The paper uses **discriminant analysis** , more specifically bayes discrimination to classify student performance after clustering the students using the **K-means algorithm**.

It determines which categories (e.g., "High Performance", "Medium Performance", "Low Performance") the students belong to based on their academic features (e.g., attendance, study hours, previous grades).

The technique uses **prior probabilities**(based on historical data) and **likelihoods** (the probability of observing the student's features given their group) to calculate **posterior probabilities** (the probability that a student belongs to a certain performance group given their features). The student is then classified into the performance group with the **highest posterior probability**.

The formula used for Bayes Discrimination in the paper is as follows:



