

# Using For and While Loops

Create a folder called "LastName\_Loops"

Create a file named "for.py"



Let's begin with the FOR loop. We'll specifically talk about the range function.

Enter the code below into a new file.

```
series.py - C:/Users/thoeal/Desktop/Thoe_Math/series.py (3.5.2)
File Edit Format Run Options Window Help
# The Range Function!!!

for i in range (10):
    print (i)

# Compare that with this code below which uses different attributes
start = 0
stop = 20
iterate = 2
for i in range (start, stop, iterate):
    print (i)

# Try changing the values of the variables: start, stop and iterate

# Can you make it count down?

Ln: 13 Col: 0
```

- 1) Write a program that counts from 1-10 (not from 0 to 9!). (Save this file)
- 2) Write a program that counts down from 10 to 0. (Save this file separately)
- 3) Write a program that prompts the user for an input value and then counts down from that value to 0 and then prints a message out saying "timer done!" (Save this file separately)
- 4) Modify the program above so that it waits 1 second between each count down is printed. (Overwrite the file in step 3).
- 5) Make a FOR loop that uses an accumulator variable and then prints the accumulator variable each time through the loops. Make sure the program loops at least 5 times and prints the value of the accumulator each time.

Now we are going to learn WHILE loops. The main difference is that the number of times that the loop is dependent on a condition. Here's an example using an accumulator to stop the loop:

```
while.py - C:/Users/thoeal/Desktop/Thoe_Math/while.py (3.5.2)
File Edit Format Run Options Window Help
acc = 10

while acc > 0:
    print (acc)
    acc = acc - 1
```

Repeat exercises 1 through 5 using a WHILE loop instead of a FOR loop. Save them as new files. You should have 8 files in your folder for this. When you are finished upload your folder into Google Classroom.