



HTML

CSS

MORE ▼



Python For Loops

[< Previous](#)[Next >](#)

Python For Loops

A **for** loop is used for iterating over a sequence (that is either a list, a tuple, a dictionary, a set, or a string).

This is less like the **for** keyword in other programming languages, and works more like an iterator method as found in other object-orientated programming languages.

With the **for** loop we can execute a set of statements, once for each item in a list, tuple, set etc.

Example

Print each fruit in a fruit list:

```
fruits = ["apple", "banana", "cherry"]
for x in fruits:
    print(x)
```

[Try it Yourself »](#)

The **for** loop does not require an indexing variable to set beforehand.

Looping Through a String

Even strings are iterable objects, they contain a sequence of characters:

Example

Loop through the letters in the word "banana":

```
for x in "banana":  
    print(x)
```

[Try it Yourself »](#)

The break Statement

With the **break** statement we can stop the loop before it has looped through all the items:

Example

Exit the loop when **x** is "banana":

```
fruits = ["apple", "banana", "cherry"]  
for x in fruits:  
    print(x)  
    if x == "banana":  
        break
```

[Try it Yourself »](#)

Example

Exit the loop when **x** is "banana", but this time the break comes before the print:

```
fruits = ["apple", "banana", "cherry"]  
for x in fruits:  
    if x == "banana":  
        break  
    print(x)
```

[Try it Yourself »](#)

The continue Statement

With the `continue` statement we can stop the current iteration of the loop, and continue with the next:

Example

Do not print banana:

```
fruits = ["apple", "banana", "cherry"]
for x in fruits:
    if x == "banana":
        continue
    print(x)
```

[Try it Yourself »](#)

The range() Function

To loop through a set of code a specified number of times, we can use the `range()` function,

The `range()` function returns a sequence of numbers, starting from 0 by default, and increments by 1 (by default), and ends at a specified number.

Example

Using the range() function:

```
for x in range(6):
    print(x)
```

Try it Yourself »

Note that `range(6)` is not the values of 0 to 6, but the values 0 to 5.

The `range()` function defaults to 0 as a starting value, however it is possible to specify the starting value by adding a parameter: `range(2, 6)`, which means values from 2 to 6 (but not including 6):

Example

Using the start parameter:

```
for x in range(2, 6):  
    print(x)
```

Try it Yourself »

The `range()` function defaults to increment the sequence by 1, however it is possible to specify the increment value by adding a third parameter: `range(2, 30, 3)`:

Example

Increment the sequence with 3 (default is 1):

```
for x in range(2, 30, 3):  
    print(x)
```

Try it Yourself »

Else in For Loop

The `else` keyword in a `for` loop specifies a block of code to be executed when the loop is finished:

Example

Print all numbers from 0 to 5, and print a message when the loop has ended:

```
for x in range(6):  
    print(x)  
else:  
    print("Finally finished!")
```

Try it Yourself »

Nested Loops

A nested loop is a loop inside a loop.

The "inner loop" will be executed one time for each iteration of the "outer loop":

Example

Print each adjective for every fruit:

```
adj = ["red", "big", "tasty"]  
fruits = ["apple", "banana", "cherry"]  
  
for x in adj:  
    for y in fruits:  
        print(x, y)
```

Try it Yourself »

The pass Statement

for loops cannot be empty, but if you for some reason have a **for** loop with no content, put in the **pass** statement to avoid getting an error.

Example

```
for x in [0, 1, 2]:  
    pass
```

Try it Yourself »

Test Yourself With Exercises

Exercise:

Loop through the items in the `fruits` list.

```
fruits = ["apple", "banana", "cherry"]  
x      fruits  
print(x)
```

Submit Answer »

[Start the Exercise](#)

[◀ Previous](#)

[Next ▶](#)

COLOR PICKER



HOW TO

Tabs
Dropdowns
Accordions
Side Navigation
Top Navigation
Modal Boxes
Progress Bars
Parallax
Login Form
HTML Includes
Google Maps
Range Sliders
Tooltips
Slideshow
Filter List
Sort List

SHARE



CERTIFICATES

HTML
CSS
JavaScript
SQL
Python
PHP
jQuery
Bootstrap
XML

[Read More »](#)

[REPORT ERROR](#)

[PRINT PAGE](#)

[FORUM](#)

[ABOUT](#)

Top Tutorials

[HTML Tutorial](#)
[CSS Tutorial](#)
[JavaScript Tutorial](#)
[How To Tutorial](#)
[SQL Tutorial](#)
[Python Tutorial](#)
[W3.CSS Tutorial](#)
[Bootstrap Tutorial](#)
[PHP Tutorial](#)
[jQuery Tutorial](#)
[Java Tutorial](#)
[C++ Tutorial](#)

Top References

[HTML Reference](#)
[CSS Reference](#)
[JavaScript Reference](#)
[SQL Reference](#)
[Python Reference](#)
[W3.CSS Reference](#)
[Bootstrap Reference](#)
[PHP Reference](#)
[HTML Colors](#)
[jQuery Reference](#)
[Java Reference](#)
[Angular Reference](#)

Top Examples

[HTML Examples](#)
[CSS Examples](#)
[JavaScript Examples](#)
[How To Examples](#)
[SQL Examples](#)
[Python Examples](#)

W3.CSS Examples
Bootstrap Examples
PHP Examples
jQuery Examples
Java Examples
XML Examples

Web Certificates

HTML Certificate
CSS Certificate
JavaScript Certificate
SQL Certificate
Python Certificate
jQuery Certificate
PHP Certificate
Bootstrap Certificate
XML Certificate

[Get Certified »](#)

W3Schools is optimized for learning, testing, and training. Examples might be simplified to improve reading and basic understanding. Tutorials, references, and examples are constantly reviewed to avoid errors, but we cannot warrant full correctness of all content. While using this site, you agree to have read and accepted our terms of use, cookie and privacy policy. Copyright 1999-2020 by Refsnes Data. All Rights Reserved.

Powered by W3.CSS.

