

## Quiz: Recursion (1)

**Total Score:**            /2<sup>2</sup>

**Printed Name:**

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### Quiz rules:

1. You MAY use any printed or handwritten notes.
2. You MAY NOT use a computer or any other electronic device.

**Problem 1.** Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat >foo.py <<EOF
3 def foo(xs):
4     def go(i):
5         if i >= len(xs):
6             return 0
7         ret = xs[i]
8         ret += go(i+2)
9         return ret
10    return go(0)
11 try:
12     print('foo([1, 2, 3, 4, 5])=', foo([1, 2, 3, 4, 5]))
13 except RuntimeError:
14     print('StackOverflow')
15 EOF
16 $ python3 foo.py
```

**Problem 2.** Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > foo.py <<EOF
3 def foo(xs):
4     ret = foo(xs[:-1])
5     return 1 + ret
6 try:
7     print('foo([1, 2, 3, 4, 5])=', foo([1, 2, 3, 4, 5]))
8 except RuntimeError:
9     print('StackOverflow')
10 EOF
11 $ python3 foo.py
```

**Problem 3.** Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > foo.py <<EOF
3 def foo(xs):
4     def go(i, acc):
5         if len(xs) <= i:
6             return acc
7             acc += xs[i]
8             return go(i+2, acc)
9     return go(0, 0)
10 try:
11     print('foo([1, 2, 3])=', foo([1, 2, 3]))
12 except RuntimeError:
13     print('StackOverflow')
14 EOF
15 $ python3 foo.py
```

**Problem 4.** Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > foo.py <<EOF
3 def foo(xs):
4     if len(xs) == 0:
5         return 0
6     ret = xs[0]
7     ret += foo(xs[2:])
8     ret += foo(xs[1:])
9     return ret
10 try:
11     print('foo([1, 2])=', foo([1, 2]))
12 except RuntimeError:
13     print('StackOverflow')
14 EOF
15 $ python3 foo.py
```