

Hunger

Denis has returned home from abroad, where he was on an internship over the summer. There, his mom awaits him, who cooked him a lot of meals as a welcome, and they are waiting for him in many courses. Denis is hungry and would like to eat as much as possible. He wants to start with the first course, but suddenly he realizes that he doesn't want to feel greedy, so he makes a resolution not to eat any two consecutive courses.

Task

You will receive from Denis the number of courses and the sizes of the food in each course. The amount he ate is given by the sum of the sizes of the meals he ate. Find out how much Denis can eat at most while adhering to his rule.

Input

The input consists of two lines. The first line contains n ($1 \leq n \leq 100,000$) – the number of courses. The second line contains n numbers separated by spaces, where the i -th number expresses the size of the i -th course. For each of these numbers x , it holds that ($1 \leq x \leq 1,000,000$). Be careful when choosing the variable type to store the result.

Output

Print one line with one number: the sum of the sizes of the meals Denis can eat the most, ensuring he never eats two consecutive courses.

Examples

input

```
6
1 3 5 2 8 3
```

output

```
14
```

The best solution for Denis is to eat the courses with food sizes 1 + 5 + 8.

input

```
4
10 1 7 9
```

output

```
19
```

Here, Denis should skip the second and third courses to eat the first and fourth, which are larger.