# Numpy

import numpy as np

to create array from list

arr = np.array(list_name)

eg - list = [[1,2],[3,4]]

arr = [[1,2]
[3,4]]

another method for array

np.arange(start,stop,step). ——— eg - np.arange(0,10,2) - work like a range function of python

np.zero((3,3)) - create an array of 3 x 3 zero matrix

np.ones((3,3)) - create one matrix of 3 x 3

np.linspace(start,stop,no of points) — eg - np.linspace(0,5,20) — return a evenly space integer over a specied

np.eye(4) — create a identity matrix of 4 x 4

np.random.rand(5,5) — create a matrix of 5 x 5 of random numbers from 0 to 1

np.random.randn(5,5) — create a matrix of 5 x 5 of random number centered around 0 include +ve and -ve

np.random.randint(min_no, max_no, no_of_no) — only include integer

list_name.reshape(5,5) — if a single list then it will reshape it into 5 x 5 matrix

arr_name.max(). — give max no in that matrix

————.min() — give min no in that matrix

————.argmax() ——— give index of max no in the matrix

————.argmin() ——— same explanation

———.shape() ——— it return the size of matrix eg — (column , row )

———.dtype() ——— return data type of matrix

np.random.seed(int) — if we fix the seed no it will generate the same random no

———.copy() — to copy the matrix otherwise u can't assign it like variables

Array indexing

arr[][] — for 2D

or arr[ , ]

if we compare two array/matrix it will return a array of boolen value representing true for same value and false for different value

Operation

operation by element by element —> (+,-,*,/ )

np.sin(arr)

np.cos

.log

.max

.min

.nan