Python Tuples

List-like data types: Tuple

Tuples are **not immutable**.

- **Cannot** Change, Add, or Remove Elements

Lists are **mutable**.

- It can have elements added, removed or changed.

Tuple = (uses parenthesis)

my_tuple = ()   #Empty Tuple

my_tuple = (1, 2, 3)   #Tuple with Integers

my_tuple = ("apple", "banana", "cherry")   #Tuple with Strings

#Tuple with Mixed Data
Types
my_tuple = (1, "Hello", 3.4)

Tuple Examples

#vowels tuple

vowels = ('a', 'e', 'i', 'o', 'i', 'o', 'e', 'i', 'u')

tuple1 = (1, 2, 3, 4, 5)

tuple2 = ("Python", "PHP", "JavaScript")

Tuple – Examples

my_tuple = ("Hello",)   #Tuple with 1 element needs to **end with ,** to indicate that it is a tuple.

Tuple – Mixed data types

- A tuple can have any number of items and they may be of different types (integer, float, list, string etc.)

my_tuple = ("mouse", [8, 4, 6], (1, 2, 3))

Access Items in a Tuple – [Index number]

thistuple = ("apple", "banana", "cherry")

print(thistuple[0])
print(thistuple[1])
print(thistuple[2])

thistuple	0	1	2
	thistuple[0]	thistuple[1]	thistuple[2]
	apple	banana	cherry

Working with Tuples

tuple1 = (1, 2, 3, 4, 5)

tuple2 = ("Python", "PHP", "JavaScript", "Java", "Visual Basic")

Working with Tuples

#print tuple1

#print tuple2

#print element[2] of the tuple1

#print element 1 to 3 of the tuple1

#print element 1 to 3 of the tuple1

#combine tuple1 and tuple2 and store in a new tuple3.

#print tuple3

METHOD 1: Iterate over a Tuple using a for loop

thistuple = ("apple", "banana", "cherry")

for item in thistuple:

    print(item)

item	0	1	2
thistuple	thistuple[0]	thistuple[1]	thistuple[2]
	apple	banana	cherry

Check if Item Exists in a Tuple – in keyword

thistuple = ("apple", "banana", "cherry")

if "apple" in thistuple:
  print("Yes, 'apple' is in the fruits tuple")

Tuple Operations

- Creating a Tuple

- Indexing, Negative Indexing

- Slicing

- Changing **(cannot**, tuples are **not immutable (unchangeable).**

- Deleting (entire tuple only, not elements)

- Check if Item **in** Tuple

- Determine Tuple length

Tuples are not immutable

- **Cannot** Change, Add, Remove

Built-In Functions with Tuple

- count()
- index()
- len()
- max()
- min()
- sorted()
- sum()
- tuple()

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