

Name: _____ Andrew Id: _____

15-112 Spring 2021 Quiz 05

20 minutes. Do not use dictionaries, sets, try/except, or recursion on this quiz.

1. Code Tracing (Part 1) [3 pts] Indicate what the following program prints. **Put a box around your final answer.**

```
def ctRef():
    a = [5,6,7]
    b = a
    c = b[:]
    a[1] = True
    b[2] = "Hi"
    c[0] = 10
    print("a",a)
    print("b",b)
    print("c",c)
ctRef()
```

2. Code Tracing (Part 2) [3 pts] Indicate what the following program prints. **Put a box around your final answer.**

```
def ctNorm():
    s = ("abcde" * 2).replace("e", "b")
    while s.startswith("b") or s.endswith("b"):
        print(len(s))
        s = s[1:-1]
    print(s)
ctNorm()
```

3. Reasoning Over Code [3 pts] For the following function, find a value L which will cause rc1(L) to return True. **Put a box around your final answer.**

```
def rc1(L):
    assert (type(L) == list) and (None not in L)
    i = 0
    while L[i] != None:
        j = L[i]
        L[i] = None
        i = j
    return L == [None, None, -1, None, None]
```

4. Free Response – Average Score [11 pts] Write the function `printAvgScores(filename)` that takes the name of a file containing quiz scores for a course and prints and returns as described below.

Each line contains information about a single student, with items separated by commas. The first value on each line is the name of the student, and each value after that is an individual score (which you can assume is a non-negative integer) out of 20.

Your function should print the name and average score for each student in the file. It should then return the total number of students in the file.

Imagine that you have a file named `scores.txt` that contains the following:

```
Fred,11,20,19,10,12
Wilma,10,20,1,17
Barney,10,5,20,15,7,18
```

If you run the following:

```
ret = printAvgScores("scores.txt")
print(f"There were {ret} people in the file")
```

Then the output will be:

```
Fred 14.4
Wilma 12.0
Barney 12.5
There were 3 people in the file
```