NUMPY

NumPy stands for numerical python and is frequently used library by the scientific community. This documentation provides a concise overview of the tools and functions present in the library.

**NumPy has only one data structure i.e ndarray. Some of the features of this array include:**

* Homogeneous – which means it can accommodate elements of only similar data type
* Supports only numbers
* Fixed item size – The item size needs to be specified

**#Always import NumPy library at the beginning to be able to use it in the program**

import numpy as np

**#Creating ndarray**

**# 1D array**

arr = np.array([1,2,3,4])

**# 2D array**

arr = np.array([[1,2,3,4],[5,6,7,8]])

**# array with zeros**

arr = np.zeros((2,3))

**# array with ones**

arr = np.ones((3,4))

**#idnetity array**

arr = np.identity(5)

**# range of array**

arr = np.arange(30)

**# elements within a range**

arr = np.linspace(10,100,10)

**# to create a copy of elemets**

arr1= arr.copy()

**# shape of an array**

arr.shape

**#dimension of array**

arr.ndim

**# size of array**

arr.size

**# itemsize of element**

arr.itemsize

**# data type of array**

arr.dtype

**# Convert to a particular datatype**

arr.astype(‘int)