BINDIYA C.M., 4MT17CSO28

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6. Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set. Print both correct and wrong predictions. Taval Python Me library classes can be used for this problem.
from sklearn. datagets emport load_eres from sklearn. neighbors emport kneighbors Clauster emport numpy as np
from sklearn. model selection import train test split from sklearn. metrics import confusion matrix from sklearn. metrics import accuracy score iris dataset = load-fres()
print ("In IRIS FEATURES   TARGET NAMES: \n", Pri _dataset.  target_names)  for e en range (lon (eris_dataset. target_names)):  print ("In ['0]]: [(1]]". format (e, eris_dataset. target_names))
#prent("In IRIS DATA: In", eres dataset ["data"])
X_train, x_test, y_train, y_fest = train_test_split (ins_dataset ["data"], random_state = 0)
claustier = KNeighbors Claustier (n_neighbor = 8, p=3, metric =  'euclidean')  claustier. fit (x train, y train)
y-pred = claufier · predict (x-test) ARUN'S

PAGE NO: 16 DATE EXP. NO. cm = contusion\_matrix (y\_test, y\_pred) prent ("Confusion matrix is as follows In', con) prent ('Accuracy metrics')

prent (classification\_report (y test, y pred))

prent ("Correct prediction", accuracy\_score (y test, y pred))

prent ("Wrong prediction", (1-accuracy\_score (y test, y pred)))

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## Output:

TRIS FEATURES \ TARGET NAMES!

['setosa' 'versecolor' vergeneca']

EURINA CM. LATITETAS

[o]: [setosa]

[1]: [versecolor]

[2]: [virginica]

KNeighbor Classifier (algorithm = 'auto', leaf-size = 30, metric = 'euclidean metric-param = None, n-jobs = None 3n-nelighbort = 8

P=3, Welphti = 'uniform')

Contusion matrix a as follows

## Accuracy metires

	Precluson	recall	A-score	support
0	1.00	1.00	1.00	13
1	1.00	0.94	0.97	6
2	0.90	1.00	0.95	9

accuracy				
			0.97	38
marco -				-0

0.98 0.97 38 0.97

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Correct Prediction 0.9736842105263158 Wrong Prediction 0.02631578947368418 specifically the its dolo set. Pert is the concell

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