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**Roll No: 25**

**Batch: B**

**Date: 15-09-2022**

**DATA SCIENCE LAB**

**Experiment No.: 10**

**Aim**

Implement K-NN Algorithm using iris data set

**Procedure**

# calculate the Euclidean distance between two vectors

def euclidean\_distance(row1, row2):

  distance = 0.0

  for i in range(len(row1)-1):

    distance += (row1[i] - row2[i])\*\*2

  return sqrt(distance)

# Example of calculating Euclidean distance

from math import sqrt

# calculate the Euclidean distance between two vectors

def euclidean\_distance(row1, row2):

  distance = 0.0

  for i in range(len(row1)-1):

    distance += (row1[i] - row2[i])\*\*2

  return sqrt(distance)

# Test distance function

dataset = [[2.7810836,2.550537003,0],

[1.465489372,2.362125076,0],

[3.396561688,4.400293529,0],

[1.38807019,1.850220317,0],

[3.06407232,3.005305973,0],

[7.627531214,2.759262235,1],

[5.332441248,2.088626775,1],

[6.922596716,1.77106367,1],

[8.675418651,-0.242068655,1],

[7.673756466,3.508563011,1]]

row0 = dataset[0]

for row in dataset:

  distance = euclidean\_distance(row0, row)

  print(distance)

**Output Screenshot**

