**CS 5710**

**Machine Learning (Assignment # 3)**

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Course: CS 5710

Assignment: In- class Programming Assignment-1

Git Hub: [vishnugooli/In-Class-Programming-Assignment-1 (github.com)](https://github.com/vishnugooli/In-Class-Programming-Assignment-1)

Video Link: [ML programming assignment-1 - Google Drive](https://drive.google.com/drive/u/0/folders/1dvS-m6BzNKws31Pi8hXYsb9t8EeaaOsm)

**Question 1**

1A. 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

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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.

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1b. Write a program to compute the eigenvalues and right eigenvectors of a given square array given below:

[[ 3 -2]

[ 1 0]]

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1c. Compute the sum of the diagonal element of a given array.

[[0 1 2]

[3 4 5]]

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1d. 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 2**

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

A screen shot of a computer program

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