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Lab 7

Q1: Create Lists ,Tuples, Dictionaries and Sets. Print elements stored in each case.

CODE:

In [1]:
```
li = [1, 2, 3]
tu = (1, 2, 3)
di = {1: 'a', 2: 'b', 3: 'c'}
se = {1, 2, 3, 1, 3}

for ele in li:
    print(ele, end=', ')
print()

for ele in tu:
    print(ele, end=', ')
print()
for key in di:
    print(key, ':', di[key], end=', ')
print()
for ele in se:
    print(ele, end=', ')
print()
```

OUTPUT:

```
1, 2, 3,
1, 2, 3,
1 : a, 2 : b, 3 : c,
1, 2, 3,
```

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Q2: i) Select the Element kept at 2 nd position. From a List and display it.
ii)create numpy array by already existing list and display its datatype and dimension.

CODE:

In [2]:
```
li = [1, 2, 3]
pos = 2
print(li[pos-1])
print()

import numpy as np
nli = np.array(li)
print(nli.dtype)
print(nli.ndim)
print(nli.shape)
```

OUTPUT:

```
2

int32
1
(3,)
```

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Q3: Use range function to generate values with name RangeVar. Keep lower bound as 1, higher bound 50. and each value should have difference of 10.

CODE:

```
In [3]: RangeVar = list(range(1, 50+1, 10))
        print(RangeVar)
```

OUTPUT:

```
[1, 11, 21, 31, 41]
```

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Q4: Create a string 'Techniquelab'. Find out the character at 5 th position. Find out the index of 'l' in the string.

CODE:

```
In [4]: s = 'Techniquelab'
        pos = 5
        print(s[pos-1])
        print(s.index('l'))
```

OUTPUT:

```
n
9
```

Q5: In 3rd question, the values populted in RangeVar.Find out if 11 exists and also find out the value at 3 rd index.

CODE:

```
In [5]: RangeVar = list(range(1, 50+1, 10))
        print(11 in RangeVar)
        idx = 3
        print(RangeVar[idx])
```

OUTPUT:

```
True
31
```

Q6: Create a list with values 100, ‘Alice’, 12 and ‘Programmer’.Display the whole list.Then add value ‘Python’ to the list and display the modified list.

CODE:

```
In [6]: li = [100, 'Alice', 12, 'Programmer']
        print(li)
        li.append('Python')
        print(li)
```

OUTPUT:

```
[100, 'Alice', 12, 'Programmer']
[100, 'Alice', 12, 'Programmer', 'Python']
```

Q7: Create a tuple with values:100, ‘Alice’, 12 and ‘Programmer’.Display the tuple.Then add values ‘Python’ and ‘ML’ to it and display the modified tuple.

CODE:

```
In [7]: tu = (100, 'Alice', 12, 'Programmer')
        print(tu)
        tu = tuple(list(tu) + ['Python', 'ML'])
        print(tu)
```

OUTPUT:

```
(100, 'Alice', 12, 'Programmer')
(100, 'Alice', 12, 'Programmer', 'Python', 'ML')
```

Q8: In the tuple with values :100, 'Alice', 12 and 'Programmer',print the values from index 0 to 2 ,getting displayed on console thrice.

CODE:

```
In [8]: tu = (100, 'Alice', 12, 'Programmer')
        for i in range(3):
            for j in range(3):
                print(tu[j], end=', ')
            print()
```

OUTPUT:

```
100, Alice, 12,
100, Alice, 12,
100, Alice, 12,
```