Python Advance Assignment

Name:K.Durga Surya Prasad

Roll No: 19B21A0549

**1.What makes NumPy.shape() different from NumPy.size()?**

Ans : Shape relates to the size of the dimensions of an N-dimensional array. Size regarding arrays, relates to the amount (or count) of elements that are contained in the array

* The shape property is usually used to get the current shape of an array, but may also be used to reshape the array in-place by assigning a tuple of array dimensions to it.
* size() function count the number of elements along a given axis.

**2. In NumPy, describe the idea of broadcasting.**

Ans : The term broadcasting refers to the ability of NumPy to treat arrays of different shapes during arithmetic operations. Arithmetic operations on arrays are usually done on corresponding elements. If two arrays are of exactly the same shape, then these operations are smoothly performed.

**3. What makes Python better than other libraries for numerical computation?**

Ans: Robust Python with its dynamic data structures, efficient implementation of multi-dimensional arrays and matrices, Numpy assures accurate calculations with matrices and arrays. We need to import Numpy into memory to perform numerical operations.

**4. How does NumPy deal with files?**

Ans: NumPy introduces a simple file format for ndarray objects. This . npy file stores data, shape, dtype and other information required to reconstruct the ndarray in a disk file such that the array is correctly retrieved even if the file is on another machine with different architecture.

**5. Mention the importance of NumPy.empty().**

Ans: The empty() function is used to create a new array of given shape and type, without initializing entries. Shape of the empty array, e.g., (2, 3) or 2. Desired output data-type for the array, e.g, numpy. int8.