

I need to do this... many times.

In many situations, we will need to perform some actions (sentences) a number of times or meanwhile a condition is True or is not reached.

Python has some instructions to do that.

For example, let's suppose that we need print on screen all odd numbers between 1 and 20. We must to verify for any integer greater or equal to 1 and lower than 20 if the remainder of the division by 2 is 0.

In Python, there is an operator to do that: '%'. So, the sentence to verify if a number N is odd is:

```
if N%2==0:  
    print("The number ", N, "is odd")
```

But we need to do that for any integer between 1 and 20. To do it, we must use the sentence `for`.

```
for something in a_set_of_things:  
----><block of sentences>
```

So, we need to test any of the numbers on the set of numbers between 1 and 20. To build a set like that we will use the function `range()`.

Following you will find some examples of using `range()` function.

```
If you need a set of numbers from 1 to 10.  
    range(10)  
    [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]  
  
If you need a set of numbers starting at 1 to 10.  
    range(1, 11)  
    [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```



If you need a set of numbers starting at 0 to 30, 5 by 5.

```
range(0, 30, 5)
[0, 5, 10, 15, 20, 25]
```

If you need a set of numbers starting at 0 to -10.

```
range(0, -10, -1)
[0, -1, -2, -3, -4, -5, -6, -7, -8, -9]
```

So, coming back to our example, the final code could be the following.

```
for n in range(1,20,1):
    if n%2==0:
        print("The number ", n, "is odd")
```

But, what if do we need that a piece of code was run during a condition is true? Then, we must use the `while` sentence.

```
while (condition):
    <blok of sentences>
```

For example, we could have implemented the `for` instruction above like that.

```
n=1
while n < 20:
    if n%2==0:
        print("The number ", n, "is odd")
    n=n+1
```

To practice, implement all the algorithms that you have designed before with the iterative sentence activities.

