

10

Introduction to Loops

by

C02: Fundamentals of Programming

2

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for loop Vs while loop :

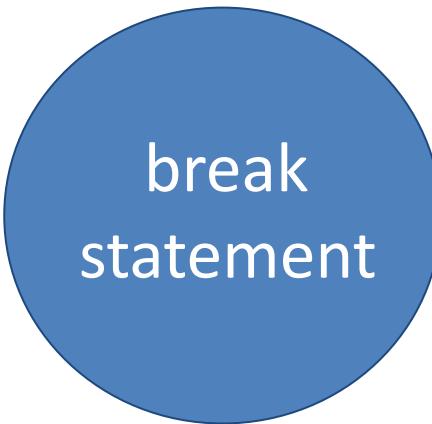
for loop
Vs
while loop



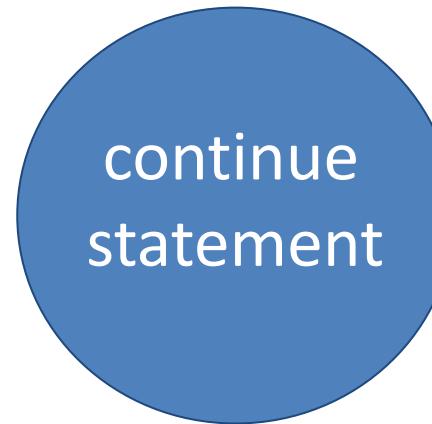
Loop Control Statements

Loop Control Statements :

Loop control statements **change execution** from its normal sequence.



break
statement



continue
statement

break Statement :

The break statement **is used to exit a loop early** — as soon as the condition associated with it is met, and stopping any further iterations.

- **It is Placed inside a for or while loop.**

break Statement :

```
for iterating_var in sequence:
```

```
.....
```

```
if test_condition:
```

```
    break
```

Exit
from
loop

```
.....
```

```
.....
```

```
while test_condition:
```

```
.....
```

```
if test_condition:
```

```
    break
```

Exit
from
loop

```
.....
```

```
.....
```

Fig: Exiting a loop with
break statement

Example : break statement

```
for counter in range(1,6):
    if(counter == 3):
        break
    print(counter)

print("Statement Outside Loop")
```

Code Snippet

```
counter = 1
while (counter < 6):
    if(counter == 3):
        break
    print(counter)
    counter += 1

print("Statement Outside Loop")
```

Output

1
2
Statement Outside Loop

continue Statement :

The continue statement **skips the current iteration of a loop and moves to the next iteration** when a specific condition is met.

- **It is Placed inside a for or while loop.**

continue Statement :

```
→ for val in sequence:  
    # code  
    if condition:  
        continue
```

code

```
→ while condition:  
    # code  
    if condition:  
        continue
```

code

Example : continue statement

```
for counter in range(1,6): ←  
    if(counter == 3):  
        continue ←  
    print(counter)  
  
print("Statement Outside Loop")
```

Code Snippet

```
counter = 1  
while counter < 6: ←  
    if counter == 3:  
        counter += 1  
        continue ←  
    print(counter)  
    counter += 1  
  
print("Statement Outside Loop")
```

Output

1
2
4
5
Statement Outside Loop

Let's Practice on the Playground!

Coding Assignment!

Question - 1

You are given a positive integer N. Your task is to determine whether N is a prime number. Print "YES" if the number is prime, otherwise print "NO".

Example 1 : Input N = 15

Output :

NO

Example 2 : Input N = 13

Output :

Yes

Question - 2

You are given a positive integer N. Your task is to print the first N terms of the Fibonacci series

Example 1 : Input N = 5

Output : 0 1 1 2 3

Example 2 : Input N = 8

Output : 0 1 1 2 3 5 8 13

Question - 3

Write a program to add 1 to each digit of the given number and print the result.

Example 1 : Input N = 328

Output : 439

Example 2 : Input N = 769

Output : 880



Quiz Time!

Please fill the feedback!

References :

Book_1 : Intro to Python for Computer Science and Data Science
(Paul Deitel, Harvey Deitel)

S.No.	Topic Name	Page No.
1.	Loop control statements (break & continue statement)	105
Book_2 :		

Thank You!