**Machine Learning Assignment-03**

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QUESTION - 1

NumPy:

a. Using NumPy create random vector of size 15 having only Integers in the range 1-20.

1. Reshape the array to 3 by 5

2. Print array shape.   
3. Replace the max in each row by 0 Create a 2-dimensional array of size 4 x 3 (composed of 4-byte integer elements), also print the shape, type and data type of the array.

b. Write a program to compute the eigenvalues and right eigenvectors of a given square array given below: [[ 3 -2] [ 1 0

c. Compute the sum of the diagonal element of a given array. [[0 1 2] [3 4 5]]

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Array shape: (3, 5)

[[ 0 11 8 14 8]

[14 5 0 8 16]

[ 4 0 8 15 5]]

QUESTION - 2

Create a 2-dimensional array of size 4 x 3 (composed of 4-byte integer elements), also print the shape, type and data type of the array.

b. Write a program to compute the eigenvalues and right eigenvectors of a given square array given below: [[ 3 -2] [ 1 0]]

c. Compute the sum of the diagonal element of a given array. [[0 1 2] [3 4 5]]

d. Write a NumPy program to create a new shape to an array without changing its data.

Reshape 3x2: [[1 2] [3 4] [5 6]] Reshape 2x3: [[1 2 3] [4 5 6]]

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QUESTION – 3

1. Write a Python programming to create a below chart of the popularity of programming Languages. 2. Sample data: Programming languages: Java, Python, PHP, JavaScript, C#, C++ Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

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