Feature	Description	Selected (Yes/No)	Reasoning
Redshift	Measure of galaxy distance	Yes	Strongly correlates with galaxy properties and classification accuracy.
Magnitude in u-band	Brightness in ultraviolet band	Yes	Critical for distinguishing between galaxy types.
Magnitude in g-band	Brightness in green band	Yes	Essential for color-based classifiation.
Magnitude in r-band	Brightness in red band	Yes	Important for identifying specific galaxy features.
Magnitude in i-band	Brightness in near-infrared band	Yes	Enhances model accuracy by providing infrared data.

Magnitude in z-band	Brightness in further infrared band	Yes	Complements other magnitudes for better classification.
Spectral Line Indices	Measurements of spectral features	Yes	Key indicators of galaxy composition and age.

Model Development Phase Template

Date	15 July 2024
Team ID	739858
Project Title	**SDSS galaxy classification using Machine Learning**
Maximum Marks	5 Marks

Feature Selection Report Template

Feature selection for SDSS galaxy classification: Methods compared, key features identified, their impact on model performance, and optimal feature set determined for accurate classification. Summary of findings included.

Position(RA, Dec)	Right ascension and delination	No	Minimal impact on classification as it is spatial data.
Petrosian Radius	Radius containing a set fraction of light	No	Redundant with other shape/size features.
Concentration Index	Ratio of light concentration	Yes	Helps distinguish between galaxy types based on light distribution.
Surface Brightness	Average brightness per unit area	Yes	Important for understanding galaxy structure.
Galaxy Type	Predefined galaxy classification	No	Used as the targer variable,not a feature.