# Practice Arena

Practice problems aimed to improve your coding skills.

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# Pollution Problem

## LAB-PRAC-04_COND

**Pollution Problem [20 marks]**

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**Problem Statement**
The Kanpur city has a growing problem of particulate matter (PM) pollution. IITK researchers are trying to help measure and correct the problem. You will be given four quantities in **four different lines** in a format described below -- all four quantities will be **non-integer**. On the first line, we will give you a threshold, and then on the next three lines we will give you PM pollution levels in Kanpur for Monday, Tuesday and Wednesday, say PM1, PM2 and PM3. **Assume that the PM pollution level on Sunday is always 1.0** (since being a holiday PM levels are less).

You have to output the following on **four different lines**.

1. For each day Mon, Tue, Wed, if the PM level on that day minus the level on the previous day is **greater than or equal to** the threshold, print High (see below for exact format) else print Low.
2. Print the output for every day on a different line.
3. For Monday, take Sunday as the previous day for which PM level is given above.
4. If the number of days where your answer above was high is **less than** two, output 0.000 on the fourth line. If the number of such days is **greater than or equal to** two, then print the following quantity **rounded to three decimal places** in the fourth line

$$\sqrt{\frac{PM1^2 + PM2^2 + PM3^2}{3}}$$

**Caution**

1. Be careful about extra/missing lines and extra/missing spaces.
2. Using float variables to read and perform calculations should be sufficient. In other words, you should not require the use of double variables in this question.
3. Although you may use copy (CTRL+C) and paste (CTRL+V) to avoid typing similar code again and again, be careful to not make mistakes while doing so.

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**INPUT**:
threshold
Monday: PM1
Tuesday: PM2
Wednesday: PM3

**OUTPUT**:
Monday: message
Tuesday: message
Wednesday: message

**EXAMPLE**:

INPUT
0.1
Monday: 1.2
Tuesday: 1.4
Wednesday: 1.6

OUTPUT:
Monday: High
Tuesday: High
Wednesday: High
1.409
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**Grading Scheme**:
Total marks: **[20 Points]**

There will be partial grading in this question. There are four lines in your output. Printing each line correctly, in the correct order, carries 25% weightage. Each visible test case is worth 2 points and each hidden test case is worth 4 points. There are 2 visible and 4 hidden test cases.

Please remember, however, that when you press Submit/Evaluate, you will get a green bar only if all parts of your answer are correct. Thus, if your answer is only partly correct, Prutor will say that you have not passed that test case completely, but when we do autograding afterwards, you will get partial marks.

## 🍴 Start Solving! (/editor/practice/6052)