

Contest Duration: 2025-05-24(Sat) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250524T2100&p1=248>) - 2025-05-24(Sat) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250524T2240&p1=248>) (local time) (100 minutes)

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E - Most Valuable Parentheses

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 450 points

Problem Statement

You are given a sequence of non-negative integers $A = (A_1, \dots, A_{2N})$ of length $2N$.

Define the score of a parenthesis sequence s of length $2N$ as follows:

- For every position i where the i -th character of s is $)$, set A_i to 0, then take the sum of all elements of A .

Find the maximum possible score of a correct parenthesis sequence of length $2N$.

You are given T test cases; solve each.

► What is a correct parenthesis sequence?

Constraints

- $1 \leq T \leq 500$
- $1 \leq N \leq 2 \times 10^5$
- For each input file, the sum of N over all test cases is at most 2×10^5 .
- $0 \leq A_i \leq 10^9$ ($1 \leq i \leq 2N$)
- All input values are integers.

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Input

The input is given from Standard Input in the following format:

T
 case₁
 case₂
 ...
 case_T

case_i represents the i -th test case. Each test case is given in the following format:

N
 A_1
 A_2
 \vdots
 A_{2N}

Output

Output T lines. The i -th line ($1 \leq i \leq T$) should contain the answer for the i -th test case.

Sample Input 1

Copy

Copy

Sample Output 1

Copy

```
1200  
6000000000
```

Copy

In the first test case, choosing the correct parenthesis string `(())()` gives a score of $400 + 500 + 0 + 0 + 300 + 0 = 1200$.

No correct parenthesis string yields a higher score, so the answer is **1200**.

Note that, as in the second test case of this sample, the answer may exceed the 32-bit integer range.

```
'#telegram)
```

```
?url=https%3A%2F%2Fcoder.jp%2Fcontests%2Fabc407%2Ftasks%2Fabc407_e%3Flang%3Den&title=E%20-  
ieses)
```

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