

## Python: Assignment 7 – Numpy

- 1) Write a Python Program to generate 4 x 2 array randomly using Numpy. Display following properties
  - a. The shape of an array
  - b. Array dimensions
  - c. The length of each element of an array in bytes
- 2) Write a Python Program to generate one dimensional array of 'n' elements with element values are ranging from 10 to 90. Accept 'n' from user.
- 3) Write a Python Program to generate one dimensional array of 'n' elements. Accept 'n' from user. Change an array from 1D to 2D of size 4x3.
- 4) Write a Python Program to generate 3 x 3 identity matrix.
- 5) Write a Python Program to generate 3 x 3 x 3 matrix randomly using Numpy.
- 6) Write a Python Program to generate a 10x10 array with random values and find the minimum and maximum values.
- 7) Write a Python Program to generate 2 arrays and display common elements between two arrays.
- 8) Write a Python Program to generate 2 D array and perform following operations
  - a. Swap two rows
  - b. Swap two columns
  - c. Reverse all rows
  - d. Reverse all columns
  - e. Reverse array
- 9) Write a Python Program to generate 3 x 3 matrix randomly using Numpy. Generate random number between 1 to 9 and multiply by generated number to the matrix and display the output.
- 10) Write a Python Program to generate 2 3 x 3 matrices randomly using Numpy. Perform following functions
  - a. Addition
  - b. Subtraction
  - c. Multiplication
  - d. Transpose of 2 matrices