

Python for Loop with range()

Quick Notes for Beginners

 **Core idea:** A for loop repeats a block of code for each value in a sequence.

1. What is a for loop?

A for loop is useful when we want Python to perform the same task several times, especially when we know how many times the repetition is needed.

► Python

```
for i in range(5):  
    print(i)
```

Output: 0, 1, 2, 3, 4

2. Basic syntax

► Python

```
for variable in range():  
    statement
```

for → starts the loop | variable → stores the current value | in → gets values from range() | statement → runs repeatedly

3. Three basic forms of range()

Form	Example	Values
<code>range(stop)</code>	<code>range(5)</code>	0, 1, 2, 3, 4
<code>range(start, stop)</code>	<code>range(2, 6)</code>	2, 3, 4, 5
<code>range(start, stop, step)</code>	<code>range(2, 10, 2)</code>	2, 4, 6, 8

☆ **Remember:** The stop value is always excluded. With one value, range() starts from 0.

4. Understanding range()

► Python

```
for i in range(2, 7):  
    print(i)
```

Python generates: 2, 3, 4, 5, 6

 **Key rule:** start is included; stop is excluded; step controls how much the value changes each time.

5. Using the step value

► Python

```
for i in range(1, 10, 3):  
    print(i)
```

Values: 1, 4, 7

Think of it as: 1 → 4 → 7 → stop before 10.

6. Common beginner examples

► Print 1 to 10

```
for i in range(1, 11):  
    print(i)
```

► Odd numbers

```
for i in range(1, 20, 2):  
    print(i)
```

► Sum 1 to 5

```
total = 0  
for i in range(1, 6):  
    total += i
```

► Even numbers

```
for i in range(2, 21, 2):  
    print(i)
```

► Countdown

```
for i in range(10, 0, -1):  
    print(i)
```

► Table of 7

```
for i in range(1, 11):  
    print(7 * i)
```

7. Practice

Try these before checking solutions:

1. Print numbers from 1 to 20.
2. Print even numbers from 2 to 20.
3. Print odd numbers from 1 to 19.
4. Print numbers from 10 down to 1.
5. Print the multiplication table of 7.

8. Quick Revision

 **Easy way to remember:** One value → stop | Two values → start, stop | Three values → start, stop, step.

 **Beginner reminder:** Use a colon (:) after the for statement and indent the code inside the loop.

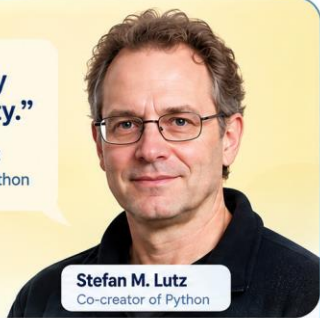
 **Keep practicing — small programs build strong Python fundamentals!**



“Beautiful is better than ugly.”
— Guido van Rossum
Creator of Python



Happy Coding!



“Practicality beats purity.”
— Stefan M. Lutz
Co-creator of Python



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