

# Problem A

## Strange Project

**Input:** standard input

**Output:** standard output

**Time Limit:** 2 second

Professor A. Karim is working on a project of measuring the surface area of an unknown unearthly object. After a lot of calculation he finds that the surface area of that object is  $(a+b)*(1-a*b)$ , where **a** and **b** are two parameters related to surface area of that object. With the help of some more advanced experiments he finds **N** floating-point numbers, which can be possible values of **a** and **b**. From the **N** numbers he can select two values for **a** and **b** in  ${}^N C_2$  ways (Note that the selections **a=2, b=3** and **a=3, b=2** are considered same because  $(a+b)*(1-a*b)$  is equal to  $(b+a)*(1-b*a)$ ). Karim needs to do some more expensive experiments to find out the real value of **a** and **b**, but before doing that he wants to keep only the obvious choices: the selections, which cause the surface of the object to be positive (Greater than zero). Your job is to help Prof. Karim to count how many of the  ${}^N C_2$  selections (the value of **a** and **b**) causes  $(a+b)*(1-a*b)$  to be positive. Please note that your method must be efficient. (An  $O(N^2)$  solution will not do)

### Input

The input file contains maximum **7** sets of inputs.

First line of each set contains an integer **N** ( $0 < N \leq 10000$ ). Each of the next **N** lines contains one floating-point number **F** ( $|F| < 30000.0$ ). The meaning of **N** is given in the problem statement.

Input is terminated by a case where the value of **N** is zero. This case should not be processed.

### Output

For each set of input produce one line of output. This line contains the serial no of output followed by an integer which indicates how many of the  ${}^N C_2$  selections will cause the value of the expression  $(a+b)*(1-a*b)$  to be positive. Look at the output for sample input for details. You can consider any value greater than  $10^{-15}$  is positive.

#### Sample Input

```
5
8197.4013
-3622.8175
-1495.5118
-3958.2735
-678.2750
5
-1208.8234
1465.1943
2699.873
-6665.3587
-4344.6286
0
```

#### Output for Sample Input

```
Case 1: 10
Case 2: 5
```

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**Problem setter: Shahriar Manzoor, EPS**