Lists - The `range()` function

In this notebook, we discuss the `range()` function. It is a very useful function used to generate sequences of numbers. The syntax for the `range()` function is as follows:

`range(start_var, end_var, step_var)`

`start_var` : is the first value in the range; if omitted, the default value is 0

`end_var` : is ONE PAST the last value in the range; the end value is always required and may not be omitted

`step_var` : is the amount to increment or decrement; if the step parameter is omitted, it defaults to 1 (counts up by ones)

`start_var` , `end_var` , `step_var` must all be integer expressions

The start value must be strictly smaller than the end value if the step is positive. The start value must be strictly larger than the end value if the step is negative.

In [1]:

```
for i in range(10):
    print(i, end=' ')
print()
```

```
0 1 2 3 4 5 6 7 8 9
```

In [2]:

```
for i in range(1, 10):
    print(i, end=' ')
print()
```

```
1 2 3 4 5 6 7 8 9
```

In [3]:

```
for i in range(1, 10, 2):
    print(i, end=' ')
print()
```

```
1 3 5 7 9
```

In [4]:

```
for i in range(10, 0, -1):
    print(i, end=' ')
print()
```

```
10 9 8 7 6 5 4 3 2 1
```

In [5]:

```
for i in range(10, 20, -2):
    print(i, end=' ')
print()
```

In [6]:

```
for i in range(2, 11, 2):
    print(i, end=' ')
print()
```

```
2 4 6 8 10
```

In [7]:

```
for i in range(-5, 5):
    print(i, end=' ')
print()
```

```
-5 -4 -3 -2 -1 0 1 2 3 4
```

In [8]:

```
for i in range(1, 2):
    print(i, end=' ')
print()
```

```
1
```

In [9]:

```
for i in range(1, 1):
    print(i, end=' ')
print()
```

In [10]:

```
for i in range(1, -1):
    print(i, end=' ')
print()
```

In [11]:

```
for i in range(1, -1, -1):
    print(i, end=' ')
print()
```

```
1 0
```

In [14]:

```
for i in range(0):
    print(i, end=' ')
print()
```