

1. Numpy – Introduction

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1. Numpy – Introduction

1. Numpy

- ✓ NumPy is the fundamental package for scientific computing in Python.
- ✓ It is a Python library that provides multidimensional array object.
- ✓ The full form of **numpy** is 'Numerical Python'.
- ✓ Numpy was created by *Travis Oliphant*

2. What is an array?

- ✓ Array is an object which stores a group of values.
- ✓ Also called as, ordered collection of values.
- ✓ Array can store same type of values.

3. Why to use numpy array?

- ✓ Python lists are a bit slow in process.
- ✓ Numpy arrays are faster than python list.
- ✓ The array object in numpy is called as ndarray.

4. Open source

- ✓ Numpy is an open source means it's free.

5. numpy – Installation

- ✓ By default numpy will not be available with python installation.
- ✓ Explicitly we need to install numpy package.
- ✓ Run below command in command prompt.

```
pip install numpy
```

6. pip command in python

- ✓ pip stands for **p**ython **i**nstaller **p**ackage
- ✓ Pip is a package management system.
- ✓ It is used to install and manage software packages.
 - pip install package_name
 - pip install numpy

7. Check installed python library.

- ✓ We can check installed python library by using below command.

```
pip show numpy
```

8. import numpy package

- ✓ We can import numpy package by using import.

```
Program Name    importing numpy package  
demo1.py  
  
import numpy  
print('numpy imported successfully')
```

```
Output  
  
numpy imported successfully
```

9. ModuleNotFoundError

- ✓ If numpy is not installed then we will get below error.

Program Name	checking numpy installed or not demo2.py
	<pre>import numpy print('numpy imported successfully')</pre>
Output	Traceback (most recent call last): File "demo2.py", line 1, in <module> import numpy ModuleNotFoundError : No module named 'numpy'

10. Famous Alias name to numpy

- ✓ We can give alias name to numpy.
- ✓ Note this name can be any name but the famous alias name is np

Program Name	alias name to numpy demo3.py
	<pre>import numpy as np print('numpy imported successfully') print('Alias name given to numpy as np')</pre>
Output	numpy imported successfully Alias name given to numpy as np