

## Loops - 'For' loop (Advanced)

### What is the 'range()' function and how to use it with loops ?

To run a loop for a specific number of times, we can use the 'range()' function, which basically will pass the loop a sequence of numbers on each iteration.

- By default - 'range()' function will start with the value '0' and increase by 1 on each iteration, and will stop at the limit that we set for it
- (optional) We can also give a 'start' and 'end' limits for the 'range()' function, and tell it on what number to start and when to end.
- (optional) Additionally, we can also pass the 'range()' method the incrementation number for each iteration.

See the following examples to get the hang of it much better....

#### Example A - Start from '0' and increment by 1 on each iteration

By default, range() will start with the default number 0, and will be incremented by 1 on each iteration

**(Notice : '6' is not included)**

```
for x in range(6):  
    print(x)
```

output -> 0 1 2 3 4 5

#### Example B - Set a 'start' and 'end' numbers for the loop using 'range()'

In this example we will give the loop a 'start' and 'end' point. Here also, each iteration will be incremented by 1.

**(Notice : '7' is not included)**

```
for x in range(3, 7):  
    print(x)
```

output -> 3 4 5 6

Example C - Set a 'start' and 'end' numbers for the loop using 'range()', AND also choose incrementation number for each iteration.

In this example we also give the 'start' and 'end' point to the loop, but each iteration be grow by our choice - This would be the 3rd number inside the brackets

```
for x in range(3, 12, 3):  
    print(x)
```

output -> 3 6 9

