PYTHON ADVANCE ASSIGNMENT -1

# **ANSWERS:**

1.The numpy.shape()function gives us the numer of elements in each dimension of array

# Numpy .shape()returns a tuple that contains the number of elements in each dimension of an array

# NUMPY.SIZE() The size of an array is total number of the element in an array

# Nump.size() function in the Numpy.size() packages returns the size of an array

2.The term broadcasting refers to the ability of Numpy to treat array of different shapes during arthematic operations. The arthematic operations on array are usually done on corresponding elements .

# If two arrays are exactly the same shape ,then these operations are smoothly performed

# **EXAMPLE:**

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

# b= np.array([10,20,30,40])

# c=a\*b

# print(c)

3.Numpy is the fundamental package for numerical computation in python.

# It contains powerfull N-dimensional array object.

# IT has 18,000 comments in git hub and an active community of 700 contributers.

**FEATURES:**

# 1.provides fast , precompiled functions for numerical routines.

# 2.Array-oriented computing for better efficiency.

# 3.compact and faster computions with vectorization.

**APPLICATIONS**:

# 1.Extensively used in data analysis.

# 2.creates powerful N-dimensional array,

# 

# 4.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 as array is correctly retrived even if file is on another meachine with different architecture.

# There are types of functions to store data they are.

# Load(),save(),loadtxt(),savetxt().

# Load() and save() functions are handle binary files

# Loadtxt() and savetxt functions are handle normal text files.

# 

# 5.The numpy module of python provides a function called numpy.empty().This function is used for create an array without initializing the entrues of given shape and type.

# Just like numpy.zeroes() the numpy.empty() function dosent set the array values to zero. And it is quite faster than numpy.zeroes().This function requires the user to set all the values in the array manuallay and should be with caution.

**Syntax:**

# numpy.empty(shape,dtype=float,order=’c’)