Counting Triangles

Problem Statement

Ilia has N sticks. The size of the i^{th} stick is A_i. He wants to know the number of different types of triangles created with each side from a single different stick. Help Ilia calculate the number of acute triangles, right triangles and obtuse triangles.

Input Format

The first line contains N.
The second line contains N integers. The i^{th} number denotes A_i.

Constraints

For full score: $3 \leq N \leq 5000$
For 40% score: $3 \leq N \leq 500$
For all testcases:
$1 \leq A[i] \leq 10^4$
$A[i] < A[i+1]$ where $1 \leq i < N$

Output Format

Print 3 integers: the number of **acute** triangles, **right** triangles and **obtuse** triangles, respectively.

Sample Input

```
6
2 3 9 10 12 15
```

Sample Output

```
2 1 4
```

Explanation

Acute triangles
$10 - 12 - 15$
$9 - 10 - 12$

Right triangle
$9 - 12 - 15$

Obtuse triangles
$2 - 9 - 10$
$3 - 9 - 10$
$3 - 10 - 12$
$9 - 10 - 15$