Have you ever wondered how lenders use various factors such as credit score, annual income, the loan amount approved, tenure, debt-to-income ratio etc. and select your interest rates?

The process, defined as ‘risk-based pricing’, uses a sophisticated algorithm that leverages different determining factors of a loan applicant. Selection of significant factors will help develop a prediction algorithm which can estimate loan interest rates based on clients’ information. On one hand, knowing the factors will help consumers and borrowers to increase their credit worthiness and place themselves in a better position to negotiate for getting a lower interest rate. On the other hand, this will help lending companies to get an immediate fixed interest rate estimation based on clients information. Here, your goal is to use a training dataset to predict the loan rate category (1 / 2 / 3) that will be assigned to each loan in our test set.

You can use any combination of the features in the dataset to make your loan rate category predictions. Some features will be easier to use than others.

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| **Variable** | **Definition** |
| Loan\_ID | A unique id for the loan. |
| Loan\_Amount\_Requested | The listed amount of the loan applied for by the borrower. |
| Length\_Employed | Employment length in years |
| Home\_Owner | The home ownership status provided by the borrower during registration. Values are: Rent, Own, Mortgage, Other. |
| Annual\_Income | The annual income provided by the borrower during registration. |
| Income\_Verified | Indicates if income was verified, not verified, or if the income source was verified |
| Purpose\_Of\_Loan | A category provided by the borrower for the loan request. |
| Debt\_To\_Income | A ratio calculated using the borrower’s total monthly debt payments on the total debt obligations, excluding mortgage and the requested loan, divided by the borrower’s self-reported monthly income. |
| Inquiries\_Last\_6Mo | The number of inquiries by creditors during the past 6 months. |
| Months\_Since\_Deliquency | The number of months since the borrower's last delinquency. |
| Number\_Open\_Accounts | The number of open credit lines in the borrower's credit file. |
| Total\_Accounts | The total number of credit lines currently in the borrower's credit file |
| Gender | Gender |
| Interest\_Rate | Target Variable: Interest Rate category (1/2/3) of the loan application |

**sample\_submission.csv**

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| --- | --- |
| **Column Name** | **Description** |
| Loan\_ID | A unique id for the loan |
| Interest\_Rate | Target Variable: Interest Rate category (1/2/3) of the loan application |