**Write a program to implement Logistic Regression (LR) algorithm in python**

CODE:

import numpy as np

import pandas as pd

#"Importing the dataset

"""

After importing the necessary libraries, next, we import or read the dataset.

Click here to download the breast cancer dataset used in this implementation.

The breast cancer dataset has the following features:

Sample code number, Clump Thickness, Uniformity of Cell Size, Uniformity of Cell Shape, Marginal Adhesion,

Single Epithelial Cell Size, Bare Nuclei, Bland Chromatin, Normal Nucleoli, Mitosis, Class.

"""

# divide the dataset into concepts and targets. Store the concepts into X and targets into y.

dataset = pd.read\_csv("C:/Users/prith/Desktop/MACHINE LEARNING/breastcancer.csv")

X = dataset.iloc[:, :-1].values

y = dataset.iloc[:, -1].values

#Splitting the dataset into the Training set and Test

from sklearn.model\_selection import train\_test\_split

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size = 0.30, random\_state = 2)

#Feature Scaling

"""

Feature scaling is the process of converting the data into a given range. In this case, the standard scalar technique is used.

from sklearn.preprocessing import StandardScaler

"""

from sklearn.preprocessing import StandardScaler

sc = StandardScaler()

X\_train = sc.fit\_transform(X\_train)

X\_test = sc.transform(X\_test)

"""

Training the Logistic Regression (LR) Classification model on the Training set

Once the dataset is scaled, next, the Logistic Regression (LR) classifier algorithm is used to create a model.

The hyperparameters such as random\_state to 0 respectively.

The remaining hyperparameters Logistic Regression (LR) are set to default values.

"""

from sklearn.linear\_model import LogisticRegression

classifier = LogisticRegression(random\_state = 0)

classifier.fit(X\_train, y\_train)

#Logistic Regression (LR) classifier model

LogisticRegression(C=1.0, class\_weight=None, dual=False, fit\_intercept=True,

intercept\_scaling=1, l1\_ratio=None, max\_iter=100,

multi\_class='warn', n\_jobs=None, penalty='l2',

random\_state=0, solver='warn', tol=0.0001, verbose=0,

warm\_start=False)

#Display the results (confusion matrix and accuracy)

"""

Here evaluation metrics such as confusion matrix and accuracy are used to evaluate the performance of the model

built using a decision tree classifier.

"""

from sklearn.metrics import confusion\_matrix, accuracy\_score

y\_pred = classifier.predict(X\_test)

cm = confusion\_matrix(y\_test, y\_pred)

print(cm)

accuracy\_score(y\_test, y\_pred)

OUTPUT:

========== RESTART: C:/Users/prith/Desktop/MACHINE LEARNING/9. APP.py ==========

[[117 8]

[ 6 74]]

>>>

