

In [1]:

```
# Array Formations
import numpy as np
```

In [2]:

```
v1 = np.empty([1,1])
v1
```

Out[2]:

```
array([[0.0078125]])
```

In [3]:

```
v1 = np.empty([3,2])
v1
```

Out[3]:

```
array([[0., 0.],
       [0., 0.],
       [0., 0.]])
```

In [7]:

```
v2 = np.empty([3,2], dtype=int)
v2
```

Out[7]:

```
array([[0, 0],
       [0, 0],
       [0, 0]])
```

In []:

In [8]:

```
# array of Zeros
v3 = np.zeros(7)
v3
```

Out[8]:

```
array([0., 0., 0., 0., 0., 0., 0.])
```

In [9]:

```
v3 = np.zeros(7,dtype=int)
v3
```

Out[9]:

```
array([0, 0, 0, 0, 0, 0, 0])
```

In [10]:

```
v4 = np.zeros((7,),dtype=np.int)
v4
```

Out[10]:

```
array([0, 0, 0, 0, 0, 0, 0])
```

In []:

In [11]:

```
v5 = np.zeros((3,2),dtype=int)
v5
```

Out[11]:

```
array([[0, 0],
       [0, 0],
       [0, 0]])
```

In [12]:

```
v5 = np.zeros((3,3),dtype=int)
v5
```

Out[12]:

```
array([[0, 0, 0],
       [0, 0, 0],
       [0, 0, 0]])
```

In []:

In [13]:

```
v6 = np.zeros((3,2),dtype=[('x',int),('y',int)])
v6
```

Out[13]:

```
array([(0, 0), (0, 0)],
      [(0, 0), (0, 0)],
      [(0, 0), (0, 0)]], dtype=[('x', '<i4'), ('y', '<i4')])
```

In [14]:

```
v6 = np.zeros((3,2),dtype=[('x', '<i4'), ('y', '<i4')])
v6
```

Out[14]:

```
array([(0, 0), (0, 0)],
      [(0, 0), (0, 0)],
      [(0, 0), (0, 0)]], dtype=[('x', '<i4'), ('y', '<i4')])
```

In [15]:

```
v6 = np.zeros((3,2),dtype=[('x', '<i4')])
v6
```

Out[15]:

```
array([(0,), (0,)],
      [(0,), (0,)],
      [(0,), (0,)]], dtype=[('x', '<i4')])
```

In []:

In [16]:

```
# ones
z1 = np.ones(7)
z1
```

Out[16]:

```
array([1., 1., 1., 1., 1., 1., 1.])
```

In [17]:

```
z1 = np.ones(7, dtype=int)
z1
```

Out[17]:

```
array([1, 1, 1, 1, 1, 1, 1])
```

In [18]:

```
z1 = np.ones([3,3], dtype=int)
z1
```

Out[18]:

```
array([[1, 1, 1],
       [1, 1, 1],
       [1, 1, 1]])
```

In []:

In []:

In []:

In []: