

## Assignment 6: Naive Bayes Classifier.

Steps:

- (i) Load the required Libraries.
- (ii) Import the dataset.
- (iii) Separate data and target as  $X$  and  $Y$
- (iv) Split the dataset into testing and training set.
- (v) Create / Load the Gaussian NB Model.
- (vi) Train the model over training dataset as
  - (a) Calculate the Class Probability of each class in  $y$ -train
  - (b) Calculate the Conditional Probability of each attribute or set of Attributes.
- (vii) Predict the class for  $X$ -test as
  - (a) Calculate the Conditional Probability for the set of attributes of  $X$ -test
  - (b) for each class:
$$p = \text{Conditional probability (X-test)} \times \text{probability (Class)}.$$
  - (c) Select the maximum  $p$  value class as the class of  $X$ -test.
- (viii) Calculate the Accuracy, Confusion Matrix and Classification Report for the model.