In [1]:
```
#Indexing Operations on ndarray
#Indexing operations on 1-D
```

In [2]:
```
import numpy as np
```

In [4]:
```
lst=[10,20,30,40,50,60,70,80,90]
a=np.array(lst)
print(a,type(a))
```

```
[10 20 30 40 50 60 70 80 90] <class 'numpy.ndarray'>
```

In [5]:
```
a[0]
```

Out[5]:
```
10
```

In [6]:
```
a[-9]
```

Out[6]:
```
10
```

In [7]:
```
a[-1]
```

Out[7]:
```
90
```

In [8]:
```
a[len(a)-1]
```

Out[8]:
```
90
```

In [9]:
```
a[3]
```

Out[9]:
```
40
```

In [10]:
```
a[30] # Index Error
```

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
Cell In[10], line 1
----> 1 a[30]

IndexError: index 30 is out of bounds for axis 0 with size 9
```

In [11]:
```
#Indexing Operations on 2-D
```

In [12]:
```
lst=[10,20,30,40,50,60,70,80,90]
a=np.array(lst)
print(a,type(a))
```

```
[10 20 30 40 50 60 70 80 90] <class 'numpy.ndarray'>
```

In [13]:
```
a.shape=(3,3)
print(a,type(a))
print("Dimension= ",a.ndim)
```

```
[[10 20 30]
 [40 50 60]
 [70 80 90]] <class 'numpy.ndarray'>
Dimension=  2
```

In [14]:
```
a[1,1]
```

Out[14]: 50

In [15]:
```
a[1,2]
```

Out[15]: 60

In [16]:
```
a[2,2]
```

Out[16]: 90

In [17]:
```
a[0,0]
```

Out[17]: 10

In [18]:
```
a[0]
```

Out[18]: array([10, 20, 30])

In [19]:
```
a[-3]
```

Out[19]: array([10, 20, 30])

In [20]:
```
print(a)
```

```
[[10 20 30]
 [40 50 60]
 [70 80 90]]
```

In [21]:
```
a[2,1]
```

Out[21]: 80

In [22]:
```
a[-1,-2]
```

Out[22]: 80

In [23]:
```
a[1][1]
```

Out[23]: 50

In [24]:
```
a[2][2]
```

Out[24]:
```
90
```

In [25]:
```
#Indexing Operations on n-D
lst=[10,20,30,40,50,60,70,80,90,15,25,35]
a=np.array(lst)
print(a,type(a))
```

```
[10 20 30 40 50 60 70 80 90 15 25 35] <class 'numpy.ndarray'>
```

In [26]:
```
a.shape=(2,3,2)
print(a,type(a))
print("Dimension= ",a.ndim)
```

```
[[[10 20]
  [30 40]
  [50 60]]

 [[70 80]
  [90 15]
  [25 35]]] <class 'numpy.ndarray'>
Dimension=  3
```

In [27]:
```
a[0,1,1]
```

Out[27]:
```
40
```

In [28]:
```
a[0][1][1]
```

Out[28]:
```
40
```

In [29]:
```
a[0]
```

Out[29]:
```
array([[10, 20],
       [30, 40],
       [50, 60]])
```

In [30]:
```
a[1]
```

Out[30]:
```
array([[70, 80],
       [90, 15],
       [25, 35]])
```

In [31]:
```
a[-2,2,1]
```

Out[31]:
```
60
```

In [ ]: