Plus Minus

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Problem Submissions Leaderboard Discussions Editorial

Given an array of integers, calculate which fraction of its elements are *positive*, which fraction of its elements are *negative*, and which fraction of its elements are *zeroes*, respectively. Print the decimal value of each fraction on a new line.

Note: This challenge introduces precision problems. The test cases are scaled to six decimal places, though answers with absolute error of up to 10^{-4} are acceptable.

Input Format

The first line contains an integer, N, denoting the size of the array.
The second line contains N space-separated integers describing an array of numbers $(a_0, a_1, a_2, \ldots, a_{n-1})$.

Output Format

You must print the following 3 lines:

1. A decimal representing of the fraction of *positive* numbers in the array.
2. A decimal representing of the fraction of *negative* numbers in the array.
3. A decimal representing of the fraction of *zeroes* in the array.

Sample Input

```
6
-4 3 -9 0 4 1
```

Sample Output

```
0.500000
0.333333
0.166667
```

Explanation

There are 3 positive numbers, 2 negative numbers, and 1 zero in the array.
The respective fractions of positive numbers, negative numbers and zeroes are $\frac{3}{6} = 0.500000$, $\frac{2}{6} = 0.333333$ and $\frac{1}{6} = 0.166667$, respectively.

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main(){
    int n;
    cin >> n;
    int positive = 0, negative = 0, zeroes = 0, total = 0, number;
    for (int i = 0;i < n;i++) {
       cin >> number;
       if (number > 0) positive++;
        else if (number < 0) negative++;
            else zeroes++;
            total++;
    }

    std::printf("%.6f\n", (float) positive / total);
    std::printf("%.6f\n", (float) negative / total);
    std::printf("%.6f\n", (float) zeroes / total);

    return 0;
}

```

Line: 1 Col: 1

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