

# LIST AND TUPLE

## LIST :

- 1) Represented within Square brackets [ ]
- 2) Allows Duplicate values
- 3) Maintain insertion order
- 4) Sub-scriptable [ Allows to access individual elements by it's position ]
- 5) Mutable [ After creations the values Can be Added / Remove / Modified... ]

**Ex :**

| Input                |                                                      | Output           |
|----------------------|------------------------------------------------------|------------------|
| a = [10,20,10,30,10] |                                                      |                  |
| print(a)             | Allows duplicate values and Maintain insertion order | [10,20,10,30,10] |
| print(a[0])          | Sub-scriptable                                       | 10               |
| a[2] = 50            |                                                      |                  |
| print(a)             | Mutable ( Modified value )                           | [10,20,50,30,10] |

## TUPLE :

- 1) Represented within Round brackets ( )
- 2) Allows Duplicate values
- 3) Maintain insertion order
- 4) Sub-scriptable [ Allows to access individual elements by it's position ]
- 5) Im-mutable [ After creations the values Can't be Added / Remove / Modified... ]

**Ex :**

| Input                |                                                      | Output           |
|----------------------|------------------------------------------------------|------------------|
| a = (10,20,10,30,10) |                                                      |                  |
| print(a)             | Allows duplicate values and Maintain insertion order | (10,20,10,30,10) |
| print(a[1])          | Sub-scriptable                                       | 20               |

## Types of List and Tuple functions :

| S.NO | LIST      | TUPLE   |
|------|-----------|---------|
| 1    | append()  |         |
| 2    | extend()  |         |
| 3    | insert()  |         |
| 4    | sort()    |         |
| 5    | reverse() |         |
| 6    | count()   | count() |
| 7    | index()   | index() |
| 8    | copy()    |         |
| 9    | len()     | len()   |
| 10   | pop()     |         |
| 11   | remove()  |         |
| 12   | clear()   |         |

# LIST :

## 1) append()

List oda end position la Single value mattum add pannum.

Syntax :

**listname.append(Value)**

## 2) extend()

List oda end position la 2 or More than values add pannum.

Syntax :

**listname.extend([Value1,Value2,.....])**

## 3) insert()

List la index oda specific position ah use panni andha specific position la single value va add pannum.

Syntax :

**listname.insert(index,Value)**

## 4) sort()

List la irukira values ah Ascending order format ah change pannum.

Syntax :

**listname.sort( )**

## 5) reverse()

List la irukira values ah Reverse and Desending order format ah change pannum.

Syntax :

**listname.reverse()**

## 6) count()

List la irukira same number evlo irukunu correct ah find pannum.

**Syntax :**

**listname.count(Value)**

## 7) index()

List la irukira one specific value endha index position la irukkunu correct ah find pannum.

**Syntax :**

**listname.index(Value)**

## 8) copy()

One list kulla irukira ella Data's um copy panna use aagum.

**Syntax :**

**listname.copy( )**

## 9) len()

List kulla irukira total values evlo irukunu find pannum.

**Syntax :**

**len(listname)**

## 10) pop()

List la irukira index position oda value va Delete or Remove pannum.

**Syntax :**

**listname.pop(index)**

## 11) remove()

List la irukira one specific value va Remove or Delete pannum.

Syntax :

**listname.remove(Value)**

## 12) clear()

List la irukira ella values um Remove pannum.

Syntax :

**listname.clear( )**

## TUPLE :

### 1) count()

Tuple la irukira same number evlo irukunu correct ah find pannum.

Syntax :

**tuplename.count(Value)**

### 2) index()

Tuple la irukira values endha index position la irukkunu correct ah find pannum.

Syntax :

**tuplename.index(Value)**

### 3) len()

Tuple kulla irukira total values evlo irukunu find pannum.

Syntax :

**len(tuplename)**

# LIST Programs :

`append(),extend(),insert(),sort(),reverse()`

## INPUT

```
a = [2,4,8,10,6]

a.append(1)      # append()
print(a)

a.extend([0,3,5])    # extend()
print(a)

a.insert(1,100)     # insert()
print(a)

a.reverse()        #reverse() as Reverse method
print(a)

a.sort()           #sort() as Ascending order
print(a)

a.reverse()        #reverse() as Desending order
print(a)
```

## OUTPUT

```
[2, 4, 8, 10, 6, 1]      # append()

[2, 4, 8, 10, 6, 1, 0, 3, 5]    # extend()

[2, 100, 4, 8, 10, 6, 1, 0, 3, 5]    # insert()

[5, 3, 0, 1, 6, 10, 8, 4, 100, 2]    #reverse() as Reverse method

[0, 1, 2, 3, 4, 5, 6, 8, 10, 100]    #sort() as Ascending order

[100, 10, 8, 6, 5, 4, 3, 2, 1, 0]    #reverse() as Desending order
```

count(),index(),copy(),len()

## INPUT

```
n = [10,20,50,50,40,40,55,50]

print(len(n))      # len()

c = n.count(50)     # count()
print(c)

i = n.index(10)     # index()
print(i)

c = n.copy()        # copy()
print(c)
```

## OUTPUT

```
8      # len()

3      # count()

0      # index()

[10, 20, 50, 50, 40, 40, 55, 50]    # copy()
```

pop(),remove(),clear()

## INPUT

```
l = [1,3,5,7,9]

l.pop(1)           # pop()
print(l)

l.remove(5)        # remove()
print(l)

l.clear()          # clear()
print(l)
```

## OUTPUT

```
[1, 5, 7, 9]      # pop()

[1, 7, 9]         # remove()

[]               # clear()
```

# TUPLE Programs :

count(),index(),len()

## INPUT

```
t = (10,20,50,50,40,40,55,50)

print(len(t))      # len()

c = t.count(50)     # count()
print(c)

i = t.index(10)     # index()
print(i)
```

## OUTPUT

```
8      # len()

3      # count()

0      # index()
```