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## L3 PROBLEM 1 (5/5 points)

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.

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

**Answer:** 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

**Answer:** infinite loop

3.

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

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

**Answer:** 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'

**Answer:** 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

**Answer:** infinite loop

### Explanation:

Help

For the last exercise, the code never breaks. You enter the loop with `num` value of 100 and since the value of `num` never changes, `num < 0` is never `True` so `break` is never executed. Therefore you are stuck in an infinite loop.

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