**PROGRAM - 2**

**AIM:** Write a program to demonstrate the use of numpy for various matrix operation by writing a single program.

**Solution:**

import numpy

x = numpy.array([[1, 2], [4, 5]])

y = numpy.array([[7, 8], [9, 10]])

print(" Matrix X is\n",x)

print(" Matrix Y is\n",y)

print ("The element wise addition of matrix is : ")

print (numpy.add(x,y))

print ("The element wise subtraction of matrix is : ")

print (numpy.subtract(x,y))

print ("The element wise multiplication of matrix is : ")

print (numpy.multiply(x,y))

print ("The product of matrices is : ")

print (numpy.dot(x,y))

print ("The element wise division of matrix is : ")

print (numpy.divide(x,y))

print ("square root is : ")

print (numpy.sqrt(x))

print ("Matrix X transposition : ")

print (x.T)

**Output:**

