

Attendance Assurance

time limit per test: 2 seconds
memory limit per test: 976.6 megabytes
input: standard input
output: standard output

points: 100 · problem code: attendance · author: suisei

Winson's Semester 2 has started, and he wants to make plans to ace his studies and win the Dean's "Most Locked In" award.

Semester 2 consists of N days. On the i -th day, $1 \leq i \leq N$, Winson will choose exactly one of his four units to attend a lecture on:

- **Unit A:** gain a_i knowledge points
- **Unit B:** gain b_i knowledge points
- **Unit C:** gain c_i knowledge points
- **Unit D:** gain d_i knowledge points

Due to his dwindling attention span, Winson is unable to attend a lecture on the same unit two or more days in a row. That is, on the i -th day, where $1 < i \leq N$, he cannot choose to attend the same lecture as he did on the $i - 1$ -th day. Find the maximum total knowledge points that Winson can gain over the semester.

Input

The first line contains an integer N , the number of days in Semester 2. The following N lines contain integers a_i, b_i, c_i, d_i , the number of knowledge points winson can gain by attending a unit's lecture on the i th day.

Output

Output the maximum total knowledge points that Winson can gain over the semester.

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq a_i, b_i, c_i, d_i \leq 10^4$

Example 1

Input

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

Output

```
17
```

If Winson chooses to go to Unit D's lecture on the first day, unit C's lecture on the second day, then unit D's lecture on the third day, he will obtain $4 + 6 + 7 = 17$ knowledge points.

Example 2

Input

```
1
2102 2014 2004 2099
```

Output

2102

Example 3

Input

```
7
3 1 4 10
4 10 6 8
1 4 7 1
3 10 5 6
10 3 1 9
1 10 9 3
4 11 9 5
```

Output

67