

# Bear Eat Rabbit

Time Limit: 1 second  
Memory Limit: 512 MB

## Problem Statement

It is a well-known fact that bears eat rabbits. Green Bear, in particular, has a taste for rabbit flesh.

There are  $N$  rabbits in a row, numbered from 1 to  $N$ . The rabbit numbered  $i$  has deliciousness  $A_i$ . Green Bear likes to eat delicious rabbits, so he will eat rabbits such that the sum of deliciousness of rabbits he consumes is maximised.

However, if Green Bear eats a rabbit, the two rabbits directly next to that rabbit will run away. That is, if rabbit  $i$  is eaten, rabbits  $i - 1$  and  $i + 1$  will flee (if they exist and have not yet fled).

Determine the maximum sum of deliciousness of rabbits that Green Bear can eat.

## Input Format

The first line of input will contain a single integer  $N$ .

The next line of input will contain  $N$  integers, representing the array  $A$ .

## Output Format

Your output should consist of a single line containing a single integer, the maximum sum of deliciousness of rabbits that Green Bear can eat.

## Limits

For all test cases,  $1 \leq N \leq 200000$  and  $-10^9 \leq A_i \leq 10^9$ .

Subtask 1:  $N \leq 20$  (20 marks)

Subtask 2: There are no more constraints. (80 marks)

## Sample Input

```
6
4 2 5 7 9 8
```

## Sample Output

```
19
```

## Explanation of Sample Case

It is optimal for Green Bear to eat rabbits 1, 4 and 6, for a total deliciousness of 19.