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Exercise 1

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Exercise 1

11 points possible (graded)

ESTIMATED TIME TO COMPLETE: 12 minutes

In this problem, we'll examine how indirection works. Consider the following definitions:


```
a = [1, 2, 3, 4, 0]
b = [3, 0, 2, 4, 1]
c = [3, 2, 4, 1, 5]
```

1. What is the value of the following expressions? If you think there will be an error, please type in 'error' (without quotes) in the input box.


1. 2. 3. 4. 

▼ **Week 6:**
Algorithmic
Complexity


11. Computational
Complexity

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12. Searching and
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Algorithms

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5. `a[b[2]]`

6. `c[a[b[3]]]`

7. `a[c[a[b[0]]]]`

8. `a[c[a[b[3]]]]`

2. Assume we have defined the following function:

```
def foo(L):  
    val = L[0]  
    while (True):  
        val = L[val]
```

Which of the following statement(s) will result in an infinite loop?

☐ `foo(a)`

☐ `foo(b)`

☐ `foo(c)`



3. Consider the following code:

```
num = ???  
L = [5, 0, 2, 4, 6, 3, 1]  
val = 0  
for i in range(0, num):  
    val = L[L[val]]  
  
print(val)
```

1. What is the smallest value that `num` can be such that the number 3 is printed?

☐ 0☐ 1☐ 3☐ 5☐ Impossible

2. Now, we redefine `L` to be:

```
L = [2, 0, 1, 5, 3, 4]
```

What is the smallest value that `num` can be such that the number 3 is printed?

☐ 0☐ 3☐ 5

☐ Impossible**Exercise 1****Topic:** Lecture 12 / Exercise 1

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