

# Python Loops

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# Types of Python Loops

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- While Loop in Python.
- For Loop in Python.
- Nested Loops.
- Loop Control Statements.



# Python Nested Loops



# For loop structure

## Python Nested Loop

```
for i in range(2):  
    print(i)  
    for j in range(10,13):  
        print(j)
```

**Inner loop** ← [ for j in range(10,13):  
print(j) ]

→ **Outer loop** [ for i in range(2):  
print(i)  
for j in range(10,13):  
print(j) ]

**Output**

↓

```
0  
10  
11  
12  
1  
10  
11  
12
```

Printed by inner loop → [ 10, 11, 12 ]

Printed by outer loop → [ 0, 1 ]

# Example 1

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## ■ Basic Example of Python Nested Loops

```
x = [1, 2]
y = [4, 5]

for i in x:
    for j in y:
        print(i, j)
```

output

```
C:\Users\
1 4
1 5
2 4
2 5
```

# Example 2

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```
x = [1, 2]
y = [4, 5]
i = 0
while i < len(x):
    j = 0
    while j < len(y):
        print(x[i], y[j])
        j = j + 1
    i = i + 1
```

output

```
C:\Users\
1 4
1 5
2 4
2 5
```

# Example 3

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- Printing multiplication table of 2 numbers using Python nested for loops

```
for i in range(2,3):  
    for j in range(1, 11):  
        print(i, "*", j, "=", i * j)  
    print()
```

**Output →**

```
C:\Users\SuperLap\Py  
2 * 1 = 2  
2 * 2 = 4  
2 * 3 = 6  
2 * 4 = 8  
2 * 5 = 10  
2 * 6 = 12  
2 * 7 = 14  
2 * 8 = 16  
2 * 9 = 18  
2 * 10 = 20
```

# Example 4

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- Using break statement in nested loops

```
for i in range(2, 4):  
    for j in range(1, 11):  
        if i == j:  
            break  
        print(i, "*", j, "=", i * j)  
    print()
```

C:\Users\SuperLap\P

2 \* 1 = 2

3 \* 1 = 3

3 \* 2 = 6

- **Output**



# Example 6

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## ■ Using continue statement in nested loops

```
for i in range(2, 3):  
    for j in range(1, 11):  
        if i == j:  
            continue  
        print(i, "*", j, "=", i * j)  
    print()
```

**Output →**

```
C:\Users\SuperLap\Pytho  
2 * 1 = 2  
2 * 3 = 6  
2 * 4 = 8  
2 * 5 = 10  
2 * 6 = 12  
2 * 7 = 14  
2 * 8 = 16  
2 * 9 = 18  
2 * 10 = 20
```

GOOD

LUCK

