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## Exercise 1

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## 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.

1.
```python
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?

   12  ✔

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

   24  ✔

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

   36  ✔

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

   48  ✔

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

   60  ✔

2.
```python
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?

   12  ✔

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

   12  ✔

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

```
12
```
✔

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

```
12
```
✔

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

```
12
```
✔

3.
```python
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?

```
5
```
✔

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

```
4
```
✔

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

```
12
```
✔

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

```
1
```
✔

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