



# PYTHON Loops

*PRESENT BY*

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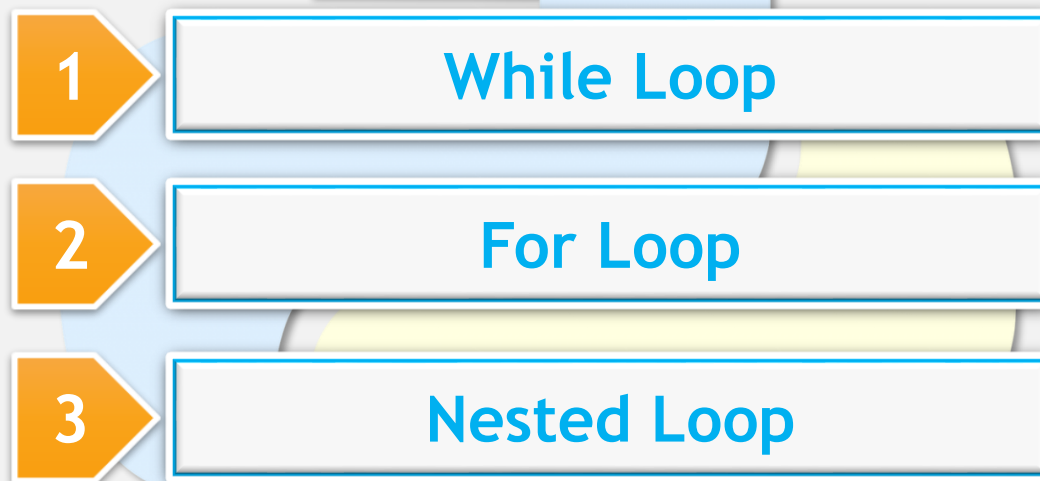
# WHAT IS LOOP

- ↳ Loops are the set of instruction which allows us to execute a statement or group of statements multiple times.
- ↳ A loop statement allows us to execute a statement or group of statements multiple times.
- ↳ Looping statements in python are used to execute a block of statements or code repeatedly for several times as specified by the user.



# TYPE OF LOOP

Python programming language provides following types of loops-

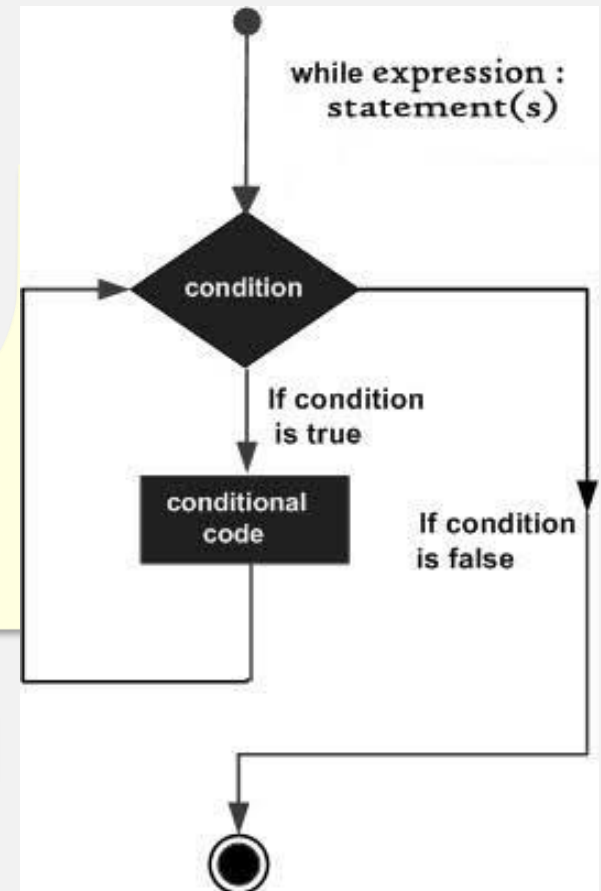


# PYTHON WHILE LOOP

**While loop** in python is used to execute multiple statement or codes repeatedly until the given condition is true.

## SYNTAX

```
while expression:  
    statement(s)
```



# PYTHON WHILE LOOP EXAMPLE

## PROGRAM

```
count = 0
while (count < 9):
    print ('The count is:', count)
    count = count + 1
```

## OUTPUT

```
The count is: 0
The count is: 1
The count is: 2
The count is: 3
The count is: 4
The count is: 5
The count is: 6
The count is: 7
The count is: 8
```

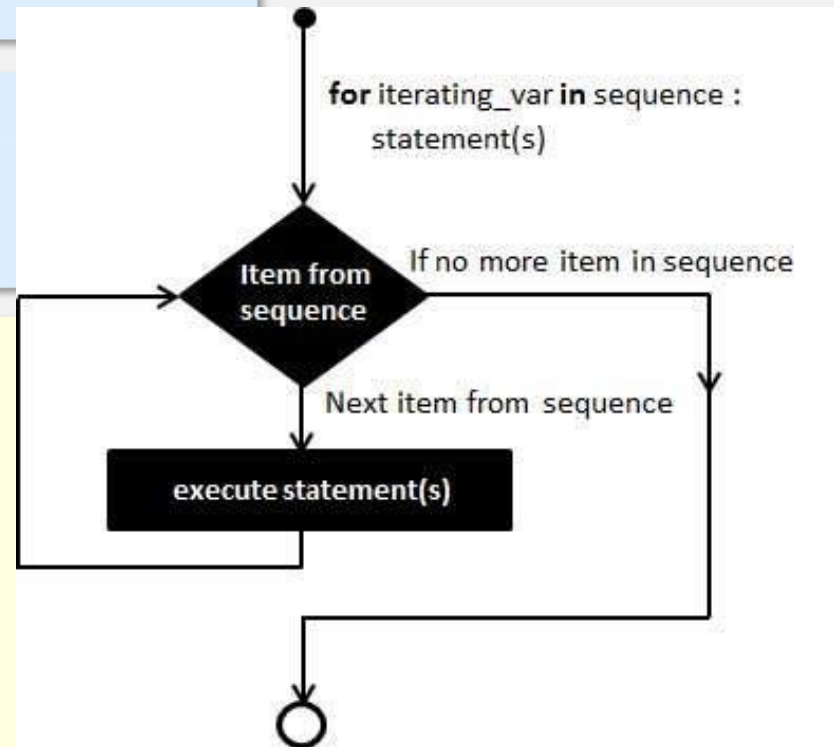


# PYTHON FOR LOOP

**For loop** in python is used to execute a block of statements or code several times until the given condition becomes false.

## SYNTAX

```
for iterating_var in sequence:  
    statements(s)
```



# PYTHON FOR LOOP EXAMPLE

## PROGRAM

```
for letter in 'Python':  
    print ('Current Letter :', letter)
```

## OUTPUT

```
Current Letter : P  
Current Letter : y  
Current Letter : t  
Current Letter : h  
Current Letter : o  
Current Letter : n
```

## PROGRAM

```
fruits = ['banana', 'apple', 'mango']  
for fruit in fruits:  
    print ('Current fruit :', fruit)
```

## OUTPUT

```
Current fruit : banana  
Current fruit : apple  
Current fruit : mango
```





# PYTHON FOR LOOP EXAMPLE

For loop using **range ()** function.

**range ()** function is used to generate a sequence of numbers.

## PROGRAM

```
for a in range(1,10):  
    print('The Series is:', a)
```

## PROGRAM

```
language = ['Python', 'Java', 'Ruby']  
for lang in range(len(language)):  
    print('Current language is:', language[lang])
```

## OUTPUT

```
The Series is: 1  
The Series is: 2  
The Series is: 3  
The Series is: 4  
The Series is: 5  
The Series is: 6  
The Series is: 7  
The Series is: 8  
The Series is: 9
```

```
Current language is: Python  
Current language is: Java  
Current language is: Ruby
```



# PYTHON NESTED LOOP

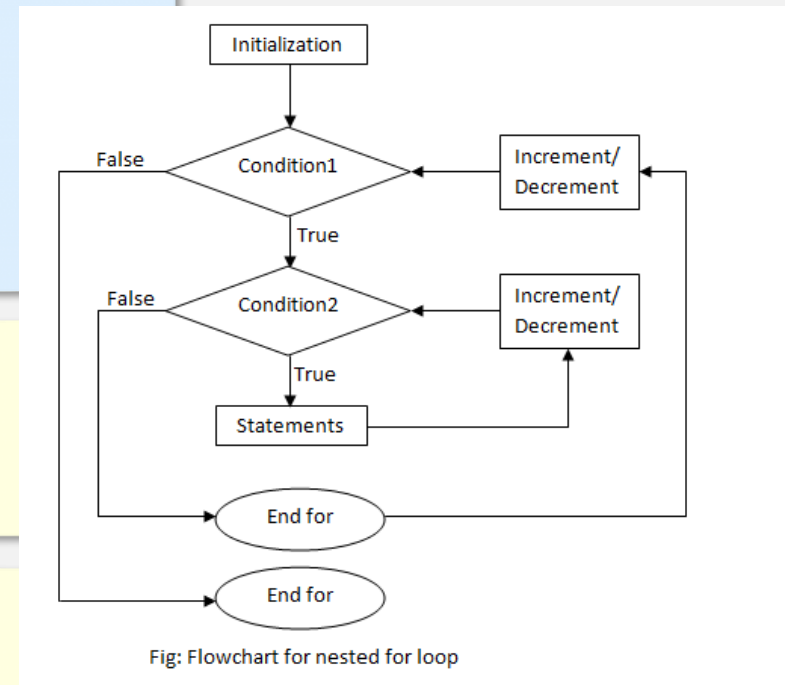
**Nested loop** means a loop statement inside another loop statement. That is why nested loops are also called as “**loop inside loop**”.

## **SYNTAX**

```
for iterating_var in sequence:  
    for iterating_var in sequence:  
        statements(s)  
    statements(s)
```

## **SYNTAX**

```
while expression:  
    while expression:  
        statement(s)  
    statement(s)
```



# PYTHON NESTED LOOP EXAMPLE

## PROGRAM

```
for i in range(1,6):  
    for j in range(i):  
        print("*",end=' ')  
    print()
```

## OUTPUT

```
*  
* *  
* * *  
* * * *  
* * * * *
```





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**Happy Learning**



