

## Mario Game

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100points | 10sec

Standard API : C++, C언어, Java

Solution : [solution](#)

We decided to hold a Mario game to test employees' morale and math skills. Na woo-soo wants to show off his skills by winning the Mario game.

### [Requirements]

The Mario game is a simple game that maximizes the height of the mushrooms by eating them according to the rules, the person who raised the most height is the winner

### Value range

1. Number of mushrooms N (N= Natural number,  $1 \leq N \leq 150,000$ )
2. Mushrooms are lined up in rows from 0 to N-1
3. The number P on the mushroom (P= Natural number,  $1 \leq P \leq 500$ )

Rules for eating mushrooms

1. Mushrooms should be ordered from 0 to decide whether to eat or not
2. It grows taller than the number of mushrooms you eat first

3. It grows shorter than the number of mushrooms you eat second

4. In other words, It grows taller than the number of mushrooms you eat odd number and It grows shorter than the number of mushrooms you eat even number

When eight mushrooms in input 1 are given as shown in the table below,

	0	1	2	3	4	5	6	7
P	7	2	1	8	4	3	5	6

When you eat all the mushrooms,

$$7 - 2 + 1 - 8 + 4 - 3 + 5 - 6 = -2$$

	0	1	2	3	4	5	6	7
P	7	2	1	8	4	3	5	6

It grows larger than the number of mushrooms 0, 2, 4, 6 you eat odd number and It grows larger than the number of mushrooms 1, 3, 5, 7 you eat even number.

If you eat five mushrooms, mushrooms 0, 2, 3, 5, 7

$$7 - 1 + 8 - 3 + 6 = 17 \text{ and this is the maximum value that can be increased.}$$

	0	1	2	3	4	5	6	7
P	7	2	1	8	4	3	5	6

It grows larger than the number of mushrooms 0, 3, 7 you eat odd number and It grows larger than the number of mushrooms 2, 5 you eat even number .

Given the number of mushrooms N and the value P<sub>i</sub> of each mushroom,

Find and output the value when you have maximized Mario's height

### [Input type]

Input number of mushrooms N in first line(N=Natural number,  $1 \leq N \leq 150,000$ )

Input the value P of the N mushrooms is separated by a space In the second line (Enter mushroom number 0 to N-1 in order) (P= Natural number,  $1 \leq P \leq 500$ )

### [출력 형식]

Output the maximum value that can be raised when the mushroom is eaten properly

Input/Output Example



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: Line Break



: Tab

#### Example 1

Input

```
8
7 2 1 8 4 3 5 6
```



Output

```
17
```



\* Please keep the input and output formats carefully