



AL NAFI,
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Python Primer 103

Loops

Dua of the day

The righteous dua that Abu Bakr (r) made at the end of his lifetime.

اللَّهُمَّ اجْعَلْ خَيْرَ زَمَانِي آخِرَهُ، وَخَيْرَ عَمَلِي خَوَاتِمَهُ، وَخَيْرَ أَيَّامِي يَوْمَ الْقَاكَ

“O Allah, let the best of my lifetime be its ending, and my best deed be that which I seal [my life with], and the best of my days the day I meet You.”

Reference: The Dua is taken from Sheikh Omer Sulaiman Dua Compilation.

Study, Rinse and Repeat

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Using Loops

To print Salam five times in Python, you could do the following:

```
print("Salam")  
print("Salam")  
print("Salam")  
print("Salam")  
print("Salam")
```

Python Loops

Use **for** and **while** for
creating loops

The **Range** function can be used to create a list of numbers ranging from a starting number up to the number just before the ending number.

That may sound a little confusing. Let's combine the range function with the list function to see exactly how this works.

But this is rather tedious. Instead, you can use a for loop to reduce the amount of typing and repetition, like this:

```
for x in range(0, 5):  
    print('salam')
```


Using range and list together

```
print(list(range(10, 20)))
```

In the case of the for loop, the code at is actually telling Python to do the following:

Start counting from 0 and stop before reaching 5.

For each number we count, store the value in the variable x.

```
for x in range(0, 5):  
    print('salam %s' %x)
```

If we remove the `for` then what happens!

```
x = 0
```

```
print('salam %s' % x)
```

```
x = 1
```

```
print('salam %s' % x)
```

```
x = 2
```

```
print('salam %s' % x)
```

```
x = 3
```

```
print('salam %s' % x)
```

```
x = 4
```

```
print('salam %s' % x)
```

Not using `range` and `list`

```
wizard_list = ['spider legs','toe of frog', 'snail tongue',  
              'bat wing', 'slug butter', 'bear burp']  
for i in wizard_list:  
    print(i)
```

Without the loop we have a long code

```
wizard_list = ['spider legs', 'toe of frog', 'snail tongue',  
              'bat wing', 'slug butter', 'bear burp']  
print(wizard_list[0])  
print(wizard_list[1])  
print(wizard_list[2])  
print(wizard_list[3])  
print(wizard_list[4])  
print(wizard_list[5])
```

Printing it twice

```
hugehairypants = ['huge', 'hairy', 'pants']  
for i in hugehairypants:  
    print(i)  
    print(i)
```

Mind the gap



```
hugehairypants = ['huge', 'hairy', 'pants']  
for i in hugehairypants:  
    print(i)  
    print(i)
```


Gaps or spaces needs to be consistent

```
hugehairypants = ['huge', 'hairy', 'pants']
```

```
for i in hugehairypants:
```

```
    print(i)
```

```
    for j in hugehairypants:
```

```
        print(j)
```

Another kind of loop **while**

A **for** loop isn't the only kind of loop you can make in Python. There's also the **while** loop.

A **for** loop is a loop of a specific length, whereas a **while** loop is a loop that is used when you don't know ahead of time when it needs to stop looping.

```
x = 45
```

```
y = 80
```

```
while x < 50 and y < 100:
```

```
    x = x + 1
```

```
    y = y + 1
```

```
    print(x, y)
```

جزاك الله

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