```
pip install numpy
```

```
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (1.23.5)
```

```
import numpy as np
```

In Python you store 1-D array but in Numpy you can store 2-D & 3-D array

Python

```
lst = [1,2,3,4,5]
lst
```

```
[1, 2, 3, 4, 5]
```

Numpy

```
a = np.array([1,2,3,4,5])
a
```

```
array([1, 2, 3, 4, 5])
```

```
b = np.array([[1,2,3,4,5],
 [6,7,8,9,10]])
b
```

```
array([[ 1,  2,  3,  4,  5],
       [ 6,  7,  8,  9, 10]])
```

```
c = np.array([[[1,2,3,4,5],
 [6,7,8,9,10],
  [11,12,13,14,15]]])
c
```

```
array([[[ 1,  2,  3,  4,  5],
        [ 6,  7,  8,  9, 10],
        [11, 12, 13, 14, 15]]])
```

```
type(a)
```

```
numpy.ndarray
```

Size

Size tells the numbers of elements in the array

```
print(a.size)
print(b.size)
print(c.size)
```

```
5
10
15
```

Shape

Shape tells the number of rows and columns in the array

```
print(a.shape)
print(b.shape)
print(c.shape)
```

```
(5,)
(2, 5)
(1, 3, 5)
```

Dtype

Dtype tells the datatype of the elements present in the array

```
print(a.dtype)
print(b.dtype)
print(c.dtype)
```

```
int64
int64
int64
```

```
c
```

```
array([[[ 1,  2,  3,  4,  5],
        [ 6,  7,  8,  9, 10],
        [11, 12, 13, 14, 15]]])
```

```
c.transpose()
```

```
array([[[ 1],
        [ 6],
        [11]],

       [[ 2],
        [ 7],
        [12]],

       [[ 3],
        [ 8],
        [13]],

       [[ 4],
        [ 9],
        [14]],

       [[ 5],
        [10],
        [15]]])
```