

Python Basics - Lists, Tuples and Dictionaries Cheat Sheet

| Lists and Tuples Syntax | |
|--|---|
| <code>L = [1, 2, 3, 4, 5]</code> | Lists are created with <code>[]</code> |
| <code>T = (10, 20, 30, 40, 50)</code> | Tuples are created with <code>()</code> |
| <code>L[0]</code> | Returns 1st element of <code>L</code> (1) |
| <code>T[0]</code> | Returns 1st element of <code>T</code> (10) |
| <code>L[1:4]</code> | Returns 2nd to 4th element of <code>L</code> ([2, 3, 4]) |
| <code>T[1:4]</code> | Returns 2nd to 4th element of <code>T</code> ((20, 30, 40)) |
| <code>L[0:-1:2]</code> | Returns 1st to 2nd last element of <code>L</code> skipping one at a time ([1, 3]) |
| <code>T[0:-1:2]</code> | Returns 1st to 2nd last element of <code>L</code> skipping one at a time ((10, 30)) |
| <code>L[1] = 22</code> | Assigns 22 to 2nd element of <code>L</code> (<code>L == [1, 22, 3, 4, 5]</code>) |
| <code>T[1] = 22</code> | ERROR: You can't assign anything to tuples |
| <code>L[0:2] = [11, 22]</code> | Assigns 11 and 22 to 1st and 2nd element of <code>L</code> respectively (<code>L == [11, 22, 3, 4, 5]</code>) |
| Lists are mutable and Tuples are NOT mutable | |

| Lists - Methods | |
|--|---|
| <code>a = ['a', 'b', 'c']</code> | |
| <code>b = [1, 3, 2]</code> | |
| <code>a + b</code> | Returns <code>a</code> concatenated with <code>b</code> (['a', 'b', 'c', 1, 3, 2]) |
| <code>'c' in a</code> | Returns <code>True</code> if 'c' is in the list <code>a</code> and <code>False</code> otherwise (True) |
| <code>len(a)</code> | Returns the number of elements in <code>a</code> (3) |
| <code>a.append('d')</code> | Appends 'd' to the end of the list <code>a</code> (<code>a == ['a', 'b', 'c', 'd']</code>) |
| <code>a.extend(['d', 'e', 'f'])</code> | Appends every element of the iterable to the end of <code>a</code> (<code>a == ['a', 'b', 'c', 'd', 'e', 'f']</code>) |
| <code>a.insert(1, 'd')</code> | Inserts 'd' to index 1 of <code>a</code> (<code>a == ['a', 'd', 'b', 'c']</code>) |
| <code>a.pop()</code> | Returns the last element of the list and deletes it from the list. ('c') |

| Lists - Methods (cont) | |
|---|--|
| <code>a.pop(1)</code> | Returns 2nd element of <code>a</code> and removes it from the list ('b') |
| <code>a.remove('b')</code> | Removes first occurrence of 'b' in <code>a</code> (<code>a == ['a', 'c']</code>) |
| <code>a.clear()</code> | Clears the list entirely (<code>a == []</code>) |
| <code>a.index('b')</code> | Returns the index of the first occurrence of 'b' (1) |
| <code>a.count('b')</code> | Returns the number of occurrences of 'b' in <code>a</code> (1) |
| <code>b.sort()</code> | Returns a sorted version of <code>b</code> ([1, 2, 3]) |
| <code>a.reverse()</code> | Reverses the list <code>a</code> (['c', 'b', 'a']) |
| <code>a.copy()</code> | Returns a copy of <code>a</code> |
| The <code>copy()</code> method returns a list identical to the original, but with a | |
| <code>t1 = ('a', 'b', 'c')</code> | |
| <code>t2 = (1, 2, 3)</code> | |
| <code>t1 + t2</code> | Returns a concatenated version of <code>t1</code> and <code>t2</code> |
| <code>2 in t2</code> | Returns <code>True</code> if 2 is in <code>t2</code> and <code>False</code> otherwise (True) |
| <code>len(t1)</code> | Returns the number of elements in <code>t1</code> (3) |
| <code>t2.count(2)</code> | Returns the number of occurrences of 2 in <code>t2</code> (1) |
| <code>t2.index(1)</code> | Returns the index of the 1st occurrence of 1 (0) |

| Lists - Loops 1 | |
|--|--|
| <code>a = ['one', 'two', 'three']</code> | |
| <code>for i in a:</code> | |
| <code> print(i)</code> | |
| one | |
| two | |
| three | |

| Lists - Loops 2 | |
|---|--|
| <code>a = ['one', 'two', 'three']</code> | |
| <code>for i in range(len(a)):</code> | |
| <code> print(f"a[{i}] == {a[i]}")</code> | |
| <code>a[0] == one</code> | |
| <code>a[1] == two</code> | |
| <code>a[2] == three</code> | |