



MITx: 6.00.1x

## Introduction to Computer Science and Programming Using Python

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## Exercise 4

### Exercise 4

5/5 points (graded)

**ESTIMATED TIME TO COMPLETE: 8 minutes**

Below are some short Python programs. For each program, answer the associated question.

Try to answer the questions without running the code. Check your answers, then run the code for the ones you get wrong.

This question is going to ask you what some simple loops print out. If you're asked what code like this prints:

```
num = 5
if num > 2:
    print(num)
    num -= 1
print(num)
```

write what it prints out, separating what appears on a new line by a comma and a space. So the answer for the above code would be:



If a given loop will not terminate, write the phrase 'infinite loop' (no quotes) in the box. Recall that you can stop an infinite loop in your program by typing CTRL+c in the console.

Note: What does `+=`, `-=`, `*=`, `/=` stand for?

1.

```
num = 0
while num <= 5:
    print(num)
    num += 1

print("Outside of loop")
print(num)
```

0 , 1, 2, 3, 4, 5, Outside of loop, 6



2.

```
numberOfLoops = 0
numberOfApples = 2
while numberOfLoops < 10:
    numberOfApples *= 2
    numberOfApples += numberOfLoops
    numberOfLoops -= 1
print("Number of apples: " + str(numberOfApples))
```

infinite loop



3.

```
num = 10
while num > 3:
    num -= 1
    print(num)
```

9, 8, 7, 6, 5, 4, 3



4.

```
num = 10
while True:
    if num < 7:
        print('Breaking out of loop')
        break
    print(num)
    num -= 1
print('Outside of loop')
```

**Note:** If the command `break` is executed within a loop, it halts evaluation of the loop at that point and passes control to the next expression. Test some `break` statements inside different loops if you don't understand this concept!

10, 9, 8, 7, Breaking out of loop, Outside of loop



5.

```
num = 100
while not False:
    if num < 0:
        break
print('num is: ' + str(num))
```

infinite loop



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## Exercise 4

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