

Contest Duration: 2025-12-27(Sat) 23:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20251227T2100&p1=248>) - 2025-12-28(Sun) 00:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20251227T2240&p1=248>) (local time) (100 minutes)

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D - Tail of Snake

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 400 points

Problem Statement

Snuke is observing a snake and is curious about which parts are the head, body, and tail. He divided the snake into N blocks and evaluated the head-likeness, body-likeness, and tail-likeness of each block. Then, he decided to find the division that maximizes the sum of the likeness values.

You are given length- N integer sequences $A = (A_1, A_2, \dots, A_N)$, $B = (B_1, B_2, \dots, B_N)$, and $C = (C_1, C_2, \dots, C_N)$.

Find the maximum possible value of $\sum_{i=1}^x A_i + \sum_{i=x+1}^y B_i + \sum_{i=y+1}^N C_i$ for a pair of integers (x, y) satisfying $1 \leq x < y < N$.

Constraints

- $3 \leq N \leq 3 \times 10^5$
- $1 \leq A_i, B_i, C_i \leq 10^6$
- All input values are integers.

Input

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

```
N  
A1 A2 ... AN  
B1 B2 ... BN  
C1 C2 ... CN
```

Output

Output the answer.

Sample Input 1

Copy

```
5  
1 4 2 4 3  
2 3 4 2 2  
3 2 4 4 3
```

Copy

Sample Output 1

Copy

```
16
```

Copy

With $(x, y) = (2, 3)$, we have $\sum_{i=1}^x A_i + \sum_{i=x+1}^y B_i + \sum_{i=y+1}^N C_i = 1 + 4 + 4 + 4 + 3 = 16$.

Sample Input 2

Copy

```
3  
1 1 1  
1 1 1  
1 1 1
```

Copy

Sample Output 2

Copy

```
3
```

Copy

Sample Input 3

Copy

```
6
2 10 7 7 7 11
5 7 9 10 9 12
6 6 7 10 12 7
```

Copy

Sample Output 3

Copy

```
50
```

Copy

#telegram)

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