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

(a) \texttt{100L + 200.00}
   
   Value: 300.0
   
   Type: Float

(b) \texttt{math.ceil(10.97) - math.trunc(11.17)}
   
   Value: 0.0
   
   Type: Float

(c) \texttt{len(str(10.97))}
   
   Value: 5
   
   Type: Int

(d) \texttt{bin(5) + bin(3)}
   
   Value: 0b1010b11
   
   Type: String

(e) \texttt{-1*sys.maxint + 2}
   
   Value: -9223372036854775805
   
   Type: Int

Please turn the page over for the second problem.
2. Here is a partly completed program to find the largest \textit{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 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.

```python
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 BOOLEAN EXPRESSION FOR THE IF-STATEMENT 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
```