

Given an array of integers, calculate the ratios of its elements that are positive, negative, and zero.
Print the decimal value of each fraction on a new line with 6 places after the decimal.

Example

There are $n=5$ elements, two positive, two negative and one zero. Their ratios are $2/5=0.400000$, $2/5=0.400000$ and $1/5=0.200000$.
Results are printed as:

```
0.400000
0.400000
0.200000
```

Input Format

The first line contains an integer, n , the size of the array.
The second line contains n space-separated integers that describe $arr[n]$.

Output Format

Print the following 3 lines, each to 6 decimals:

```
proportion of positive values
proportion of negative values
proportion of zeros
Sample Input
```

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

```
0.500000
0.333333
0.166667
```