

THIRD QUIZ

You have 15 minutes from the start of class to complete this quiz. Read the questions with care; work with deliberate speed. Don't give us more than we ask for. The usual instructions apply. Good luck!

Problem 1 (10 points)

Below is a function that takes a list of numbers as its argument and prints each element in the list. Modify the function (by adding exactly three lines of code) so that after it prints all the list elements, it prints a line that says `Total is` followed by the sum of the numbers in the list. Make your indentation clear; ambiguous indentation won't receive credit.

```
def printValues (valueList: 'list of int'):  
    " Print list of values (followed by total) "  
  
    for n in valueList:  
  
        print(n)
```

Problem 2 (8 points)

Below is some code that is supposed to print a file with a sequential line number (1, 2, 3, ...) before each line:

```
inputFile = open("data.txt")  
for oneLine in inputFile:  
    lineNumber = 1  
    print(lineNumber, oneLine)  
    lineNumber += 1
```

(a) (5 points) This code doesn't work as described. Show what it does print if the `data.txt` file contains these lines:

```
Huey  
Dewey  
Louie  
Donald
```

(b) (3 points) Modify the code to print correct sequence numbers, one per line, starting with 1. You may write on the code above or describe briefly and clearly below how to change it.

Problem 3 (7 points)

(a) (3 points) Suppose that S is a stack with classic, conventional behavior as described in class. What is printed by the following sequence of operations, assuming S starts out empty?

```
S.push(1)
S.push(2)
print(S.top())
S.push(3)
print(S.top())
S.pop()
S.pop()
print(S.top())
```

(b) (4 points) Suppose that Q is a queue with classic, conventional behavior as described in class. What is printed by the following sequence of operations, assuming Q starts out empty?

```
Q.enqueue(1)
Q.enqueue(2)
print(Q.front())
Q.enqueue(3)
print(Q.front())
Q.dequeue()
Q.dequeue()
print(Q.front())
```