# Dynamic median-finding

3. Design a data type that supports insert in logarithmic time, find the median in constant time, and delete the median in logarithmic time.

**Input Format**

The first line contains a single integer, n denoting the number of integers in the data stream.   
Each line i of the n subsequent lines contain an integer, m to be added to your list.

**Output Format**

After each new integer is added to the list, print the list's updated median on a new line as a single double-precision number scaled 1 to decimal place (i.e.12.4 format).

Sample Input

6

12

4

5

3

8

7

Sample Output

12.0

8.0

5.0

4.5

5.0

6.0