

## # List :-

It is comma separated value of any data type, within square brackets. It is mutable (can be changed)

### \* Example 2 :

```

l = [11, 256.6, "gis"]      # mutable
    0   1   2

print(l)          # [11, 256.6, "gis"]
print(l[2])       # ["gis"]
print(l[0:2])     # [11, 256.6, "gis"]
print(l[1:2])     # [256.6, gis]
print(l[1:])       # [256.6, "gis"]
print(l[:-2])      # [11, 256.6, "gis"]
print(l[:])        # [11, 256.6, "gis"]
print(l[::2])      # [11, "gis"]
print(l[::1])      # [11, 256.6, "gis"]
print(l[:::-1])    # ["gis", 256.6, 11]

```

### \* Function in List

- 1). `append()` : to add one value at the last of list  
 Syntax : `variableName.append(value)`

```

d = [25, 35, 45, 55]
d.append(105)
print(d)      # [25, 35, 45, 55, 105]
print(d[4])    # [105]

```

- 2). `insert()` : used to insert the value at specific index  
 Syntax : `variable.insert(index, value)`

`d = [25, 35, 65, 85, 105]`

`d.insert(2, 45)`

`print(d) # [25, 35, 65, 45, 85, 105]`

3). `extend()` : used to add more list at the end of current list

Syntax: `variablename.extend(variablename2)`

`d = [25, 35, 65, 85, 105]`

`x = [44, 55]`

`d.extend(x)`

`print(d) # [25, 35, 65, 85, 105, 44, 55]`

`print(x) # [44, 55]`

\* Example 2:

`a = [12, 23, 34, 45, 56]`

`print(a[2:4]) # [34, 45]`

`print(a[1:4:2]) # [23, 45]`

`print(a + a.insert(2, 340))`

`print(a) # [12, 23, 340, 34, 45, 56]`

`a.append(98)`

`print(a) # [12, 23, 340, 34, 45, 56, 98]`

`a.insert(3, 560)`

`print(a) # [12, 23, 340, 560, 34, 45, 56, 98]`

`x = [780, 980]`

`a.extend(x) # [12, 23, 340, 560, 34, 45, 56, 98, 780, 980]`

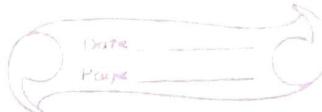
`print(a) ↪`

`a[8] = 7800`

`print(a) # [12, 23, 340, 560, 34, 45, 56, 98, 7800, 980]`

`a[0:2] = 120, 236`

`print(a) # [120, 236, 340, 560, 34, 45, 56, 98, 7800, 980]`



4). `pop()`: to remove the last value from the list.

`pop(index)`: to remove the specific index value from the list.

`d = [12, 15, 18, 21]`

`d.pop()`

`print(d) # [12, 15, 18]`

`d.pop(1)`

`print(d) # [12, 18]`

5). `remove()`: to remove function, you have to pass value (not index) as parameter.

Syntax: `variablename.remove(specific value)`

\* Example 1:

`d = [25, 12, 45, 85, 74, 58, 96, 32, 14, 52, 62, 87, 45, 25, 95]`

`d.remove(32)`

`print(d) # [25, 12, 45, 85, 74, 58, 96, 14, 52, 62, 87, 45, 25, 85, 95]`

6). `del`: used to remove multiple value from the list.

Syntax: `del variablename [index]`

`del variablename [start index : ending index]`

`data = [78, 85, 96, 74, 52, 36, 54]`

`del data [3:6]`

`print(data)`

7). `clear()`: to make the list empty  
syntax: `variablename.clear()`

Example: `data = [78, 85, 96, 54]`  
`data.clear()`  
`print(data)`

\* Example 3: WAP to create the list with value 85, 96, 87, 52, 63. WAP to  
→ remove the value 87 using `remove()`  
→ remove the value 63 using `pop()`  
→ remove the 96, 52 at once  
→ make the list empty.

`d = [85, 96, 87, 52, 63]`  
`d.remove(87)`  
`print(d) # [85, 96, 52, 63]`

`d.pop() # [85, 96, 52]`  
`print(d) ←`

`del d[1:3]`  
`print(d) # [85]`

`d.clear()`  
`print(d) # []`

\* `reverse()`: reverse the order of elements of list.  
syntax: `variablename.reverse()`  
`a = [12, 18, 4, 3, 25, 22]`  
`a.reverse()`

`print(d) # 22, 25, 3, 4, 18, 12`

\* `sort()`: sort is the item of the list in ascending or descending order.

`a = [12, 18, 4, 3, 25, 22]`

`a.sort() # ascending order`

`a.sort(reverse=True) # descending order`

`print(a)`

10. `len()`: to count the number of value present in the list.

Syntax: `len(variablename)`

`a = [5, 2, 45, 85, 96, 87, 452]`

`print(len(a)) # 7`

11. `max()`:

Syntax: `max(variablename)`

`a = [5, 2, 45, 85, 96, 87, 452]`

`print(max(a)) # 452`

12. `min()`

Syntax: `min(variablename)`

`a = [5, 2, 45, 85, 96, 87, 452]`

`print(min(a)) # 2`

13. `count(value)`

Syntax:

`a = [5, 2, 45, 5, 96, 5, 74]`

`print(a.count(5)) # 3`

#### 14). index():

Syntax : variablename.index(value)

a = [75, 85, 7, 4, 5, 6, 2, 58, 52, 41, 52, 63, 25, 14, 36, 78, 98, 45, 65, 12, 32]

print(a.index(63)) # 11

- \* Example 4 : WAP to take 5 value from the user and store in the list, if user enter.

x = []

for i in range(1, 6):

a = int(input("Enter the value"))

x.append()

print(x)

# without for loop

x = []

a = int(input("Enter the value :"))

x.append(a)

print(x)

# example 2. WAP to create one list ,d ,with value 85,95,105

# was to add one value 205 at the last .

WAS to add one value 35 at the beginning of the list .

create one list ,y...[500,600] and add this list at the end  
of the list ,d ,also mention the output .

WAS so that 205 will be printed as an output .

d = [85, 95, 105].

d.append(205)

d.insert(0,35)

y = [500,600]

d.extend(y)

print(d) # [35, 85, 95, 105, 205, 500, 600]

print(d[4]) # 205.

Example 3. was to create a list with values 85, 96, 87, 52, 63  
was to.

remove the value 87 using remove().

remove the value 63 using pop().

remove the values 96, 52 at once.

make the list empty.

d = [85, 96, 87, 52, 63].

d. remove(87).

print(d).

# [85, 96, 52, 63].

d. pop().

print(d).

# [85, 96, 52]

del d[1:3].

print(d)

# [85]

d. clear()

print(d)

# []

# Example 4

$a = [12, 23, 34, 45, 56]$ .

was so that output should be.

$[34, 45]$

$[23, 25]$

$[12, 23, 340, 45, 56]$

$[12, 23, 340, 45, 56, 98]$

$[12, 23, 340, 560, 45, 56, 98]$

$[12, 23, 340, 560, 45, 56, 98, 780, 980]$

$[12, 23, 340, 560, 45, 56, 98, 7800, 980]$ .

$a = [12, 23, 34, 45, 56]$

print(a[2:4])

print(a[1:4:2])

$a[2] = 340$

print(a)

a.append(98)

print(a)

a.insert(3, 560)

print(a)

$b = [780, 980]$

a.extend(b)

print(a)

$a[6] = 7800$

print(a)

# example 7.

WAP to create a list , d, with value 12,14,16

WAP so that output should be .

[12,14,16,2]

[120,14,16,2]

[120,14,16,2,45,65]

[2,14,16,45,65,120]

[14,16,25,45,65,120]

[14,16,65,120]

[120,65,16,14]

[120,65,16,45,120].

d = [12,14,16]

d.append(2)

print(d)

d[0] = 120

print(a)

a = [45, 65]

d. extend(a)

print(d)

d. sort()

print(d)

d. insert(3, 28)

print(d)

del d[2:4]

print(d)

d. sort(reverse=True)

print(d)

d. append(120)

print(d)

# As per the updated list, was to print

> highest value

> lowest value

> total number of values

> total how many times value 120 is printed in the list

print(max(d))

# 120

print(min(d))

# 16

print(len(d))

# 5

print(d.count(120))

# 2