

Police Investigation 3 (police3)

After his traditional Friday's bank robbery, fearsome William is running away trying to reach his nest. As the police is already wary on Terror Street and Crime Avenue, he decides to go through Heist Road instead, which unfortunately is full of traffic lights.



Figure 1: Traffic lights on Heist Road.

Being so unlucky, he knows that he will have to stop to all the N traffic lights in his way, spending T_i minutes at each of them. The police is on his way, and he really needs to hurry up, so he decides to jump a few red lights. Jumping a red light is both dangerous, and it can attract unwanted attention to him, therefore he decides to never skip two consecutive traffic lights. This means that when he reaches a traffic light, he can go through it without stopping, but then he will have to stop to the next one.

What is the minimum amount of time he has to spend waiting at the traffic lights?

Among the attachments of this task you may find a template file `police3.*` with a sample incomplete implementation.

Input

The first line contains the only integer N . The second line contains N integers T_i .

Output






You need to write a single line with an integer: the minimum time William has to wait.

Constraints

- $1 \leq N \leq 100\,000$.
- $1 \leq T_i \leq 10\,000$ for each $i = 0 \dots N - 1$.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

- **Subtask 1** (0 points) Examples.

- **Subtask 2** (15 points) $T = 1$.

- **Subtask 3** (20 points) $N \leq 10$.

- **Subtask 4** (30 points) $N \leq 1000$.

- **Subtask 5** (35 points) No additional limitations.


Examples

input	output
6 3 2 2 6 2 3	6
7 1 6 1 1 4 2 4	5

Explanation

In the **first sample case** the best solution is to stop only at the three traffic lights with value 2.

In the **second sample case** the best solution is to skip the second, fifth and seventh traffic light.