In [1]:
```
import numpy as np
a=np.array([1,2,3,4,5,6])
print(a)
```

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

In [2]:
```
arr = np.array([[1, 2, 3], [4, 5, 6]])
print(arr)
print(arr[0])
print(arr[0][arr[1]>4])
```

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

In [3]:
```
arr = np.array([[[1, 2, 3], [4, 5, 6]], [[1, 2, 3], [4, 5, 6]]])
print(arr[0][0][0])
```

```
1
```

In [4]:
```
a=np.array([1,2,3,4,5,6,7,8,9,10])
np.append(a,[11,12,13])
```

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

In [5]:
```
a=np.delete(a,2)
a
```

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

In [6]:
```
np.sort(a)
a
```

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

In [7]:
```
np.sort(a)
a[::-1]
```

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

In [8]:
```
np.shape(a)
```

Out[8]:
```
(9,)
```

In [9]:
```
np.size(a)
```

Out[9]:
```
9
```

In [10]:
```
a=a.reshape(3,3)
a
```

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

In [11]:
```
a1=np.array(
    [
    [12,34],
    [45,12]
    ]
)
a2=np.array(
    [
    [145,145],
    [123,21]
    ]
)
print(a1+a2)
print(a1-a2)
print(a1*a2)
print(a1/a2)
```

```
[[157 179]
 [168  33]]
[[-133 -111]
 [ -78   -9]]
[[1740 4930]
 [5535  252]]
[[0.08275862 0.23448276]
 [0.36585366 0.57142857]]
```

In [12]:
```
np.max(a1)
```

Out[12]:
```
45
```

In [13]:
```
np.min(a2)
```

Out[13]:
```
21
```

In [14]:
```
np.sum(a1)
```

Out[14]:
```
103
```

In [15]:
```
np.mean(a2)
```

Out[15]:
```
108.5
```

In [16]:
```
np.std(a1)
```

Out[16]:
```
14.289419162443238
```

In [17]:
```
a1=a1.ravel()#to flatten the array to 1D
a1
```

Out[17]:
```
array([12, 34, 45, 12])
```

In [18]:
```
np.unique(a1)
```

Out[18]:
```
array([12, 34, 45])
```

In [19]:
```
np.count_nonzero(a2)
```

Out[19]:
```
4
```