Control Flow- Loop

- In Python, **range()** is a handy built-in functions for creating a range of integers, typically used in for loops.

- Here range(0,3) generate the integer sequence of 0,1,2

```
for i in range(0,3):
    print(i)
```

What is the output?

```
0
1
2
```

Control Flow Tools

- **Syntax of range()**

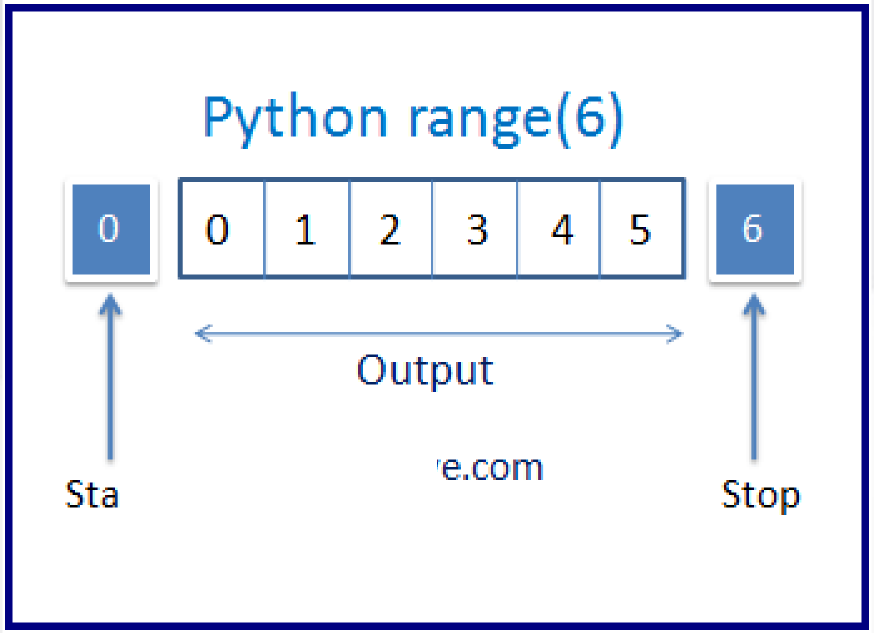
  range (*start*, *stop*, *step*)

Parameter	Description
start	Optional. An integer number specifying at which position to start. Default is 0
stop	Required. An integer number specifying at which position to stop (not included).
step	Optional. An integer number specifying the incrementation. Default is 1

Control Flow Tools

- **range(6)**

We got integers from 0 to 5 because range() function doesn't include the last (stop) number in the result.



0, 1, 2, 3, 4, 5

Control Flow Tools

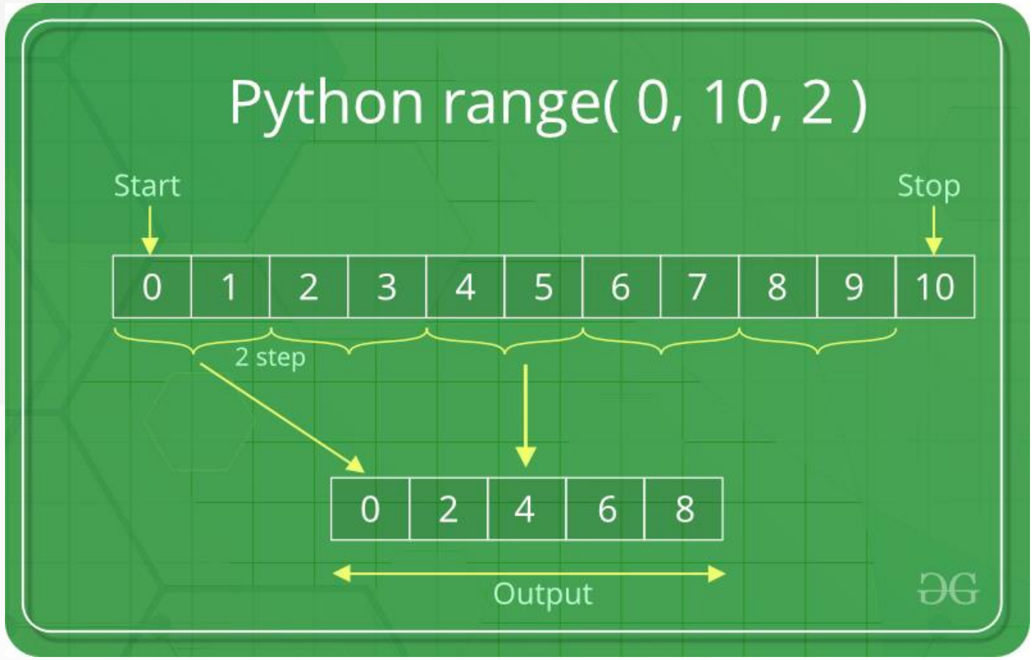
- **range(5,10)**

Here, start is set as 5, we got integers from 5 to 9

5, 6, 7, 8, 9

- **range(0,10, 2)**

Here, start is set as 0, and step is set as 2, we got integers 0,2,4,6,8



主观题 10分

设置

```
for i in range(0,3):
   for j in range(0,3):
         print(i+j)
```

What is the output?

```
for i in range(0, 4):
    print(i)
for i in range(0,8,2):
    print(i)
for i in range(20,14,-2):
    print(i)
```

What is the output?

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作答

Control Flow Tools

- There are statements provided for manipulating loop structures.
  - ➢ **break, continue, pass**
- **Break**: terminates the current loop.
- **Continue**: immediately begin the next iteration of the loop, and the current iteration of the loop will be disrupted.
- **Pass:** do nothing. Use when a statement is required syntactically.

Break Statement

```
number = 0
for number in range(10):
    if number == 5:
        break    # break here
    print('Number is ' + str(number))
print('Out of loop')
```

- What are results in this program?

```
Number is 0
Number is 1
Number is 2
Number is 3
Number is 4
Out of loop
```

Continue Statement

```
number = 0
for number in range(10):
    if number == 5:
        continue    # continue here
    print('Number is ' + str(number))
print('Out of loop')
```

- what happens in this program?

```
Number is 0
Number is 1
Number is 2
Number is 3
Number is 4
Number is 6
Number is 7
Number is 8
Number is 9
Out of loop
```

Pass Statement

```
number = 0
for number in range(10):
    if number == 5:
        pass    # pass here
    print('Number is ' + str(number))
print('Out of loop')
```

- what happens in this program?

```
Number is 0
Number is 1
Number is 2
Number is 3
Number is 4
Number is 5
Number is 6
Number is 7
Number is 8
Number is 9
Out of loop
```

主观题 10分

设置

```
for j in range(10):
    if j > 5 and j <= 8:
        continue
        print("continue case")
    print(j)
```

```
for j in range(10):
    if j > 5 and j <= 8:
        print("continue case")
        break
    print(j)
```

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作答