

Practical 5

AIM:

Implement logistic regression using python to perform classification on social network_ads , cv dataset.

REQUIREMENT:

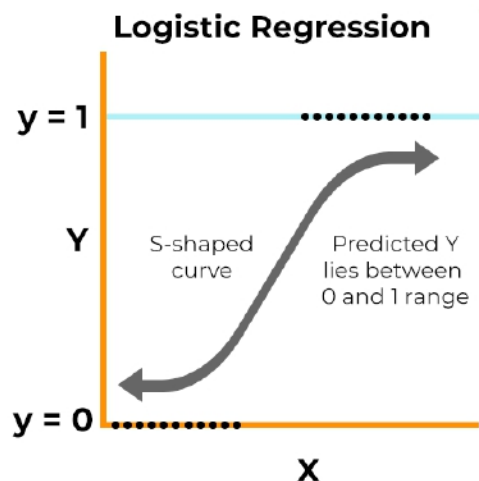
Anaconda Installer

Windows 10 OS

Jupyter Notebook

THEORY:

Logistic Regression



Logistic regression is a supervised learning algorithm used for classification problems where the output is categorical (such as yes/no or 0/1). It helps in categorizing data based on different features like color, size, shape, and weight. For example, it can classify a dog as an animal and an orange as not an animal. In binary logistic regression, there are only two possible outcomes, while multinomial logistic regression deals with more than two categories. This method requires the dependent variable to be categorical and is not suitable for predicting continuous values, where linear regression is more appropriate.

Types of Logistic Regression:

There are three main types of logistic regression:

binary

multinomial

ordinal.

.Binary logistic regression is used when there are two outcomes (yes/no), multinomial is used for three or more categories, and ordinal is used for ordered categories (like ratings). Logistic regression is a classification model that uses input features to predict categorical outputs. It works best when data has low correlation between variables, fewer outliers, and is not too sparse.

LibrariesUsed:

Pandas:

Sklearn:

Seaborn:

Matplotlib:

CONCLUSION:

In this experiment we have studied about the logistic regression model. We have performed the classification on the social network Ads dataset using various libraries of python.