Python while loop

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Agenda

1. What is while loop in Python?

   1. Syntax of while Loop in Python

   2. Flowchart of while loop

   3. Example: Python while Loop

2. while loop with else

What is while loop in Python?

The while loop in Python is used to iterate over a block of code as long as the test expression (condition) is true.
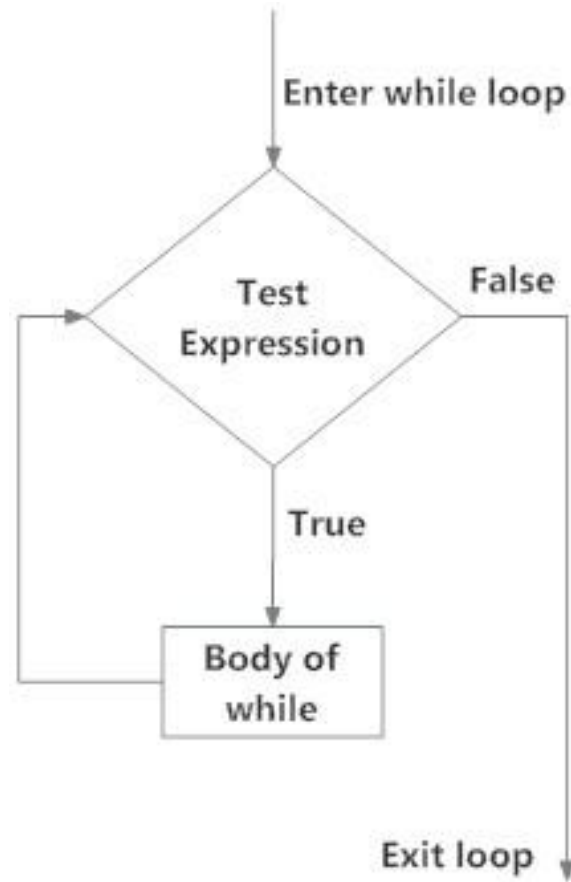
Syntax

while test_expression:
    Body of while

Flowchart

Fig: operation of while loop

```
# sum = 1+2+3+...+n

# To take input from the user,
# n = int(input("Enter n: "))

n = 10

# initialize sum and counter
sum = 0
i = 1

while i <= n:
    sum = sum + i
    i = i+1    # update counter

# print the sum
print("The sum is", sum)
```

while loop with else

The while loop can be terminated with a break statement. In such case, the else part is ignored. Hence, a while loop's else part runs if no break occurs and the condition is false.

```python
counter = 0

while counter < 3:
    print("Inside loop")
    counter = counter + 1
else:
    print("Inside else")
```

Check out these examples

1. Python Program to Print the Fibonacci sequence

2. Python Program to Check Armstrong Number

3. Python Program to Find Armstrong Number in an Interval