

While Loops in Python

While loops in Python are a powerful control structure that allow you to repeatedly execute a block of code as long as a given condition is true.

example of While Loops

1

```
a = 1
while a <= 10:
    print(a)
    a = a + 1
```

2

```
a = 1
while a <= 10:
    print(f"2 {a} = {2a}")
```

3

```
while 10 = 10:
    print("hello")
```

(it repeatedly print hello this condition is true to stop this print infinity use ctrl + c in terminal)

Statements Used in Loops

1 break

2 continue

3 pass

4 assert

5 return

The break Statement

Definition

Exit and break out of the current loop immediately

Example

```
for i in range (1,21):
```

```
    break
```

```
    print(i)
```

```
for i in range(1,21):
```

```
    if i == 8:
```

```
        break
```

```
    print(i)
```

The continue Statement

Definition

The continue statement is used to skip the current iteration of a loop and move to the next one.

Example

```
for i in range(1,12):  
    if i == 6:  
        continue  
    print(i)
```

The pass Statement

Definition

The pass statement is a placeholder that allows a loop to execute without performing any action.

Example

```
for i in range (1,10):  
    if i == 7:  
        pass
```

The assert Statement

Definition

The assert statement is used to check a condition and raise an Assertion Error if the condition is false.

Example

```
assert 11 == 10, "they are not equal"
```


A close-up photograph of a silver and black ballpoint pen writing the word "return" in a bold, lowercase, sans-serif font on a white piece of paper. The pen is positioned at the end of the word, and the word is underlined with a single stroke. The background is a warm, orange-brown color, possibly a desk or a folder.

return

The return Statement

Definition

The return statement is used to exit a function or method, optionally returning a value.