



MITx: 6.00.1x

## Introduction to Computer Science and Programming Using Python

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## Exercise 1

### Exercise 1

14/14 points (graded)

**ESTIMATED TIME TO COMPLETE: 10 minutes**

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

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

```
iteration = 0
count = 0
while iteration < 5:
    # the variable 'letter' in the loop stands for every
    # character, including spaces and commas!
    for letter in "hello, world":
        count += 1
    print("Iteration " + str(iteration) + "; count is: " +
          str(count))
    iteration += 1
```

1. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 0?



2. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 1?



3. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 2?



4. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 3?



5. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 4?



```
iteration = 0
while iteration < 5:
    count = 0
    for letter in "hello, world":
        count += 1
    print("Iteration " + str(iteration) + "; count is: " +
          str(count))
    iteration += 1
```

1. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 0?



2. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 1?



3. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 2?



4. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 3?



5. What is the value of the variable `count` that is printed out (at the `print` statement) on iteration 4?



```
iteration = 0
while iteration < 5:
    count = 0
    for letter in "hello, world":
        count += 1
        if iteration % 2 == 0:
            break
    print("Iteration " + str(iteration) + "; count is: " +
          str(count))
    iteration += 1
```

1. How many times will the `print` statement be executed?



2. What is the largest value of the variable `iteration` that will be printed out (at the `print` statement)?



3. What is the largest value of the variable `count` that will be printed out (at the `print` statement)?



4. What is the smallest value of the variable `count` that will be printed out (at the `print` statement)?



✓ Correct (14/14 points)













## Exercise 1

**Topic:** Lecture 3 / Exercise 1

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	<a href="#">For those having trouble visualizing the loops . . .</a> I've found this site to be very helpful to step through the loops. Obviously you want to try an...	5
	<a href="#">Question 3.4</a> Can anyone explain me how is the smallest value of count equal to 1 in the last question	2
	<a href="#">This tool helps me visualize what is going on if I get stuck</a> <a href="http://www.pythontutor.com/live.html#mode=edit">http://www.pythontutor.com/live.html#mode=edit</a> paste the code in and click first then slow...	8
	<a href="#">Spoiler: Confused on the pattern for Q3</a> Why is the pattern 1,12,1,12,1? I understand that having no remainder will cause it break, bu...	7
	<a href="#">Are off by 1 errors, a common hurdle for beginners?</a> They are kicking my ass. I think I just need to slow down a bit.	2
	<a href="#">Question 1</a> hi all, yea..I have no idea what this code is even saying? I have rewatched his videos and I am...	5
	<a href="#">Question 3 - Does "count" just run once before the "break" comes into effect?</a> Hi everybody, Trying to understand the "1", "12", "1", "12", "1" breakdown of question 3. Doe...	2
	<a href="#">In 2nd question: looks like same code just the order is a bit different?</a> How is moving the while iteration < 5 up and the count = 0 down changing the values ? Why...	2
	<a href="#">How do loops loop?</a> Does the for loop execute all the way, and then when it is done the while loop executes all th...	4
	<a href="#">Question 3.3</a> The way I'm reading it, count gets 12 added to it on the 0th iteration, *and* on the 1st iterati...	5
	<a href="#">confused</a> -if iteration % 2 == 0: ##i need a better understanding of how the modulo works this way. I...	7
	<a href="#">Spoiler: Difference between Question 1 and 2</a> So I'm just trying to make sure I understand; Q2 repeats itself because the count is reset to 0...	3

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