

Day 17

Introduction to Loops

Sometimes a programmer wants to execute a group of statements a certain number of times. This can be done using loops. Based on this loops are further classified into following main types;

- for loop
- while loop

The for Loop

for loops can iterate over a sequence of iterable objects in python. Iterating over a sequence is nothing but iterating over strings, lists, tuples, sets and dictionaries.

Example: iterating over a string:

```
name = 'Abhishek'
for i in name:
    print(i, end=" ")
```

Output:

A, b, h, i, s, h, e, k,

Example: iterating over a list:

```
colors = ["Red", "Green", "Blue", "Yellow"]
for x in colors:
    print(x)
```

Output:

Red
Green
Blue
Yellow

Similarly, we can use loops for lists, sets and dictionaries.

range():

What if we do not want to iterate over a sequence? What if we want to use for loop for a specific number of times?

Here, we can use the range() function.

Example:

```
for k in range(5):
    print(k)
```

Output:

0
1
2
3
4

Here, we can see that the loop starts from 0 by default and increments at each iteration.
But we can also loop over a specific range.

Example:

```
for k in range(4,9):  
    print(k)
```

Output:

4
5
6
7
8

Quick Quiz

Explore about third parameter of range (ie range(x, y, z))