Name : Apurv Sarode

UID : 2019130054

Subject : AIML

Experiment : 4

**Aim :** For a given problem statement classify using Naïve Bayes Algorithm.

**Theory:**

Naïve Bayes

* Naïve Bayes algorithm is a supervised learning algorithm, which is based on Bayes theorem and used for solving classification problems.
* It is mainly used in text classification that includes a high-dimensional training dataset.
* Naïve Bayes Classifier is one of the simple and most effective Classification algorithms which helps in building the fast machine learning models that can make quick predictions.
* It is a probabilistic classifier, which means it predicts on the basis of the probability of an object.
* Some popular examples of Naïve Bayes Algorithm are spam filtration, Sentimental analysis, and classifying articles.

The Naïve Bayes algorithm is comprised of two words Naïve and Bayes, Which can be described as:

Naïve: It is called Naïve because it assumes that the occurrence of a certain feature is independent of the occurrence of other features. Such as if the fruit is identified on the bases of colour, shape, and taste, then red, spherical, and sweet fruit is recognized as an apple. Hence each feature individually contributes to identify that it is an apple without depending on each other.

Bayes: It is called Bayes because it depends on the principle of Bayes' Theorem.

Program:

Graphical user interface, text

Description automatically generated with medium confidence

Graphical user interface, text, application

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Text

Description automatically generated

Text

Description automatically generated

Text

Description automatically generated

Graphical user interface, text, application

Description automatically generated

**Conclusion:**

In the above experiment of AIML Lab, I learnt about Naïve Bayes Algorithm. This algorithm is used for supervised learning models. This algorithm is easy to use as we make assumption that the attributes are independent and then classify the input.