In [1]:
```
#numpy exercise
#D.prudhvi sai
#assignment-02
```

In [7]:
```
import numpy as np
```

In [10]:
```
#create a array of 10 zeroes
x = np.zeros(10)
x
```

Out[10]:
```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

In [12]:
```
y=np.ones(10)
y
```

Out[12]:
```
array([1., 1., 1., 1., 1., 1., 1., 1., 1., 1.])
```

In [15]:
```
z=np.arange(10,50)
z
```

Out[15]:
```
array([10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26,
       27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43,
       44, 45, 46, 47, 48, 49])
```

In [17]:
```
z=z[z%2==0]
z
```

Out[17]:
```
array([10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42,
       44, 46, 48])
```

In [19]:
```
a=np.arange(9)
a.reshape(3,3)
```

Out[19]:
```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

In [22]:
```
a=np.eye(3,3)
a
```

Out[22]:
```
array([[1., 0., 0.],
       [0., 1., 0.],
       [0., 0., 1.]])
```

In [25]:
```
np.random.normal(size=(25))
```

Out[25]:
```
array([-0.4465111 ,  0.24052475,  0.69750451,  0.04380536,  1.15603181,
        1.40913535, -0.50660177,  0.28932767, -1.00155924,  0.41887298,
       -0.50777059,  1.23577674,  0.09273678,  1.1603649 ,  1.68164336,
        0.36619172,  0.65622316,  0.73022702,  0.87193609,  1.42298397,
       -0.00225026, -0.62934098, -0.63808482,  1.33489057, -1.3681856 ])
```

In [28]:
```
x = np.linspace(0.01,1,100)
x = a.reshape(10,10)
x
```

Out[28]:
```
array([[0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.1 ],
       [0.11, 0.12, 0.13, 0.14, 0.15, 0.16, 0.17, 0.18, 0.19, 0.2 ],
       [0.21, 0.22, 0.23, 0.24, 0.25, 0.26, 0.27, 0.28, 0.29, 0.3 ],
       [0.31, 0.32, 0.33, 0.34, 0.35, 0.36, 0.37, 0.38, 0.39, 0.4 ],
       [0.41, 0.42, 0.43, 0.44, 0.45, 0.46, 0.47, 0.48, 0.49, 0.5 ],
       [0.51, 0.52, 0.53, 0.54, 0.55, 0.56, 0.57, 0.58, 0.59, 0.6 ],
       [0.61, 0.62, 0.63, 0.64, 0.65, 0.66, 0.67, 0.68, 0.69, 0.7 ],
       [0.71, 0.72, 0.73, 0.74, 0.75, 0.76, 0.77, 0.78, 0.79, 0.8 ],
       [0.81, 0.82, 0.83, 0.84, 0.85, 0.86, 0.87, 0.88, 0.89, 0.9 ],
       [0.91, 0.92, 0.93, 0.94, 0.95, 0.96, 0.97, 0.98, 0.99, 1.  ]])
```

In [29]:
```
np.linspace(0,1,20)
```

Out[29]:
```
array([0.        , 0.05263158, 0.10526316, 0.15789474, 0.21052632,
       0.26315789, 0.31578947, 0.36842105, 0.42105263, 0.47368421,
       0.52631579, 0.57894737, 0.63157895, 0.68421053, 0.73684211,
       0.78947368, 0.84210526, 0.89473684, 0.94736842, 1.        ])
```

In [36]:
```
mat=np.arange(1,26)
mat=mat.reshape(5,5)
mat
```

Out[36]:
```
array([[ 1,  2,  3,  4,  5],
       [ 6,  7,  8,  9, 10],
       [11, 12, 13, 14, 15],
       [16, 17, 18, 19, 20],
       [21, 22, 23, 24, 25]])
```

In [37]:
```
mat[2:,1:]
```

Out[37]:
```
array([[12, 13, 14, 15],
       [17, 18, 19, 20],
       [22, 23, 24, 25]])
```

In [38]:
```
mat[4:,0:]
```

Out[38]:
```
array([[21, 22, 23, 24, 25]])
```

In [39]:
```
mat[3:,0:]
```

Out[39]:
```
array([[16, 17, 18, 19, 20],
       [21, 22, 23, 24, 25]])
```

In [40]:
```
mat.sum()
```

Out[40]:
```
325
```

In [ ]:
```

```