

# **Python Flow Control:**

## **for loop**

## REVIEW: while Loop

A **while Loop** executes a block of code a certain number of times as long as the **condition is True**

# for Loop

A **for Loop** executes a block of code a **certain number of times**.

- You know **when to start**
- and **when to stop**
- and what to **increase** or **decrease** by.

# for Loop:

- Used to **iterate** through a sequence
  - (like a “string”, numbers, [lists], etc.)
- **Iteration** – is a **repeat of an action** a predefined number of times.

# for Loop SYNTAX:

**for iteration\_variable in range(start, stop, step):**

**body of for loop**

**to be repeated**

**range( ) method** – takes up to **3 arguments**

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

- **start** - starting integer
- **stop** - stopping integer – 1
- **step (Optional)** - increase or decrease integer value(can be a positive or negative number)

**range( ) method** — if only **1 argument**



**for num in range(5):**  
    **body of for loop**  
    **to be repeated**

**#range(stop),**  
**#num is**  
**iteration\_variable**  
**If only 1 argument,**  
**starts at 0,**  
**STOPS at num -1**  
**increments by 1**

**range( ) method** — **if 2 arguments**

**for num in range(2, 5):**  
    **body of for loop**  
    **to be repeated**

**#range(start, stop),  
#If 2 arguments,  
start is first number,  
STOP is at num -1,  
increments by 1.**



range( ) method – if 3 arguments

#range(start, stop [,step])

for num in range(2, 10, 2):

body of for loop  
to be repeated

Enter Code in: **today's\_date.py**

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

What is OUTPUT?

Iteration variable **num**  
starts at 0 up to **\*\*NOT\*\***  
including 5.

num

# for Loops and range method Syntax

```
for num in range(5):
```

```
    print(num, end = " ")
```

num starts at 0 up to not including 5.



What is OUTPUT?

# for Loops Syntax

```
for num in 5:
```

```
    print(num, end = " ")
```

**#Error 'int' object is not iterable.**

**#Iteration is a group of something**

**#(string or number) to go one after**

**#another.**

# for Loops Syntax (**start** and **stop** values)

```
for num in range(12, 16):  
    print(num, end = " ")
```

What is OUTPUT?

for Loops Syntax (**start**, **stop** and **step** values)

```
for num in range(3, 8, 2):  
    print(num, end = " ")
```

What is OUTPUT?

# for Loops Syntax (range **negative** values)

```
for num in range(5, -1, -1):  
    print(num, end = " ")
```

What is OUTPUT?

# break and continue

- Can also be used in for Loops.



Enter Code in: **forloop.py**

1. Write a **for loop** to print the year [1 – 10]. Use **year** as your **iteration variable**.
2. Write a **for loop** to print the salary from [\$10,000 - \$50,000] in increments of 500. Use **salary** as your **iteration variable**.
3. Write a **for loop** to print temperature from [100 – 0], decreasing by 10. Use **tempC** as your **iteration variable**.

**Search the Internet  
for more  
for loop Examples**