```
import numpy as np
```

```
# 1D Array
a=np.array([1,2,3])
a
```

```
array([1, 2, 3])
```

```
a.shape
```

```
(3,)
```

```
len(a)
```

```
3
```

```
a.ndim
```

```
1
```

```
a.size
```

```
3
```

```
a.dtype
```

```
dtype('int64')
```

```
a1=np.zeros(5)
a1
```

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

```
# create an array of one
a2=np.ones(5)
a2
```

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

```
a3=np.arange(10,30,5)
a3
```

```
array([10, 15, 20, 25])
```

```
a4=np.linspace(0,10,8)
a4
```

```
array([ 0.        ,  1.42857143,  2.85714286,  4.28571429,  5.71428571,
        7.14285714,  8.57142857, 10.        ])
```

```
   #2-ARITHMETIC OPERATION:
   #ADDITION
```

```
a=np.array([1,2,3])
b=np.array([4,5,6])
a+b
```

```
array([5, 7, 9])
```

```
#SUBTRACTION
```

```
a=np.array([1,2,3])
b=np.array([4,5,6])
a-b
```

```
array([-3, -3, -3])
```

```
# MULTIPLICATION
```

```
a=np.array([1,2,3])
b=np.array([4,5,6])
```

```
a*b
```

```
array([ 4, 10, 18])
```

```
#DIVISION
```

```
a=np.array([1,2,3])
b=np.array([4,5,6])
a/b
```

```
array([0.25, 0.4 , 0.5 ])
```

```
np.exp(b)
```

```
array([ 54.59815003, 148.4131591 , 403.42879349])
```

```
np.sqrt(b)
```

```
array([2.        , 2.23606798, 2.44948974])
```

```
#COMPARSION
```

```
a==b
```

```
array([False, False, False])
```

```
a>2
```

```
array([False, False,  True])
```

```
#AGGREGATE FUNCTION
```

```
a.sum()
```

```
6
```

```
a.min()
```

```
1
```

```
a.max()
```

```
3
```

```
a.cumsum()
```

```
array([1, 3, 6])
```

```
a.mean()
```

```
2.0
```

```
# CORRELATION COEFFICIENT
```

```
np.corrcoef(a,b)
```

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

```
np.std(a)
```

```
0.816496580927726
```

✓ 0s completed at 11:23 PM