Model Development Phase

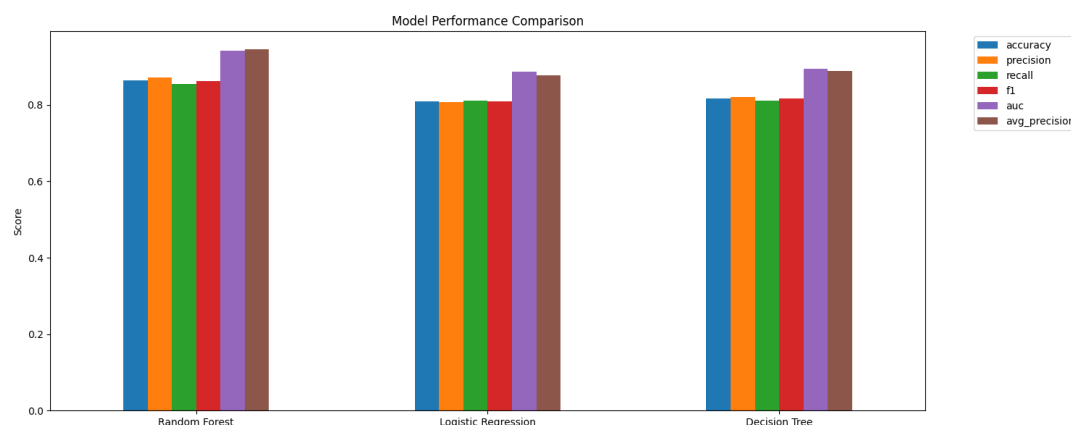| Date	19 June 2025
Team ID	xxxxxx
Project Title	sloan digital sky survey (sdss) galaxy classification using machine learning
Maximum Marks	6 Marks

Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model Selection Report:

Scenario 1:

Model Comparison:	accuracy	precision	recall	f1	auc	avg_precision
Random Forest	0.863913	0.870818	0.854602	0.862634	0.940867	0.944737
Logistic Regression	0.808695	0.807946	0.809911	0.808927	0.886346	0.877047
Decision Tree	0.816980	0.820635	0.811279	0.815930	0.893881	0.888044

Scenario 2:

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Linear Regression Model Evaluation:
MSE: 0.00118, MAE: 0.02460, RMSE: 0.03428, R2: 0.70372

Random Forest Model Evaluation:
MSE: 0.00086, MAE: 0.02080, RMSE: 0.02924, R2: 0.78439

XGBoost Model Evaluation:
MSE: 0.00094, MAE: 0.02162, RMSE: 0.03058, R2: 0.76420
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