1. (Problem A simple)

The city’s local subway service S.L., Super Lag, are currently being blamed that their displays, showing the expected wait time until the next train arrives, are faulty. Too many commuters have the experience of coming to the subway station, and then having to wait many more minutes than the display showed when they got there.

The American Commuter Movement and the International Commuting Peoples’ Community have had it with this. Especially Johan, a young student, who has decided to investigate this matter further. Johan went to one of the stations, and studied the behaviour of the displays.

Each time the display showed a new number, Johan carefully measured the number of seconds that passed from that moment until the train arrived. As soon as that train left again, he did the same thing for the next train and so on. He remembered all the displayed minutes, and the wait time for each such in seconds. Although Johan has a very good memory, he does not know what to do with his measurements. He needs your help!

Your task is to help Johan calculate the average length of an S.L. minute (the length of a minute according to the display). You may assume that when the display shows a new number M, the expected S.L. wait time in that moment is exactly M minutes.

Input

The first line contains an integer 1≤N≤1000 – the number of observations Johan did. The following N lines contain two positive integers M≤60 and S≤3600 – the number of minutes displayed, and the number of seconds Johan had to wait for his train.

Output

Output should consist of a single real number: the average length of an S.L. minute, measured in real minutes. A relative or absolute error of at most 10−7(10 raise to power -7) will be considered correct. If the average length of an S.L. minute is shorter than or equal to a normal minute, print the message "measurement error" instead.

Sample Input 1 Sample Output 1

1 1.016666667

1 61

Sample Input 2 Sample Output 2

3 1.396078431

5 560

10 600

2 264

Problem B (Medium)

Kattis is taking one of her kittens out on several hiking trips, and they need to pack their backpacks. They have a number of items (tents, cooking equipment, food, clothing, etc.), and need to split the weight between them as evenly as possible. In case the weight can’t be split evenly, Kattis will carry the extra weight. Can you you help them split the items between them for each trip?

**Input**

Input contains of up to 150 hiking trips. Each trip is given as a line in the input. The line starts with 1≤n≤201≤n≤20, the number of items they need to split. Then follows the weight of each item. The weights are all in the range of [100,600]  grams. End of input is indicated by a line containing a single 00.

**Output**

For each trip, output the weights of the two backpacks. Output the weight of the backpack Kattis will carry first.

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| **Sample Input 1**  8 529 382 130 462 223 167 235 529  12 528 129 376 504 543 363 213 138 206 440 504 418  0  **Sample Output 1**  1344 1313  2181 2181 | |  |
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