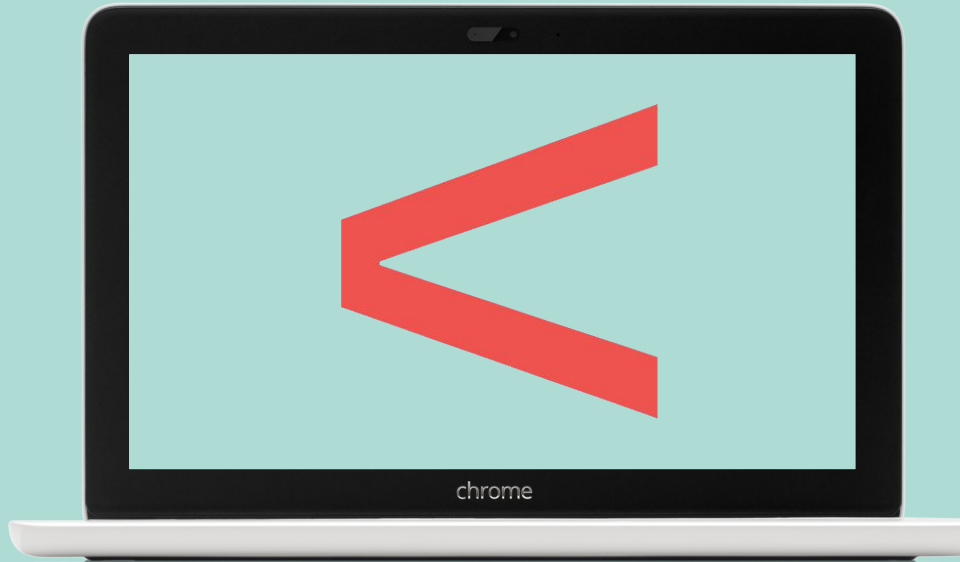




Loops in Python

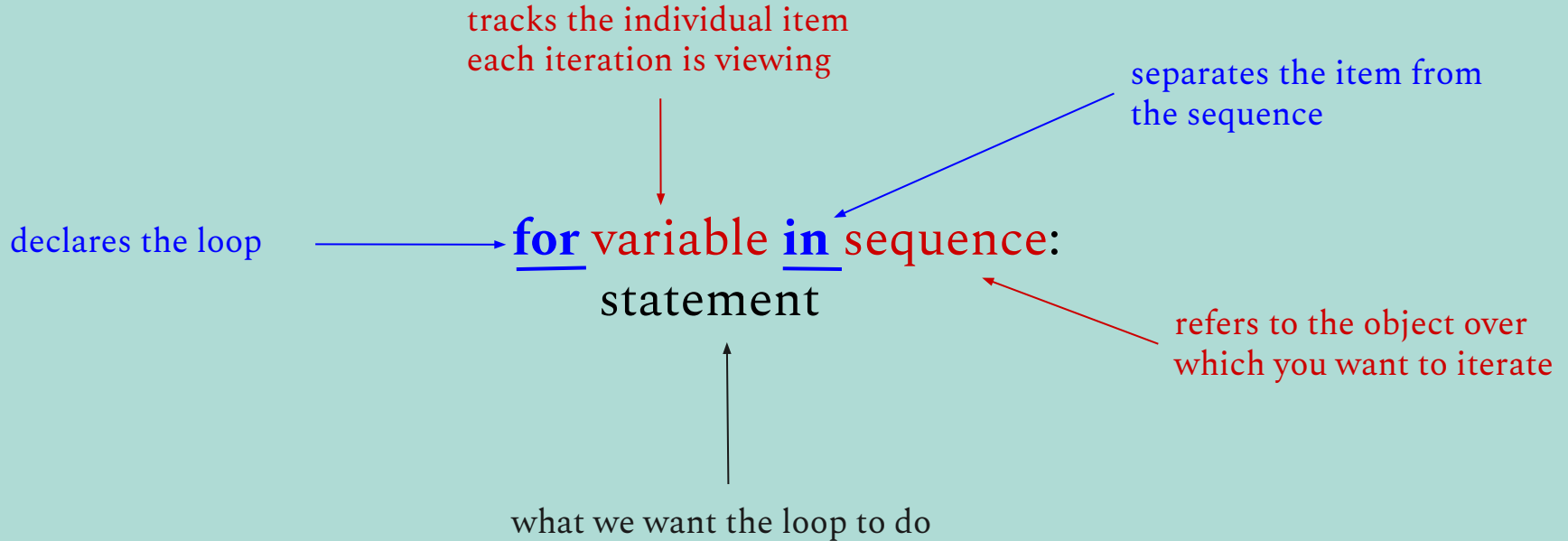


What is a for loop in Python?

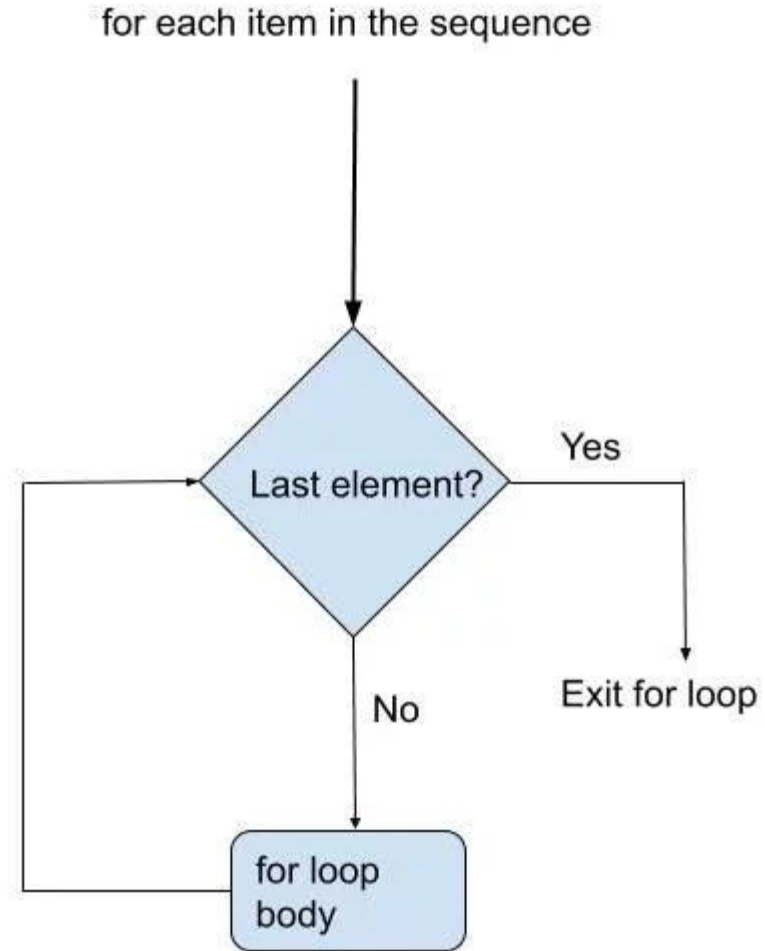
A **“for” loop** is used for **iterating over a sequence** (that is either a list, a tuple, a dictionary, a set, or a string).

“for” loops are traditionally used when you have a block of code which you want to repeat a fixed number of times. The Python “for” statement iterates over the members of a sequence **in order, executing the block each time.**

Syntax of a “for” loop



Flowchart of a for loop



“for” loop example

```
rainbow = ['red', 'orange', 'yellow', 'green', 'blue', 'indigo', 'violet']
```

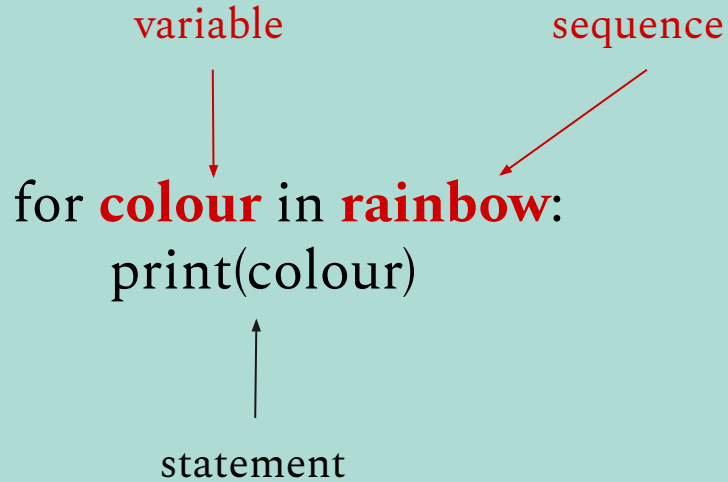
variable sequence

↓ ↙

```
for colour in rainbow:
    print(colour)
```

↑

statement



Result:
red
orange
yellow
green
blue
indigo
violet

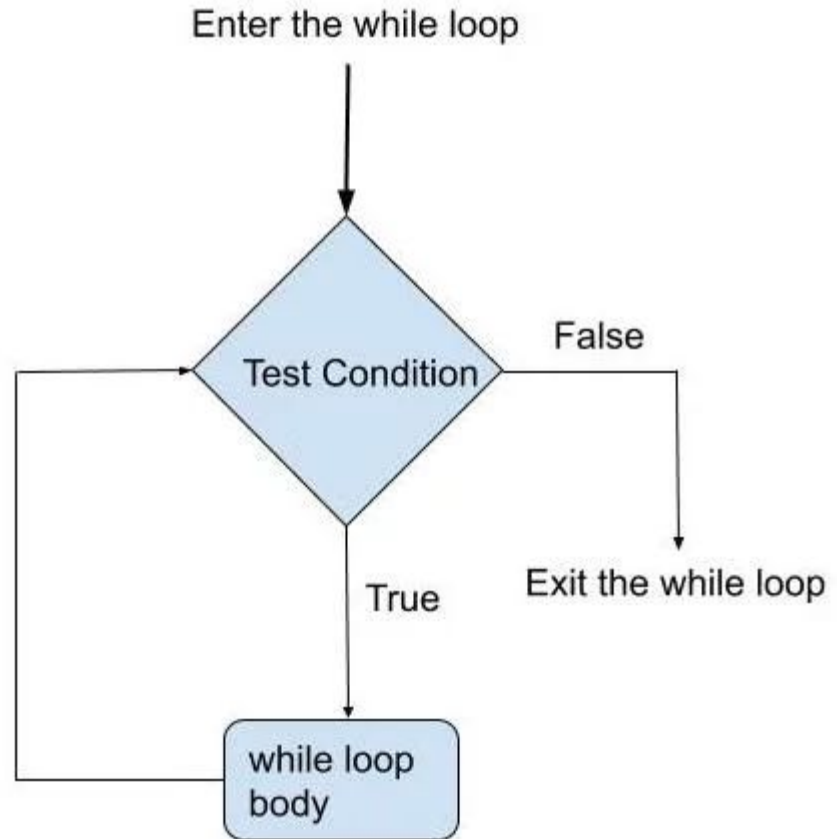
Let's try it!

What is a 'while' loop in Python?

A **'while' loop** is used to execute a block of statements repeatedly **until a given condition is satisfied**.

When the condition becomes false, the line immediately after the loop in the program is executed. This is called indefinite iteration.

Flowchart of a 'while' loop



'while' loop example

```
rainbow = ['red', 'orange', 'yellow', 'green', 'blue', 'indigo', 'violet']  
colour = input("Type a colour name: ")
```

condition



declare the loop → **while** colour **in** rainbow:

print(colour + " is a colour of the rainbow")

call the break → **break**

else:

print(colour + " is not a colour of the rainbow")

statement if
condition is true

statement if condition
is false. It is optional.

Loops in Python

Always read the documentation!