Python for Loop

Overview

The for loop in Python is used to iterate over a sequence (list, tuple, string, dictionary) or other iterable objects. Iterating over a sequence is called traversal.

Syntax of for loop

```
for i in iterator:
    # statements
```

Here the iterable is a collection of objects like list, tuple. The indented statements inside the for loops are executed once for each item in an iterable. The variable var takes the value of the next item of the iterable each time through the loop.

Example:

```
#Print all numbers from 0 to n.

n = int(input())

for i in range(n + 1):
    print(i)
```

output:

```
5
0
1
2
3
4
5
```

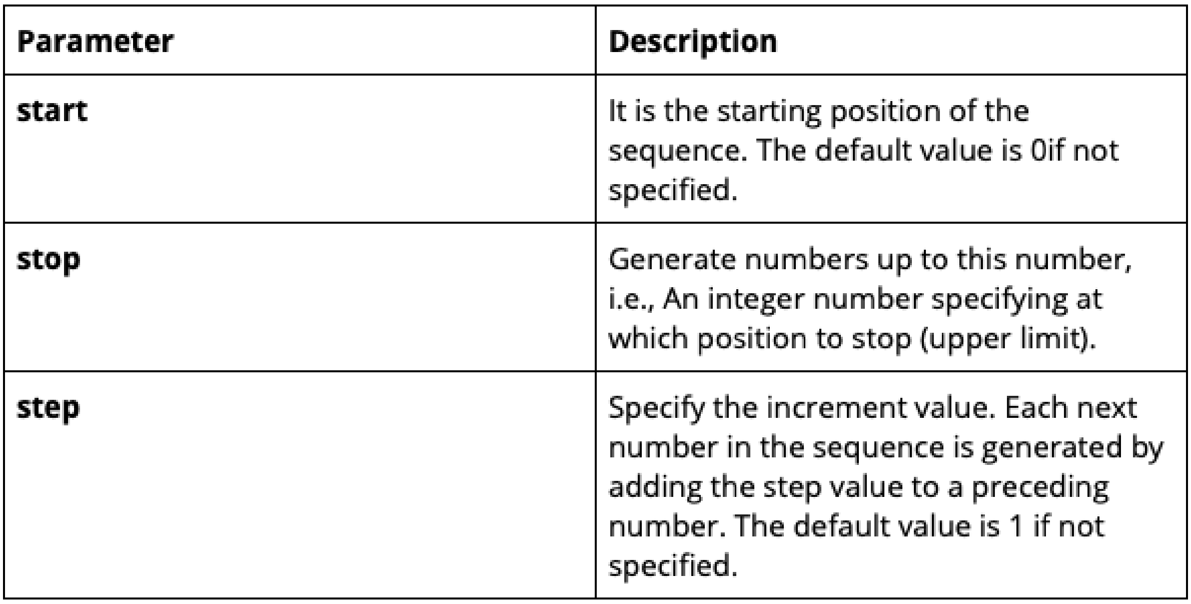
Python range() function

Below is the syntax of the range() function.

range(start, stop,step)

It takes three arguments. Out of the three, two are optional. The start and step are the optional arguments.

Parameters



Parameter	**Description**
start	It is the starting position of the sequence. The default value is 0if not specified.
stop	Generate numbers up to this number, i.e., An integer number specifying at which position to stop (upper limit).
step	Specify the increment value. Each next number in the sequence is generated by adding the step value to a preceding number. The default value is 1 if not specified.

8.

Points to remember

- The **range()** function only works with the integers, So all arguments must be integers. You can not use float numbers or any other data type as a start, stop, and step value.
- All three arguments can be positive or negative.
- The step value must not be zero. If a step=0, Python will raise a **ValueError** exception.

range(start, stop)

When you pass two arguments to the range(), it will generate integers starting from the start number to stop -1.

Example:

```
for i in range(10,15):
    print(i)
```

output:

```
10
11
12
13
14
```