In [3]:
```
import numpy as np
```

In [31]:
```
arr=np.array([[1,2,3],[4,5,6]])
sliced=arr[:2,1:]
print("Sliced Array : ",sliced)
```

```
Sliced Array :  [[2 3]
 [5 6]]
```

In [28]:
```
indexed = arr[[1,0],[0,1]]
print(indexed)
```

```
[4 2]
```

In [16]:
```
print(arr.sum())
```

```
21
```

In [18]:
```
a = np.array([25,36,56])
print(np.sqrt(a))
```

```
[5.         6.         7.48331477]
```

In [20]:
```
add = a+4
print(add)
```

```
[29 40 60]
```

In [23]:
```
a1 = np.array([[10,20,30],[5,10,12],[
a2 = np.array([[2,5,7],[10,20,30]])

ans = np.dot(a2,a1)
print(ans)
```

```
[[115 104 141]
 [500 460 630]]
```

In [34]:
```
bool = np.array([[True,True,False],[T
print(np.all(bool,axis=1)) #and
#0 for column #1 for row
```

```
[False False]
```

In [33]:
```
bool = np.array([[True,True,False],[T
print(np.any(bool,axis=0)) #or
```

```
[ True  True False]
```

In [37]:
```
r = np.arange(0,10,3)
print(r)
```

```
[0 3 6 9]
```

In [38]:
```
re = r.reshape(2,2)
print(re)
```

```
[[0 3]
 [6 9]]
```

In [39]:
```
m1 = np.array([[0,1,2],[3,4,5]])
m2 = np.array([[0,1,2],[3,4,5]])
m3 = np.array([[0,1,2],[3,4,5]])

v=np.vstack((m1,m2,m3))
print(v)
```

```
[[0 1 2]
 [3 4 5]
 [0 1 2]
 [3 4 5]
 [0 1 2]
 [3 4 5]]
```

In [40]:
```
h=np.hstack((m1,m2,m3))
print(h)
```

```
[[0 1 2 0 1 2 0 1 2]
 [3 4 5 3 4 5 3 4 5]]
```

In [51]:
```
hsplit = np.hsplit(m1,3)
print(hsplit)
```

```
[array([[0],
       [3]]), array([[1],
       [4]]), array([[2],
       [5]])]
```

In [44]:
```
vsplit = np.vsplit(v,2)
print(vsplit)
```

```
[array([[0, 1, 2],
       [3, 4, 5],
       [0, 1, 2]]), array([[3, 4,
5],
       [0, 1, 2],
       [3, 4, 5]])]
```

In [46]:
```
n = np.array([50,60,15,5])
print("Exp : ",np.exp(n))
print("Sin : ",np.sin(n))
print("Cos : ",np.cos(n))
print("Log : ",np.log(n))
print("Sum : ",np.sum(n))
print("Std : ",np.std(n))
```

```
Exp :  [5.18470553e+21 1.14200739e+2
6 3.26901737e+06 1.48413159e+02]
Sin :  [-0.26237485 -0.30481062  0.6
5028784 -0.95892427]
Cos :  [ 0.96496603 -0.95241298 -0.7
5968791  0.28366219]
Log :  [3.91202301 4.09434456 2.7080
502  1.60943791]
Sum :  130
Std :  23.04886114323222
```

In [52]:
```
print("Random : ",format(np.random.ra
```

```
Random :  [0.37811934 0.93405042 0.3
1241097 0.50641037 0.5682433  0.0651
1932
 0.74341212 0.69933277 0.5180897  0.
80383778 0.62432829 0.79738203
 0.39488653 0.93645007 0.36789921 0.
62675177 0.22269283 0.45795372
 0.94350756 0.01026125]
```

In [53]:
```
print("Rand : ",format(np.random.rand
```

```
Rand :  [[0.80219043 0.22971073 0.34
283301 0.68768959]
 [0.35825254 0.11337042 0.21313865
0.91262764]
 [0.38332277 0.81531094 0.72824548
0.98232341]]
```

In [55]:
```
print("Randint : ",format(np.random.r
```

```
Randint :  [ 5  3 10  6  6 14 13 14
18 17]
```

In [60]:
```
print("Random : ",format(np.random.pe
```

```
Random :  [ 5  0  4 17  3 19 16 18
8 12 11 13 15 10  9 14  2  1  7  6]
```

In [62]:
```
import numpy as np
```

In [64]:
```
brr = np.array([15,23,10,68]) #1d-arr
crr = np.array([[10,20,30],[40,50,60]
print("1D-array : ",brr)
print("2D-array : ",crr)
```

```
1D-array :  [15 23 10 68]
2D-array :  [[10 20 30]
 [40 50 60]]
```

In [70]:
```
print(f"dtype : {brr.dtype}") # speci
print("ndim  : ",crr.ndim) # specifie
print("shape : ",crr.shape) #specifie
print("itemsize : ",brr.itemsize) #ea
print("size : ",crr.size) #specifies
```

```
dtype : int64
ndim  :  2
shape :  (2, 3)
itemsize :  8
size :  6
```

In [ ]: