**List (Functions and Methods)**

# Functions

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| Sr. No. | Functions | Description |
| 1 | **len**(list) | Gives the total length of the list. |
| 2 | **max**(list) | Returns item from the list with max value. |
| 3 | **min**(list) | Returns item from the list with min value. |
| 4 | **list**(seq) | Converts a tuple into list. |
| 5 | **cmp**(list1, list2) | Compares elements of both lists  Python 3 does not have cmp |

## len(list)

## max(list)

## min(list)

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| **Python 2** | **Python 3** |
| #!usr/bin/python  list1 = [1, 2, 3, 4, 5, 11, 12, 13, 14, 15]  list2 = [1, 11, 'a', 'A', "word", "WORD"]  print "list1", list1  print "list2", list2  print ""  print "len(list1)", len(list1)  print "len(list2)", len(list2)  print ""  print "max(list1)", max(list1)  print "max(list2)", max(list2)  print ""  print "min(list1)", min(list1)  print "min(list2)", min(list2)  print ""  Output:  list1 [1, 2, 3, 4, 5, 11, 12, 13, 14, 15]  list2 [1, 11, 'a', 'A', 'word', 'WORD']  len(list1) 10  len(list2) 6  max(list1) 15  max(list2) word  min(list1) 1  min(list2) 1 | #!usr/bin/python  list1 = [1, 2, 3, 4, 5, 11, 12, 13, 14, 15]  list2 = [1, 11, 'a', 'A', "word", "WORD"]  print ("list1", list1)  print ("list2", list2)  print ("")  print ("len(list1)", len(list1))  print ("len(list2)", len(list2))  print ("")  print ("max(list1)", max(list1))  #print ("max(list2)", max(list2))  # TypeError: unorderable types: str() > int()  print ("")  print ("min(list1)", min(list1))  #print ("min(list2)", min(list2))  # TypeError: unorderable types: str() < int()  Output:  list1 [1, 2, 3, 4, 5, 11, 12, 13, 14, 15]  list2 [1, 11, 'a', 'A', 'word', 'WORD']  len(list1) 10  len(list2) 6  max(list1) 15  min(list1) 1 |

## list(seq)

#!usr/bin/python

str = "A String"

print ("String ", str)

list1 = list(str);

print ("List ", list1)

print ()

tup = (1, 'a', 'word')

print ("Tuple ", tup)

list1 = list(tup)

print ("List ", list1)

Output:

String A String

List ['A', ' ', 'S', 't', 'r', 'i', 'n', 'g']

Tuple (1, 'a', 'word')

List [1, 'a', 'word']

## cmp(list1, list2)

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| **Python 2** | **Python 3** |
| #!usr/bin/python  list1 = [1, 2, 3]  list2 = [1, 2, 3]  print "cmp(list1, list2) ", cmp(list1, list2)  list1 = [1, 2, 3, 4]  list2 = [1, 2, 3]  print "cmp(list1, list2) ", cmp(list1, list2)  list1 = [1, 2, 3]  list2 = [1, 2, 3, 4]  print "cmp(list1, list2) ", cmp(list1, list2)  Output:  cmp(list1, list2) 0  cmp(list1, list2) 1  cmp(list1, list2) -1 | #!usr/bin/python  list1 = [1, 2, 3]  list2 = [1, 2, 3]  #print ("cmp(list1, list2) ", cmp(list1, list2))  # NameError: name 'cmp' is not defined  list1 = [1, 2, 3, 4]  list2 = [1, 2, 3]  #print ("cmp(list1, list2) ", cmp(list1, list2))  # NameError: name 'cmp' is not defined  list1 = [1, 2, 3]  list2 = [1, 2, 3, 4]  #print ("cmp(list1, list2) ", cmp(list1, list2))  # NameError: name 'cmp' is not defined  Python 3 does not have cmp |

# Methods

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|  | Methods | Description | Return |
| 1 | [**list.append(obj)**](https://www.tutorialspoint.com/python/list_append.htm) | Appends object obj to list | None |
| 2 | [**list.count(obj)**](https://www.tutorialspoint.com/python/list_count.htm) | Returns count of how many times obj occurs in list | Int |
| 3 | [**list.extend(seq)**](https://www.tutorialspoint.com/python/list_extend.htm) | Appends the contents of seq to list | None |
| 4 | [**list.index(obj)**](https://www.tutorialspoint.com/python/list_index.htm) | Returns the lowest index in list that obj appears | index of the found object otherwise raise an exception |
| 5 | [**list.insert(index, obj)**](https://www.tutorialspoint.com/python/list_insert.htm) | Inserts object obj into list at offset index | None |
| 6 | [**list.pop(obj=list[-1])**](https://www.tutorialspoint.com/python/list_pop.htm) | Removes and returns last object or obj from list | Removed  object |
| 7 | [**list.remove(obj)**](https://www.tutorialspoint.com/python/list_remove.htm) | Removes object obj from list | None |
| 8 | [**list.reverse()**](https://www.tutorialspoint.com/python/list_reverse.htm) | Reverses objects of list in place | None |
| 9 | [**list.sort([func])**](https://www.tutorialspoint.com/python/list_sort.htm) | Sorts objects of list, use compare func if given | None |

## append(obj)

## count(obj)

#!usr/bin/python

list1 = [1, 2, 3]

print ("List ", list1)

print ("list1.count(3) ", list1.count(3))

print ("")

list1.append(4)

list1.append('a')

list1.append(3)

list1.append('word')

print ("Updated List ", list1)

print ("list1.count(3) ", list1.count(3))

Output:

List [1, 2, 3]

list1.count(3) 1

Updated List [1, 2, 3, 4, 'a', 3, 'word']

list1.count(3) 2

## extend(seq)

#!usr/bin/python

list1 = [1, 2, 3]

print ("List ", list1)

print ("")

str="Word"

list1.extend(str)

print ("List ", list1)

Output:

List [1, 2, 3]

List [1, 2, 3, 'W', 'o', 'r', 'd']

## index(obj)

#!usr/bin/python

list1 = [1, 2, 3, 5, 6, 3]

print ("list1.index(3) ", list1.index(3))

print ("list1.index(8) ", list1.index(8))

Output:

list1.index(3) 2

Runtime Errors:

Traceback (most recent call last):

File "/home/6b2f193967dfe8b320ad99a5b892347d.py", line 5, in <module>

print ("list1.index(8) ", list1.index(8))

ValueError: 8 is not in list

## insert(index, obj)

#!usr/bin/python

list1 = [1, 2, 3, 5, 6, 3]

print ("List ", list1)

list1.insert(3, 7) # insert returns: None

print ("After list1.insert(3, 7) ", list1)

Output:

List [1, 2, 3, 5, 6, 3]

After list1.insert(3, 7) [1, 2, 3, 7, 5, 6, 3]

## pop(obj=list[-1])

#!usr/bin/python

list1 = [1, 2, 3, 5, 6, 3]

print ("list1.pop() ", list1.pop())

print ("List", list1)

print ()

print ("list1.pop() ", list1.pop())

print ("List", list1)

Output:

list1.pop() 3

List [1, 2, 3, 5, 6]

list1.pop() 6

List [1, 2, 3, 5]

## remove(obj)

#!usr/bin/python

list1 = [1, 2, 3, 5, 6, 3]

print ("list1.remove(3) ", list1.remove(3))

print ("List", list1)

print ()

print ("list1.remove(6) ", list1.remove(6))

print ("List", list1)

Output:

list1.remove(3) None

List [1, 2, 5, 6, 3]

list1.remove(6) None

List [1, 2, 5, 3]

## reverse()

#!usr/bin/python

list1 = [1, 2, 3, 5, 6, 3]

print ("list1.reverse() ", list1.reverse())

print ("List", list1)

Output:

list1.reverse() None

List [3, 6, 5, 3, 2, 1]

## sort([func])

#!usr/bin/python

list1 = [1, 2, 3, 5, 6, 3]

print ("list1.sort() ", list1.sort())

print ("List", list1)

Output:

list1.sort() None

List [1, 2, 3, 3, 5, 6]