ML/DL Course
Session 2
Introduction to NumPy

Exercises:

1- Create a vector of size 10 with all elements set to 0 but the fifth value which is 1.

2- Create a vector with values ranging from 10 to 100.

3- Create a 3x3 matrix with values ranging from 0 to 8.

4- Create a random vector of size 30*30*30 and find the mean, min and max value.

5- Create a 2d array with 1 on the border and 0 inside.

6- Normalize a 5x5 random matrix.

7- How to get all the dates corresponding to the month of July 2016?

8- Create a 5x5 matrix with row values ranging from 0 to 4.

9- Create random vector of size 10 and replace the maximum value by 0.

10- How to find the closest value (to a given scalar) in a vector?

11- Considering a four dimensions array, how to get sum over the last two axis at once?

12- How to get the n largest values of an array?

13- Find the 5th repetition of 1 in the array[3,4,1,2,3,4,1,1,1,4,1,2,4,5].

14- Compute the maximum for each row in the given array.

15- From the array a, replace all values greater than 30 to 30 and less than 10 to 10.

16- Write a Python program to count number of occurrences of each value in a given array of non-negative integers between the minimum and maximum values of the array.

17- Write a Python NumPy program to compute the weighted average along the specified axis of a given 2d array.

18- Write a NumPy program to compute natural, base 10, and base 2 logarithms for all elements in a given array.

19- Write a NumPy program compute the inverse of a given matrix.