Problem H. Hard Problem

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

You are given a sequence of nonnegative integers $a_1, a_2, \ldots, a_n$. You can perform the following three types of operations any number of times.

- Choose an interval $[l, r]$, decrease all numbers in the interval by 1.

- Choose an interval $[l, r]$, decrease all numbers with odd indices in the interval by 1.

- Choose an interval $[l, r]$, decrease all numbers with even indices in the interval by 1.

Output the minimum number of operations to make all numbers equal to 0.

Input

In the first line, T $(1 \le T \le 10)$ — the number of test cases.

For each test case:

- In the first line, n $(1 \le n \le 10^5)$.

- In the second line, $a_1, a_2, \ldots, a_n$ $(0 \le a_i \le 10^9)$.

Output

For each test case, one integer — the answer.

Example

standard input	standard output
3 5 2 1 2 1 2 8 1000000000 1000000000 0 1000000000 \ 1000000000 0 1000000000 1000000000 (There won't be extra line breakers \ in the actual test cases.) 13 1 1 4 5 1 4 1 9 1 9 8 1 0	2 3000000000 19