



Java Software Development

Homework 2

Deadline: 2017/03/16 23:55

Problem Description

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- Write a program that solves a quadratic equation

$$ax^2 + bx + c = 0$$

- In the program, enter three numbers from keyboard of type `double` representing a , b and c of the above quadratic equation, respectively. Afterwards, enter a string representing the number format of the result to be displayed on the screen.
- The roots of a quadratic equation can be found using the formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- You can use `java.lang.Math` APIs to perform basic numeric operations.

- If a is positive, you should print the result in descending order. Otherwise, you should print the result in ascending order.
- For example, you entered 1, 5, 6 and 0.0 in your program, and the output of the program should be -2.0 and -3.0.
- For another example, you entered -1, 5, -6 and 00.00 in your program, and the output of the program should be 02.00 and 03.00.
- The two roots are separated by a new line character ('\\n').
- You can assume that the two roots are both real numbers. That is, the value of $b^2 - 4ac$ is not negative.

Sample Input and Output

Keyboard Input	1 5 6 0.0
Output	-2.0 -3.0

Keyboard Input	-1 5 -6 00.00
Output	02.00 03.00

Keyboard Input	2.25 1.5 -2 0.000
Output	0.667 -1.333

Submission

- Please archive your source code to `STUDENT_ID.zip` (download the example zip file from Moodle) and upload to Moodle before deadline.
- Your zip file should follow the following format.
 - `STUDENT_ID.zip`
 - | - `src`
 - | - `META-INF`
 - | - `MANIFEST.MF`
 - All the source files (*.java) are put in the `src` directory.
 - The entry point (i.e. main class) of the program is specified in the `MANIFEST.MF` file.
- No late submission is accepted.

If you have any problem about this homework,
please contact TA: 黃琪恩 (tony4794@gmail.com)