2432 - Simple Median

Description

The Median is a numeric value often used in descriptive statistics, and it is obtained as follows. You start by taking N values (the “data sample”), and sort them is ascending order. If the amount of values N is an odd number, you just take the data point right in the middle. For example, the set of numbers 4; 1; 3, when sorted becomes 1; 3; 4, and its median is the value in the middle: 3. When N is even, there is not a single value right in the middle. For example, the set 3; 2; 6; 1 when sorted becomes 1; 2; 3; 6 and the values from the middle will be 2 and 3. The median is then taken from the average of those two values. This means that in the previous example, the median would be (2+3)/2 = 2:5. For this problem, your task is to calculate the median from a data sample.

Input specification

The input is formed by several test cases. The rst line of each test case contains the integer **1 <= N <= 10^5**, representing the amount of numbers from the sample. The next line contains the **N** integers from which you will calculate the median, **x1 x2 x3 ... xi ... xN**, with **1 <= xi <= 10^9**, separated by single spaces. The end of the input is signalled by a test case with **N = 0**, which must not be processed.

Output specification

For each test case given in the input, your program must print the median in a single line, rounded to the nearest tenth.

Sample input

```
1
5
2
5 4
3
5 5 4
0
```

Sample output

```
5.0
4.5
5.0
```