

Numpy

```
In [19]: import numpy as np
arr = np.array([1,2,3,3,4])
print(arr)
```

```
[1 2 3 3 4]
```

```
In [2]: print(type(arr))
```

```
<class 'numpy.ndarray'>
```

```
In [10]: #2D array
arr2 = np.array([[1,2],[3,4]])
print(arr2)
print("shape",arr2.shape)
print("Size",arr2.size)
print("sum",arr2.sum())
```

```
[[1 2]
 [3 4]]
shape (2, 2)
Size 4
sum 10
```

```
In [14]: # find min and max in a array with Index
print("minimum of number", arr2.min())
print("Index of minimum number",np.argmin(arr2))
print(f"maximum of number", arr2.max())
print(f"Index of maximum number",np.argmax(arr2))
```

```
minimum of number 1
Index of minimum number 0
maximum of number 4
Index of maximum number 3
```

Random Number

```
In [23]: #uniform
diff_rand = np.random.rand(2,3)
print (diff_rand)
```

```
[[0.19174915 0.20089076 0.13837712]
 [0.93779598 0.40708213 0.76974519]]
```

```
In [24]: #strandard
diff_rand = np.random.randn(2,3)
print (diff_rand)
```

```
[[-1.48823255 -0.33040913 -0.50710777]
 [ 0.46536402 -1.50757553  2.94108518]]
```

```
In [27]: #random (low,high, size)
diff_rand = np.random.randint(0,10,50)
print (diff_rand)
```

```
[6 9 6 3 5 2 2 6 9 9 0 1 0 9 5 6 1 8 6 5 4 8 5 0 4 4 7 3 6 5 0 2 5 8 9 6 4
 2 5 9 0 5 5 6 2 5 9 0 4 9]
```

```
In [29]: np.random.seed(42)
```

```
In [ ]:
```