

Lab 8**Name : Shashank Bagda****Date : 02 / 08 / 22****Enrollment No : 92100133020**

```
import numpy as np

print("\nN1\n")
n1 = np.array([10,10,20,30])
#n2 = np.array([10,10,20,30])
print(type(n1))
print(n1.shape)
#print(n2.shape)

print("\nN2\n")
n2 = np.array([[1,2,3],[4,5,6]])
print(n2)
```

N1

```
<class 'numpy.ndarray'>
(4,)
```

N2

```
[[1 2 3]
 [4 5 6]]
```

```
print("\nN3\n")
n3 = np.zeros((3,3))
print(n3)

print("\nN11\n")
n11 = np.ones((3,3))
print(n11*3)

print("\nN4\n")
n4 = np.full((3,3),5)
print(n4)
```

N3

```
[[0. 0. 0.]
 [0. 0. 0.]
 [0. 0. 0.]
```

N11

```
[[3. 3. 3.]
 [3. 3. 3.]
 [3. 3. 3.]
```

N4

```
[[5 5 5]
 [5 5 5]
 [5 5 5]]
```

```
print("\nN5\n")
n5 = np.arange(10,20)
print(n5)

print("\nN6\n")
n6 = np.arange(10,50,6)
print(n6)

print("\nN7\n")
n7 = np.random.randint(1,100,5)
print(n7)
print("\nN12\n")
n12 = np.array([[1,2,3],[4,5,6]])
print(n12)
```

N5

[10 11 12 13 14 15 16 17 18 19]

N6

[10 16 22 28 34 40 46]

N7

[2 11 19 58 28]

N12

[[1 2 3]
 [4 5 6]]

```
print("\nN8\n")
n8 = np.array([[1,2,3],[4,5,6]])
print(n8.shape)
n8.shape = (3,2)
n8.shape = (1,6)
print(n8.shape)

print("\nN9 and N10\n")
n9 = np.array([1,3,5,7])
n10 = np.array([2,4,6,8])
print(np.vstack((n9,n10)))
print("\n")
print(np.hstack((n9,n10)))
print("\n")
print(np.column_stack((n9,n10)))
print("\n")

print(np.sum([n9,n10]))
print("\n")
print(np.sum([n9,n10], axis = 0))
print("\n")
print(np.sum([n9,n10], axis = 1))

n9 = n9+1
print(n9)
print("\n")

n9 = n9-2
print(n9)
print("\n")

n9 = n9/2
print(n9)
print("\n")

n9 = n9*2
print(n9)
print("\n")
```

N8

(2, 3)

(1, 6)

N9 and N10

[[1 3 5 7]

[2 4 6 8]]

[1 3 5 7 2 4 6 8]

[[1 2]

[3 4]

[5 6]

[7 8]]

36

[3 7 11 15]

[16 20]

[2 4 6 8]

[0 2 4 6]

[0. 1. 2. 3.]

[0. 2. 4. 6.]