

Hardcore hacker

Description

There is a server rack in the it-support server room. There are n servers stacked vertically on the rack, and each server has a temperature value t_i . You are a hacker who wants to extract server information. You can pull out a server by hand each time. After a server is pulled out, the servers above it will drop. It-support will always check the top server and the bottom server, so they cannot be pulled out. Because the server is very hot, you will be hurt by $(t_{i-1} + t_i + t_{i+1})^3$ every time you pull out the i -th server by hand. Yo u don't want to get burned, so you want to know the minimum damage you will receive when you pull out the most servers.

Input

First line an integer n

Second line n integer t_i , denoting the temperatures of servers from bottom to top.

- 30% cases, $n \leq 10, t_i \leq 1e2$
- 50% cases, $n \leq 50, t_i \leq 1e3$
- 70% cases, $n \leq 100$
- 100% cases, $1 \leq n \leq 1000, 0 \leq t_i \leq 1e6$

Output

A single integer denoting the minimum damage.

Sample Input 1

```
6
1 1 4 5 1 4
```

Sample Input 2






```
9
9 9 8 2 4 4 3 5 3
```

Sample Output 1

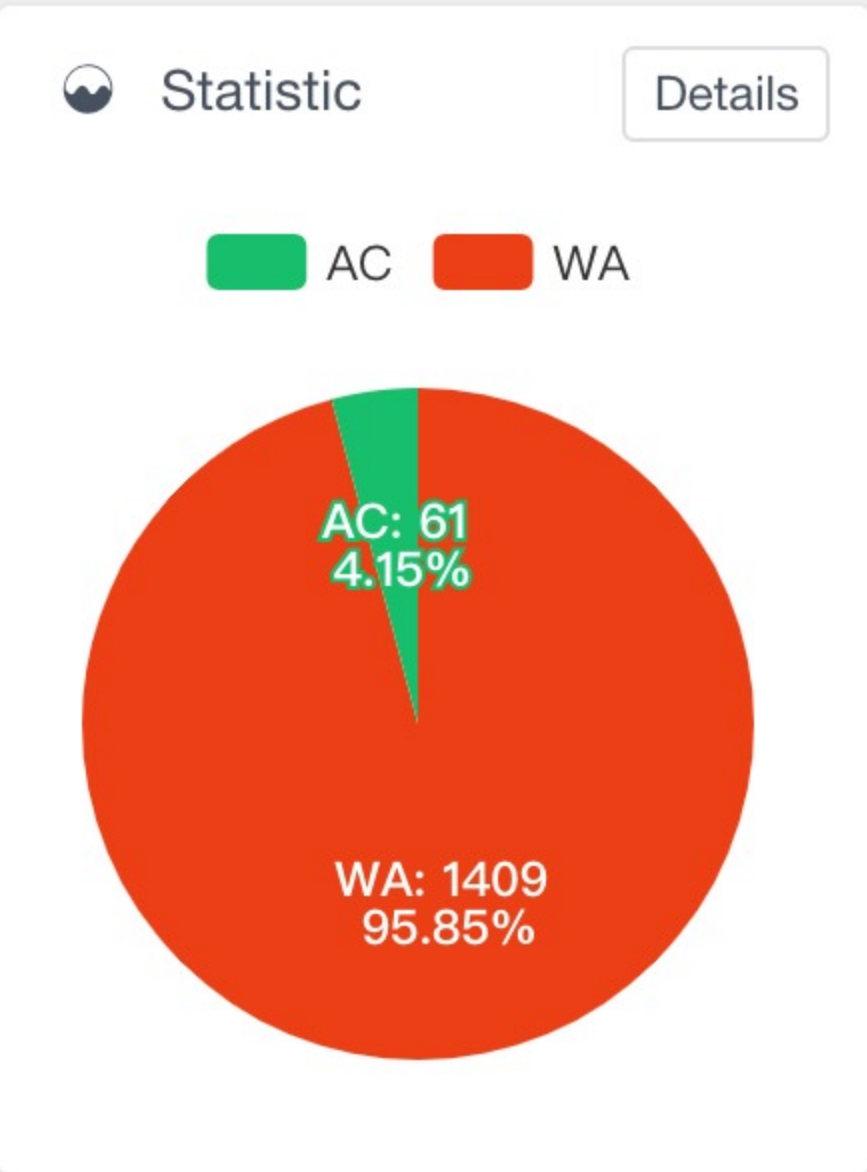
```
1459
```

Sample Output 2

```
21175
```

 Problems
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Information	
ID	4002
Time Limit	2000MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	root
Level	Low
Score	100
Tags	Show



Language:

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 Theme:

Solarized Light ▾

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