Plus Minus

Given an array of integers, calculate the fractions of its elements that are positive, negative, and are zeros. 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 $arr(a_0, a_1, a_2, \ldots, a_{n-1})$.

Output Format

You must print the following 3 lines:

1. A decimal representing of the fraction of positive numbers in the array compared to its size.
2. A decimal representing of the fraction of negative numbers in the array compared to its size.
3. A decimal representing of the fraction of zeros in the array compared to its size.

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 proportions of occurrence are positive: $\frac{3}{6} = 0.500000$, negative: $\frac{2}{6} = 0.333333$ and zeros: $\frac{1}{6} = 0.166667$.

Author	vatsalchanana
Difficulty	Easy
Max Score	10
Submitted By	432150

NEED HELP?

View discussions
View editorial
View top submissions

RATE THIS CHALLENGE

MORE DETAILS

Download problem statement
Download sample test cases
Suggest Edits

Current Buffer (saved locally, editable) C++

```
#include <bits/stdc++.h>

using namespace std;

vector<string> split_string(string);

// Complete the plusMinus function below.
void plusMinus(vector<int> arr) {

```

```
10
11  }
12
13  int main()
14  {
15      int n;
16      cin >> n;
17      cin.ignore(numeric_limits<streamsize>::max(), '\n');
18
19      string arr_temp_temp;
20      getline(cin, arr_temp_temp);
21
22      vector<string> arr_temp = split_string(arr_temp_temp);
23
24      vector<int> arr(n);
25
26      for (int i = 0; i < n; i++) {
27          int arr_item = stoi(arr_temp[i]);
28
29          arr[i] = arr_item;
30      }
31
32      plusMinus(arr);
33
34      return 0;
35  }
36
37  vector<string> split_string(string input_string) {
38      string::iterator new_end = unique(input_string.begin(),
    input_string.end(), [] (const char &x, const char &y) {
39          return x == y and x == ' ';
40      });
41
42      input_string.erase(new_end, input_string.end());
43
44      while (input_string[input_string.length() - 1] == ' ') {
45          input_string.pop_back();
46      }
47
48      vector<string> splits;
49      char delimiter = ' ';
50
51      size_t i = 0;
52      size_t pos = input_string.find(delimiter);
53
54      while (pos != string::npos) {
55          splits.push_back(input_string.substr(i, pos - i));
56
57          i = pos + 1;
58          pos = input_string.find(delimiter, i);
59      }
60
61      splits.push_back(input_string.substr(i, min(pos,
    input_string.length()) - i + 1));
62
63      return splits;
64  }
65
```

Line: 1 Col: 1

Upload Code as File | Test against custom input | Run Code | Submit Code