**Tuples Functions**

Tuple functions:

|  |  |  |
| --- | --- | --- |
| S.No. | Function | Description |
| 1 | len(tuple) | Gives the total length of the tuple. |
| 2 | max(tuple) | Returns item from the tuple with max value. |
| 3 | min(tuple) | Returns item from the tuple with min value. |
| 4 | tuple(seq) | Converts a list into tuple. |
| 5 | cmp(tuple1, tuple2) | Compares elements of both tuples.  Not available in Python 3 |

# len(tuple)

#!/usr/bin/python3

tup1 = ('physics', 'chemistry', 1997, 2000)

tup2 = ()

tup3 = (50,)

print ("len(tup1) : ", len(tup1))

print ("len(tup2) : ", len(tup2))

print ("len(tup3) : ", len(tup3))

Output:

len(tup1) : 4

len(tup2) : 0

len(tup3) : 1

# max(tuple)

Python 2

#!/usr/bin/python2

tuple1 = ('maths', 'che', 'phy', 'bio')

tuple2 = (456, 700, 200)

tuple3 = ('maths', 'che', 'phy', 'bio', 3, 7, 9)

print "Max value element in tuple1 : ", max(tuple1)

print "Max value element in tuple2 : ", max(tuple2)

print "Max value element in tuple3 : ", max(tuple3)

Output:

Max value element in tuple1 : phy

Max value element in tuple2 : 700

Max value element in tuple3 : phy

**Python 3**

#!/usr/bin/python3

tuple1 = ('maths', 'che', 'phy', 'bio')

tuple2 = (456, 700, 200)

#tuple3 = ('maths', 'che', 'phy', 'bio', 3, 7, 9) # TypeError: unorderable types: int() > str()

print ("Max value element in tuple1 : ", max(tuple1))

print ("Max value element in tuple2 : ", max(tuple2))

#print ("Max value element in tuple3 : ", max(tuple3)) # TypeError: unorderable types: int() > str()

Output:

Max value element in tuple1 : phy

Max value element in tuple2 : 700

# min(tuple)

Python 2

#!/usr/bin/python2

tuple1 = ('maths', 'che', 'phy', 'bio')

tuple2 = (456, 700, 200)

tuple3 = ('maths', 'che', 'phy', 'bio', 3, 7, 9)

print "Min value element in tuple1 : ", min(tuple1)

print "Min value element in tuple2 : ", min(tuple2)

print "Min value element in tuple3 : ", min(tuple3)

Output:

Min value element in tuple1 : bio

Min value element in tuple2 : 200

Min value element in tuple3 : 3

**Python 3**

#!/usr/bin/python3

tuple1 = ('maths', 'che', 'phy', 'bio')

tuple2 = (456, 700, 200)

#tuple3 = ('maths', 'che', 'phy', 'bio', 3, 7, 9) # TypeError: unorderable types: int() < str()

print ("Min value element in tuple1 : ", min(tuple1))

print ("Min value element in tuple2 : ", min(tuple2))

#print ("Min value element in tuple3 : ", min(tuple3)) # TypeError: unorderable types: int() < str()

Output:

Min value element in tuple1 : bio

Min value element in tuple2 : 200

# tuple(seq)

#!/usr/bin/python3

list1 = ['maths', 'che', 'phy', 'bio', 3, 7, 9]

str1 = 'word1'

tuple1 = tuple(list1)

tuple2 = tuple(str1)

print ("List : ", list1)

print ("Tuple: ", tuple1)

print ("String : ", str1)

print ("Tuple: ", tuple2)

Output:

List : ['maths', 'che', 'phy', 'bio', 3, 7, 9]

Tuple: ('maths', 'che', 'phy', 'bio', 3, 7, 9)

String : word1

Tuple: ('w', 'o', 'r', 'd', '1')

# cmp(tuple1, tuple2)

cmp is not defined in Python 3

Python 2

#!/usr/bin/python2

tuple1 = ('maths', 'che', 'phy', 'bio', 3, 7, 9)

tuple2 = ('maths', 'che', 'phy', 'bio', 3, 7, 9)

tuple3 = ('maths', 'che', 'phy', 'bio', 3, 7, 6)

tuple4 = ('maths', 'che', 'phy', 'bio', 3, 7, 15)

print "cmp(tuple1, tuple2) : ", cmp(tuple1, tuple2)

print "cmp(tuple1, tuple3) : ", cmp(tuple1, tuple3)

print "cmp(tuple1, tuple4) : ", cmp(tuple1, tuple4)

Output:

cmp(tuple1, tuple2) : 0

cmp(tuple1, tuple3) : 1

cmp(tuple1, tuple4) : -1