PYTHON NESTED LOOPS

Python programming language allows to use one loop inside another loop. Following section shows few examples to illustrate the concept.

Syntax

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

The syntax for a **nested while loop** statement in Python programming language is as follows −

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

A final note on loop nesting is that you can put any type of loop inside of any other type of loop. For example a for loop can be inside a while loop or vice versa.

Example

The following program uses a nested for loop to find the prime numbers from 2 to 100 −

```
#!/usr/bin/python

i = 2
while(i < 100):
    j = 2
    while(j <= (i/j)):
        if not(i%j): break
        j = j + 1
    if (j > i/j) : print i, " is prime"
    i = i + 1

print "Good bye!"
```

When the above code is executed, it produces following result −

```
2 is prime
3 is prime
5 is prime
7 is prime
11 is prime
13 is prime
17 is prime
19 is prime
23 is prime
29 is prime
31 is prime
37 is prime
41 is prime
43 is prime
47 is prime
53 is prime
59 is prime
61 is prime
67 is prime
71 is prime
73 is prime
```

```
79 is prime
83 is prime
89 is prime
97 is prime
Good bye!
```