C - Equilateral Triangle

Editorial (/contests/abc409/tasks/abc409_c/editorial)

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 300 points

Problem Statement

There is a circle with circumference L, and points $1, 2, \ldots, N$ are placed on this circle. For $i = 1, 2, \ldots, N-1$, point $i+1$ is located at a position that is d_i clockwise from point i on the circle.

Find the number of integer triples (a, b, c) $(1 \leq a < b < c \leq N)$ that satisfy both of the following conditions:

- The three points a, b, and c are all at different positions.
- The triangle with vertices at the three points a, b, and c is an equilateral triangle.

Constraints

- $3 \leq L, N \leq 3 \times 10^5$
- $0 \leq d_i < L$
- All input values are integers.

Input

The input is given from Standard Input in the following format:

N L
d_1 d_2 $\ldots$ d_{N-1}

Output

Output the answer.

Sample Input 1 Copy

Copy

```
5 6
4 3 1 2
```

Sample Output 1 Copy

Copy

```
2
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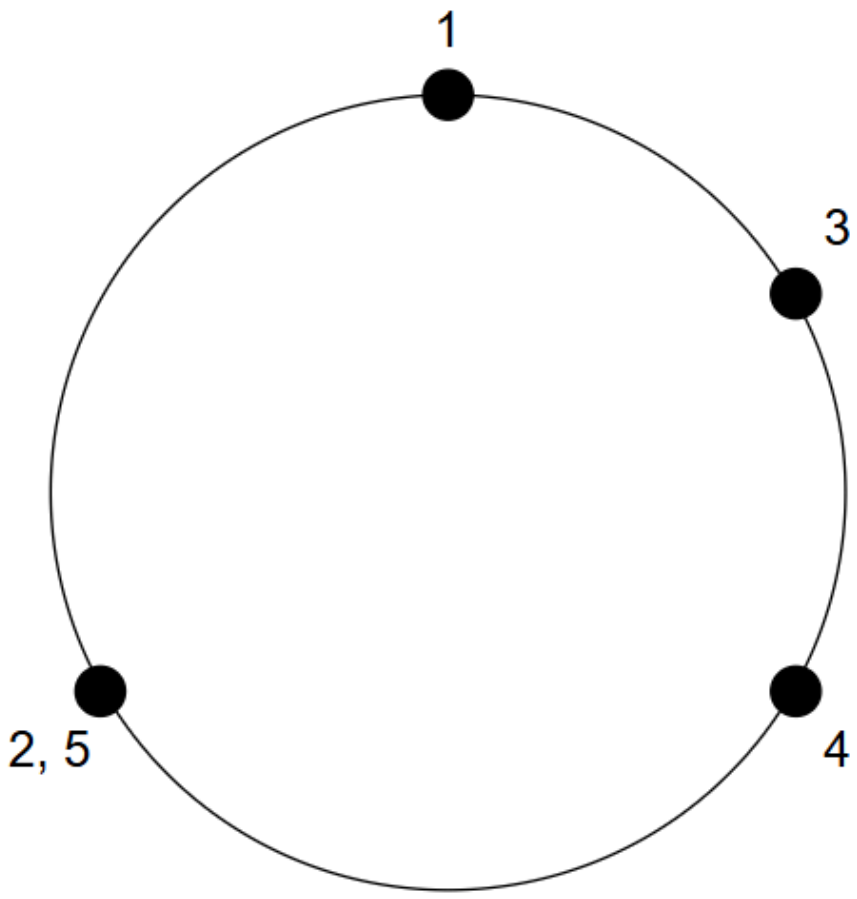
The arrangement of the five points is as follows. Two pairs satisfy the conditions: $(a, b, c) = (1, 2, 4), (1, 4, 5)$.



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Sample Input 2 Copy

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4 4
1 1 1
```

Sample Output 2 Copy

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0
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Sample Input 3 Copy

```
10 12
4 4 5 7 1 7 0 8 5
```

Sample Output 3 Copy

```
13
```

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