Taking Out the Trash

Problem ID: takingoutthetrash

Time limit: 3 seconds

Peter has way too much trash and he needs to take it all out.

Specifically, there are n bags of trash each with a specific weight. Peter can hold either one or two bags of trash per trip, and he can carry a maximum total of m milligrams of trash in a single trip. What is the minimum number of trips Peter needs to take to take out all the trash?

Input

The input starts with two integers n ($1 \leq n \leq 5 \cdot 10^5$) and m ($1 \leq m \leq 10^9$), the number of bags of trash and the maximum weight of trash Peter can carry.

The next line contains n integers, w_i ($1 \leq w_i \leq m$), the weight of each bag of trash in milligrams.

Output

Output the minimum number of trips Peter needs to make to take out all the trash.

Sample Input 1

```
4 1000
100 900 200 900
```

Sample Output 1

```
3
```

Sample Input 2

```
4 10
1 2 3 4
```

Sample Output 2

```
2
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