**Problem Statement**

The Bank of Lena has not done well in last 3 quarters. Their NPAs (Non Performing Assets) have reached all time high. It is starting to lose confidence of its investors. As a result, it’s stock has fallen by 20% in the previous quarter alone.

After careful analysis, it was found that the majority of NPA was contributed by loan defaulters. With the messy data collected over all the years, this bank has decided to use machine learning to figure out a way to find these defaulters and devise a plan to reduce them.

This bank uses a pool of investors to sanction their loans. For example: If any customer has applied for a loan of $20000, along with bank, the investors perform a due diligence on the requested loan application. Keep this in mind while understanding data.

In this challenge, you will help this bank by predicting the probability that a member will default.

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| **Variables** | **Description** |
|  |  |
| member\_id | unique ID assigned to each member |
| loan\_amnt | loan amount ($) applied by the member |
| funded\_amnt | loan amount ($) sanctioned by the bank |
| funded\_amnt\_inv | loan amount ($) sanctioned by the investors |
| term | term of loan (in months) |
| batch\_enrolled | batch numbers allotted to members |
| int\_rate | interest rate (%) on loan |
| grade | grade assigned by the bank |
| emp\_title | job / Employer title of member |
| emp\_length | employment length, where 0 means less than one year and 10 means ten or more years |
| home\_ownership | status of home ownership |
| annual\_inc | annual income ($) reported by the member |
| verification\_status | status of income verified by the bank |
| pymnt\_plan | indicates if any payment plan has started against loan |
| purpose | purpose of loan |
| title | loan title provided by member |
| zip\_code | first three digits of area zipcode of member |
| inq\_last\_6mths | number of inquiries in last 6 months |
| loan\_status | status of loan amount, 1 = Defaulter, 0 = Non Defaulters |
| tot\_cur\_bal | total current balance of all accounts |
| tot\_coll\_amt | total collection amount ever owed |
| last\_week\_pay | indicates how long (in weeks) a member has paid EMI after batch enrolled |
| application\_type | indicates when the member is an individual or joint |
| verification\_status\_joint | indicates if the joint members income was verified by the bank |
| total\_rec\_late\_fee | Late fee received till date |
| total\_rec\_int | interest received till date |