Title	Assignment 2
Due	09-Mar-2012 17:00
Number of resubmissions allowed	0
Grade	**100.0 (max 100.0)**
Modified by instructor	29-Feb-2012 12:20

Instructions

This tutorial is about numerical and string manipulation.

Question 1

Python has many pre-written collections of code (called libraries) that can be used to make programming much quicker and simpler. A library is a collection of common functions used to help develop software. Libraries are distinguished from other code in that they are not independent programs; rather, they provide services to some other independent program.

For example, say you wanted to find the square root of 121 - how would you go about this? In the absence of libraries you would have to write your own code. However, in Python and many other languages, this is not necessary as there are built-in functions that can perform such calculations for you. In Python, the built-in function to find a square root is *math.sqrt* (sqrt in the math library).

Write a program that calculates the value of PI and then computes and displays the area of a circle with radius entered by the user. PI must be approximated using the following formula:

Sample Input/Output

```
Approximation of pi: 3.12144515226
Enter the radius:
2.5
Area: 19.5090322016
```

Save your program as **question1.py**

Question 2

Write a program to sort three numbers entered by the user in ascending order using only math functions like *min* and *max*.

Sample Input/Output

```
Enter number 1:
10
Enter number 2:
15
```

```
    Enter number 3:
    5
    The sorted numbers are: 5 10 15
```

Save your program as **question2.py**

Question 3

Students who enter university are often shocked to learn that they need to provide references in all their written work (and even programs). A common mistake is using the wrong format or, even worse, using inconsistent formats in the list of references. This can lead to violent reactions from your lecturer or even the loss of precious marks! Fortunately, this can be remedied with a simple program to reformat references to be consistent.

Write a program to reformat references such that: the author names are in title case; the title has only the first letter capitalised; and the rest remains the same.

Assume that the input reference format is: a list of authors, space, (year), space, title, comma, other information.

Sample Input/Output

```
    Enter the reference:
    suleman, h (2001) Some Random Piece Of Junk, Journal of Junk, ACM, pp1-100, 2000.
    Reformatted reference:
    Suleman, H (2001) Some random piece of junk, Journal of Junk, ACM, pp1-100, 2000.
```

You will need to use string manipulation functions such as: *find*, *title*, *capitalize*, *replace*, *[:]* (slicing).

Save your program as **question3.py**

Mark Weighting

Question 1 : 25
Question 2 : 25
Question 3 : 50

Submission

This assignment does not accept online submissions. Contact your instructor for additional instructions.

Done