ASSIGNMENT 1

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

Ans:The shape tool gives a tuple of array dimensions and can be used to change the dimensions of an
array. The reshape tool gives a new shape to an array without changing its data. It creates a new array
and does not modify the original array itself.

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:Most quantum computer implementations use a form of Assembly language for programming.
Python makes an ideal high-level wrapper and API for these implementations that allow communication
between a scientific research application and the quantum computing system back-end.

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:NumPy stands for Numerical Python and is one of the most useful scientific libraries in Python
programming. It provides support for large multidimensional array objects and various tools to work
with them. Various other libraries like Pandas, Matplotlib, and Scikit-learn are built on top of this amazing library