**PGDM/MBA in Business Analytics**

**Applied Statistics (3 Credits)**

**Batch 02**

**Assessment – Guidelines**

**Last Date: 6th January 2018**

**Home Loan Analytics**

One of the largest housing finance company deals all in home loans. They have presence across all urban, semi-urban and rural areas. Customer apply for home loan after that company validates the customer eligibility for loan.

The Company wants to automate the loan eligibility process (real-time) based on customer detail provided while filling online application form. These details are Gender, Marital Status, Education, Number of Dependents, Income, Loan Amount, Credit History and others. To automate this process, they have given a problem to identify the customers segments, those are eligible for loan amount so that they can specifically target these customers

**Project objectives**

1. Identify which are the important factors that lead to giving a customer a home loan
2. Is the average loan amount same across the different gender? Is the average loan amount same across people who are married vis-a-vis the ones who are not married? Validate it statistically.
3. Is there any trend in the kind of properties for whom the home loan has been sanctioned? Do you notice some outlier behavior in the data?
4. Any other findings you get while working on the project such as using Logistic regression to identify the probability of the customer getting the loan amount.

PTN: Derive variables from the existing information you have according to your project objectives. Identify any outliers in your data and treat it accordingly.

**About your data**

|  |  |
| --- | --- |
| Variable | Description |
| Loan\_ID | Unique Loan ID |
| Gender | Male/ Female |
| Married | Applicant married (Y/N) |
| Dependents | Number of dependents |
| Education | Applicant Education (Graduate/ Under Graduate) |
| Self\_Employed | Self-employed (Y/N) |
| ApplicantIncome | Applicant income |
| CoapplicantIncome | Co-applicant income |
| LoanAmount | Loan amount in thousands |
| Loan\_Amount\_Term | Term of loan in months |
| Credit\_History | credit history meets guidelines |
| Property\_Area | Urban/ Semi Urban/ Rural |
| Loan\_Status | Loan approved (Y/N) |

