

L3 PROBLEM 7 (5 points possible)

Here is the first sample of code from the previous problem:

Code Sample

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

We wish to re-write the above code, but instead of nesting a `for` loop inside a `while` loop, we want to nest a `while` loop inside a `for` loop. Which of the following loops gives the same output as the **Code Sample**?

Try to answer the following questions by just reading the code. Reading code is a very good skill to have (and will help you both in your programming career and on your 6.00x exams!). It is okay to check your answers that you obtain from just reading the code, then in your interpreter run the code for the ones you got wrong on your first attempt.

1. Test 1

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

- ☐ Yes, Test 1 gives the same output as the Code Sample
- ☐ No, Test 1 does not give the same output as the Code Sample

2. Test 2

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

- ☐ Yes, Test 2 gives the same output as the Code Sample
- ☐ No, Test 2 does not give the same output as the Code Sample

3. Test 3

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

- ☐ Yes, Test 3 gives the same output as the Code Sample
- ☐ No, Test 3 does not give the same output as the Code Sample

4. Test 4

```
count = 0
phrase = "hello, world"
for iteration in range(5):
    while True:
        count += len(phrase)
        break
    print "Iteration " + str(iteration) + "; count is: " + str(count)
```

- ☐ Yes, Test 4 gives the same output as the Code Sample
- ☐ No, Test 4 does not give the same output as the Code Sample

5. Test 5

```
count = 0
phrase = "hello, world"
for iteration in range(5):
    count += len(phrase)
    print "Iteration " + str(iteration) + "; count is: " + str(count)
```

- ☐ Yes, Test 5 gives the same output as the Code Sample
- ☐ No, Test 5 does not give the same output as the Code Sample

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