```python
In [24]: #1. Create a null vector of size 10 but the fifth value which is 1.
         import numpy as np
         y=np.zeros(10,dtype=int)
         y[4]=1
         print(y)
```

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

```python
In [25]: #2. Create a vector with values ranging from 10 to 49.
         import numpy as np
         y=np.random.randint(10,49,size=15)
         print(y)
```

```
[32 21 46 42 20 20 19 15 30 15 42 45 39 43 29]
```

```python
In [26]: #3. Create a 3x3 matrix with values ranging from 0 to 8
         import numpy as np
         y= np.arange(0,9).reshape(3,3)
         print(y)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

```python
In [27]: #4. Find indices of non-zero elements from [1,2,0,0,4,0]
         import numpy as np
         y=np.array([1,2,0,0,4,0])
         for i in y:
             if i!=0:
                 print(i)
```

```
1
2
4
```

```python
In [21]: #5. Create a 10x10 array with random values and find the minimum and maximum values.
         import numpy as np
         y= np.random.random((10,10))
         print("Matrix:\n",y)
         ymin=y.min()
         ymax=y.max()
         print("\nMinimum value in the matrix= ",ymin)
         print("Maximum value in the matrix",ymax)
```

```
Matrix:
 [[0.89033232 0.90944448 0.53290555 0.39173773 0.96926682 0.08627691
  0.06285908 0.13281257 0.36304374 0.93993238]
 [0.8547896  0.64776379 0.40424339 0.73901903 0.26885095 0.14470262
  0.44791806 0.35736099 0.19998278 0.34063068]
 [0.57398206 0.70530001 0.49802269 0.36483371 0.58045796 0.14757193
  0.81304835 0.16935131 0.34194066 0.94448445]
 [0.19744092 0.32717657 0.32291028 0.23088696 0.89489433 0.40269653
  0.16876331 0.47249232 0.24836604 0.29304362]
 [0.50184468 0.71925264 0.50408514 0.48253442 0.80293437 0.74162912
  0.18916662 0.63729511 0.78833463 0.38256102]
 [0.77036548 0.36126954 0.49421494 0.1353767  0.52749491 0.50693019
  0.83922117 0.02503125 0.17329837 0.72899987]
 [0.93732044 0.19144981 0.83513559 0.78517727 0.15181006 0.62830573
  0.40847161 0.05118269 0.60690424 0.09502575]
 [0.16943842 0.90587117 0.11459593 0.73591481 0.60566239 0.81504636
  0.80846951 0.1026263  0.13871732 0.07992161]
 [0.44491093 0.79582374 0.41215613 0.5172866  0.19848035 0.52295044
  0.2243107  0.71045525 0.77736779 0.28124251]
 [0.65082885 0.34062036 0.72881674 0.77020048 0.0536013  0.83666971
  0.80885439 0.99770882 0.95558596 0.72540703]]

Minimum value in the matrix=  0.02503124719216776
Maximum value in the matrix 0.9977088174426074
```

```python
In [28]: #6. Create a random vector of size 30 and find the mean value.
         import numpy as np
         m,n=int(input("enter starting ")),int(input("enter ending "))
         x= np.random.randint(m,n,size=(30))
         print("vector :",x)
         print("mean of the vector is : ",np.mean(x))
```

```
enter starting 14
enter ending 89
vector : [34 46 60 62 75 54 40 82 19 81 75 63 86 27 57 50 61 34 17 40 58 49 74 66
 66 51 25 33 41 56]
mean of the vector is :  52.733333333333334
```

```
In [ ]:
```