Data Collection and Preprocessing Phase

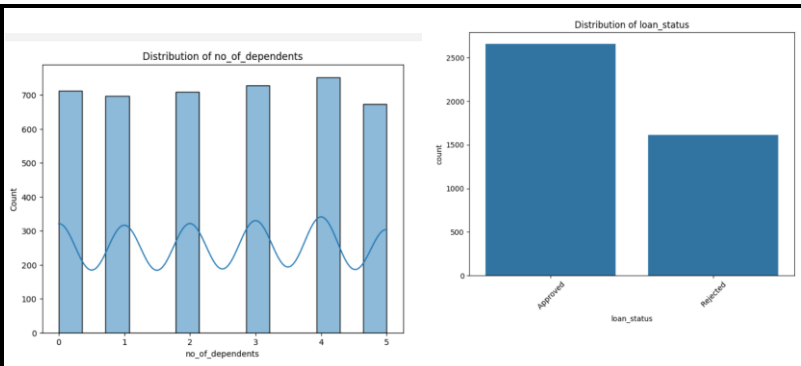
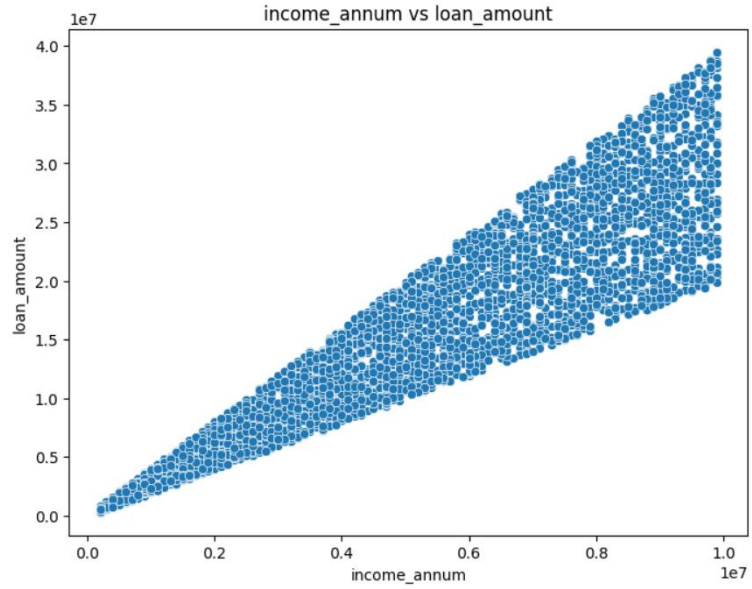
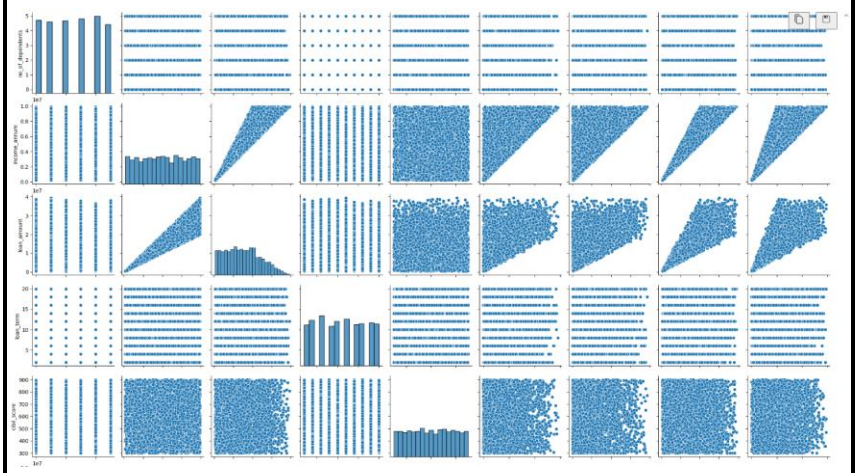
Date	03 October 2024
Team ID	LTVIP2024TMID24947
Project Title	SmartLender - Applicant Credibility Prediction for Loan Approval
Maximum Marks	6 Marks

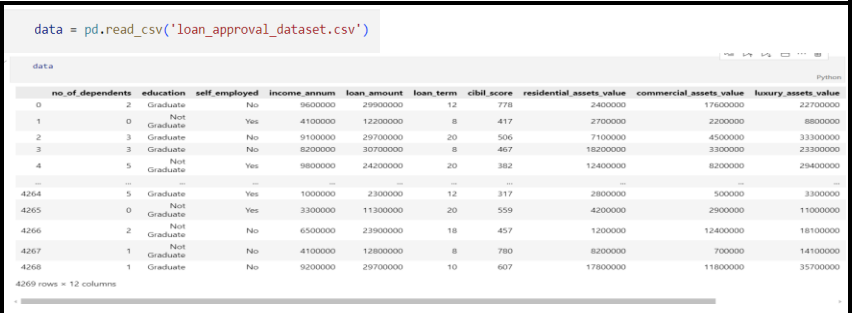
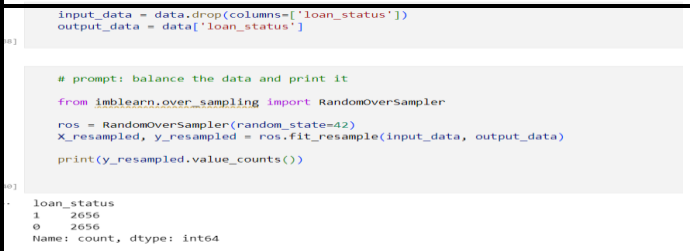
Data Exploration and Preprocessing Report

Dataset variables will be statistically analyzed to identify patterns and outliers, with Python employed for preprocessing tasks like normalization and feature engineering. Data cleaning will address missing values and outliers, ensuring quality for subsequent analysis and modeling, and forming a strong foundation for insights and predictions.

Section	Description
Data Overview	Dimension: 4269 rows × 12 columns Descriptive statistics: `data.describe()` Python
Univariate Analysis	

	no_of_dependents	income_annum	loan_amount	loan_term	cibil_score	residential_assets_value	commercial_assets_value	luxury_assets_value	bank_asset_value
count	4269.000000	4.269000e+03	4.269000e+03	4269.000000	4269.000000	4.269000e+03	4.269000e+03	4.269000e+03	4.269000e+03
mean	2.498712	5.059124e+06	1.513345e+07	10.900445	599.936051	7.472617e+06	4.973155e+06	1.512631e+07	4.976692e+06
std	1.695910	2.806840e+06	9.043363e+06	5.709187	172.430401	6.503637e+06	4.388966e+06	9.103754e+06	3.250185e+06
min	0.000000	2.000000e+05	3.000000e+05	2.000000	300.000000	-1.000000e+05	0.000000e+00	3.000000e+05	0.000000e+00
25%	1.000000	2.700000e+06	7.700000e+06	6.000000	453.000000	2.200000e+06	1.300000e+06	7.500000e+06	2.300000e+06
50%	3.000000	5.100000e+06	1.450000e+07	10.000000	600.000000	5.600000e+06	3.700000e+06	1.460000e+07	4.600000e+06
75%	4.000000	7.500000e+06	2.150000e+07	16.000000	748.000000	1.130000e+07	7.600000e+06	2.170000e+07	7.100000e+06
max	5.000000	9.900000e+06	3.950000e+07	20.000000	900.000000	2.910000e+07	1.940000e+07	3.920000e+07	1.470000e+07

	
Bivariate Analysis	
Multivariate Analysis	

Outliers and Anomalies	-
Data Preprocessing Code Screenshots	
Loading Data	
Data Transformation	
Balancing the data	
Feature Engineering	Attached the codes in final submission.
Save Processed Data	-