22C:16 Quiz 3
Date: Feb 7th, 2012

---

1. Write down the value and type of each of these expressions. Assume that the `math` and the `sys` modules have been imported prior to the execution of these expressions. Also, suppose that the value of `sys.maxint` is `9223372036854775807`.

   (a) `100L + 200`
   Value: 300L
   Type: Long

   (b) `math.ceil(10.97) - math.floor(11.17)`
   Value: 0.0
   Type: Float

   (c) `len(str(10.97))`
   Value: 5
   Type: Int

   (d) `bin(5) + bin(3)`
   Value: 0b1010b11
   Type: String

   (e) `sys.maxint + 2`
   Value: 9223372036854775809L
   Type: Long

Please turn the page over for the second problem.

2. Here is a partly completed program to find the largest *and* the second-largest numbers in a given sequence of numbers. You are required to complete the program by filling in the blanks. The program starts starts by prompting the user for a positive integer, let us call this n, that represents the length of her sequence. The program then reads n non-negative integers input by the user (typed one in each line) and outputs the largest and the second-largest numbers in the given sequence.

```
n = int(raw_input("Enter a positive integer: "))
print "Now please enter", n, "non-negative integers, one per line"

max = -1
secondMax = max

count = 1
while (count <= n):
    currentNumber = int(raw_input())

    # Case 1: The current number is at least as large as the current max
    # FILL IN THE TWO LINES OF CODE BELOW
    if currentNumber >= max:

            secondMax=max

            max=currentNumber

    # Case 2: The current number smaller than the current max, but at
    # least as large as the current secondMax
    # FILL IN THE ONE LINE OF CODE BELOW
    if (max > currentNumber) and (currentNumber >= secondMax):

            secondMax = currentNumber

    count = count + 1

print "The largest number is", max
print "The second largest number is", secondMax
```