

2. Task of Pairing

A company sells dumbbells in pairs. These are weights for exercising. They receive a shipment of dumbbells weighing anywhere from 1 unit up to a certain maximum. A pair can only be sold if their weights are sufficiently close: no greater than 1 unit difference. Given an inventory of various weights, determine the maximum number of pairs the company can sell.

For example, if there are 2 dumbbells of weight 1, 4 of weight 2, 3 of weight 3 and 1 of weight 4, they can be paired as [1,1], [2,2], [2,2], [3,3], [3,4] for a total of 5 pairs.

Function Description

Complete the function *taskOfPairing* in the editor below. The function must return an integer representing the maximum number of similar pairs that can be made from the given supply of weights.

taskOfPairing has the following parameter(s):

freq[0... n-1]: a frequency array of integers where the i^{th} element represents the number of dumbbells having a weight of $i+1$.

Constraints

- $1 \leq n \leq 10^5$
- $0 \leq freq[i] \leq 10^9$

▼ Input Format For Custom Testing

The first line contains an integer, n , denoting the upper limit for the weight of the dumbbells, the size of *freq*.

Each line i of the n subsequent lines (where $0 \leq i < n$) contains an integer *freq[i]* which represents the number of weights having weight $i + 1$.

▼ Sample Case 0

Sample Input For Custom Testing

```
4
3
5
4
3
```

Sample Output

```
7
```

Explanation

$n = 4$

$freq = [3, 5, 4, 3]$

One possible maximum pairing is [1,1],[1,2],[2,2],[2,2],[3,3],[3,4],[4,4] making 7 similar pairs.

▼ Sample Case 1

Sample Input For Custom Testing

```
3
5
6
2
```

Sample Output

```
6
```

Explanation

$n = 3$

$freq = [5, 6, 2]$

One possible maximum pairing is $[1,1],[1,1],[2,2],[2,2],[3,2],[3,2]$ making 6 similar pairs.