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 integerst_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 Output 1

```
1459
```

Sample Input 2

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

Sample Output 2

```
21175
```

Language: C

Theme: Solarized Light

```
1
```

Submit

Problems
Announcements
Submissions
Rankings
View Contest

Information

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

Statistic Details