

# Loops

## The while loop

The while loop is a block of code that runs over and over until a condition is met, for example ¶

```
In [4]: num = float(input("Enter a negative number: "))

while num >= 0:
    print("That is not a negative number")
    num = float(input("Enter a negative number: "))

print("Thank you")
```

```
Enter a negative number: -5
Thank you
```

## The for loop

The for loop runs a section of code a specified number of time, or once for each item in a collection, for example

```
In [5]: for character in "Python":
        print(character)
```

```
P
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n
```

the range() function provides a range a number often used in for loops

```
In [6]: for n in range(7):
        print("Python")
```

```
Python
Python
Python
Python
Python
Python
Python
```

The `range()` function can also take 2 parameters that give the range a starting number and ending number. Note that the range includes the starting number parameter, but stops just before the ending number parameter

```
In [7]: for n in range(3, 10):  
        print(n * n)
```

```
9  
16  
25  
36  
49  
64  
81
```