NUMPY FUNCTIONS

- **import numpy as np** – importing numpy module as np
- **myarr = np.array([[1,2,3,4]],np.int64)** – created an array with data type of 64 bit
- **myarr = np.array([[1,2,3,4]])** – created an array
- **myarr[0,1]** – two dimensional array are created therefore this way to get an element
- **myarr.shape** – gives shape i.e. number of rows and column in array arr
- **myarr.dtype** – gives data type of array
- **arr.size** – gives no. of elements in array
- **np.zeros((2,5)) –** create an array of zeros with row 2 and column 5
- **np.arange(15) –** create an array from 0 to 14 i.e. till n-1
- **np.linspace(1,5,12) –** gives 12 elements equally spaced linearly between 1 and 5
- **np.empty((4,6))** – gives a array of 4 rows and 6 column filled with random numbers
- **np.identity(45)** – gives an array of 45 X 45
- arr = np.arange(99) & arr = arr.reshape(3,33) would reshape arr in 3 X 33 but make sure number of elements in new arr should be same
- **arr = arr.ravel()** – converts 2-d array into 1-d
- **axis = 0 -** column axis
- **axis = 1 –** row axis
- **ar.sum(axis=0)** – gives column wise sum in array form
- **ar.sum(axis=1)** – gives row wise sum in array form
- **ar.T** – transpose the array ar
- **ar.flat** – gives iterator for array i.e. **for i in ar.flat : print(i) // would print array elements**
- **ar.ndim –** tells no. of dimensions in array
- **ar.nbytes –** tells total bytes consumed by array
- **arr.argmax() –** gives index of maximum element
- **arr.argmin() -** gives index of minimum element
- **arr.argsort()** – gives indices in which the array arr gets sorted
- **in 2-**D array we can use axis also in () in argmax,argmin,argsort in order to use it by axis way
- **ar+ar2 , ar*ar2 .. -** performs arithmetic operation element wise
- **np.sqrt(ar)** – returns array of elemnt square root
- **ar.max() , ar.min()** – returns maximum and min of array
- **ar.sum()** – returns sum of array elements
- **np.where(ar>5)** – tells the position in array ar where elemnt isv greater than 5
- **np.count_nonzero(ar)** – tells the number of non zero elements in array ar
- **np.nonzero(ar) -** returns indices of x and y in tuple form where element is non zero
- **ar.tolist() -** converts numpy array to list

OTHER REFERENCES REFER TO – NUMPY DOCUMENTATION OF SciPy.org