Array Functions

We Implement Array Operations in NUMPY ARRAYS

zeros( )
ones( )
reshape( )
arange( )
lin space( )

zeros_like( )
ones_like( )
full_like( )
eye( )
empty( )

empty_like( )
idenity( )

zeors( ) **It Returns a New Array with Shape & Type Filled with 0's**

zeros([R,C] , dtype=int , order='c')

```
import numpy as p
a=p.zeros([2,2],dtype=int)
print(a,type(a))
#[[0 0]
# [0 0]]
```

Ones( )

Its Returns an Array filled with 1's

```
import numpy as p
a=p.ones([2,3],dtype=int)
print(a)
[[1 1 1]
 [1 1 1]]
```

reshape( )

Its used to covert one dim array to another dim

```
import numpy as p
a=p.array([10,20,30,40,50])
b=a.reshape(5,1)
print(b)
[[10]
 [20]
 [30]
 [40]
 [50]]
```

arange( )

It Displays how many Array Values are to Present in a Array

arange(Start , $\underset{\text{Ex +1}}{\underline{\text{Stop}}}$)

```
import numpy as p
a=p.arange(2,8)
print(a)
#[2 3 4 5 6]
#[2 3 4 5 6 7]
b=p.arange(4)
print(b)
#[0 1 2 3]
```

linspace( )

Linear Space it contains Multiple Values in Array and It Returns ina Linear Form

```
import numpy as p
a=p.linspace(0.9,0.8,5)
print(a)
#[0.   0.25   0.5    0.75   1.  ]
#[0.9   0.925 0.95  0.975 1.   ]
#[0.9   0.875 0.85  0.825 0.8  ]
```

linspace(Start , Stop , num = 10 , endpoint=True ,dtype)

zeros_like( )

These are Returns a Value in array with 0's in Linear Form

```
import numpy as p
a=p.zeros_like([3,2,10,20,55,4])
print(a)
#[0 0 0 0 0 0]
```

ones_like( )

It Returns a Array in a Linear Way , Count of Array Values

```
import numpy as p
a=p.ones_like([3,2,10,20,55,4])
print(a)
#[1 1 1 1 1 1]
```

full_like( )

```
import numpy as p
a=p.full_like([1,2,3,4,5],5.5,dtype=float)
print(a)
#[5 5 5 5 5]
#[5.5 5.5 5.5 5.5 5.5]
```

It Returns a New Array with the Same Shape & Type

eye( )

Its A 2D Arrays it fill 1's in Diagnol Rest 0's

1	0
0	1

```
import numpy as p
a=p.eye(5)
print(a)
```

5 X 5

```
[[1. 0. 0. 0. 0.]
 [0. 1. 0. 0. 0.]
 [0. 0. 1. 0. 0.]
 [0. 0. 0. 1. 0.]
 [0. 0. 0. 0. 1.]]
```

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empty( )

It Returns all the Values as Empty by Default 0's

```
import numpy as p
a=p.empty([2,2],dtype=int)
print(a)
# Its Accepts all Elements as
Default
[[          0 1072693248]
 [          0 1072693248]]
```

empty_like( )

```
import numpy as p
a=p.empty_like([2,2,4,5,5,7,7],dtype=int)
print(a)
#[  0   1    0 32767 3232   0 768]
```

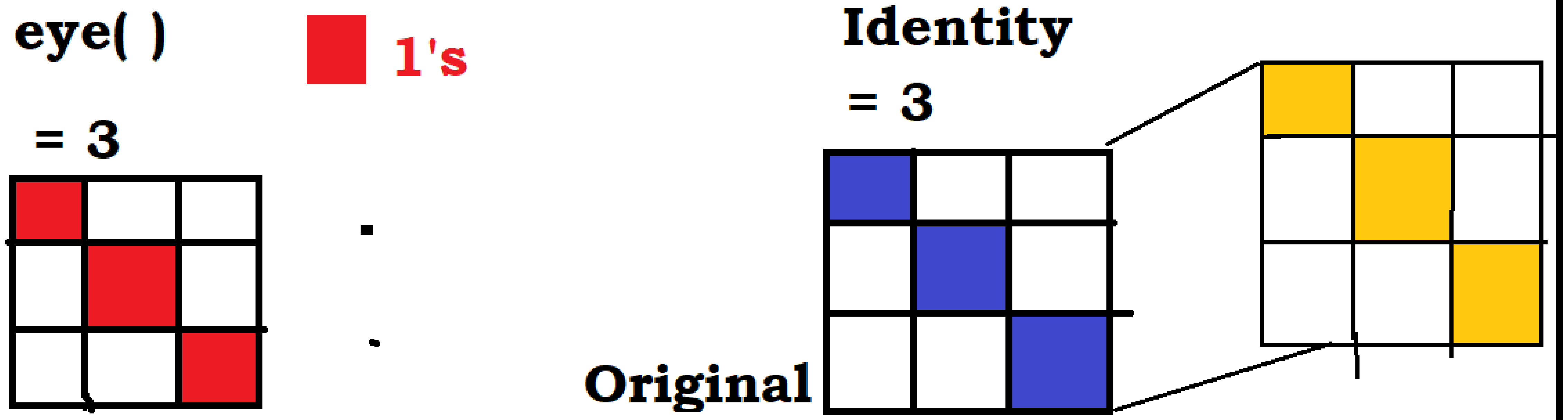
identity( )

- It Returns all the Values 1's inn Diagnol & 0's Rest Postitioins like eye( )

```
import numpy as p
a=p.identity(2)
print(a)

#[[1. 0.]
# [0. 1.]]
```

Difference B/W eye & Identity


eye( )
= 3
1's
Identity
= 3
Original