross income going toward paying debts.

State: Character. The abbreviation for the U.S. state of residence of the loan applicant.

Home.ownership: Character. Indicates whether the applicant owns, rents, or has a mortgage.

Monthly.income: Categorical. The monthly income of the applicant (in dollars).

FICO.range: Categorical (expressed as a string label, e.g., "650-655"). A range indicating the applicant's FICO score.

Open.CREDIT.Lines: Numeric. The number of open lines of credit at the time of application.

Revolving.CREDIT.Balance: Numeric. The total outstanding amount on all lines of credit.

Inquiries.in.the.Last.6.Months: Numeric. The number of credit inquiries in the previous 6 months.

Employment.Length: Character. Length of time employed at the current job.