

Contest Duration: 2025-08-24(Sun) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250824T2100&p1=248>) - 2025-08-24(Sun) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250824T2240&p1=248>) (local time) (100 minutes)

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C - Sum of Min Query

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 300 points

Problem Statement

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

You are given Q queries to process in order. The i -th query ($1 \leq i \leq Q$) is described as follows:

You are given a character c_i and integers X_i, V_i . If $c_i = A$, change A_{X_i} to V_i ; if $c_i = B$, change B_{X_i} to V_i . Then, output $\sum_{k=1}^N \min(A_k, B_k)$.

Constraints

- $1 \leq N, Q \leq 2 \times 10^5$
- $1 \leq A_i, B_i \leq 10^9$
- c_i is either A or B.
- $1 \leq X_i \leq N$
- $1 \leq V_i \leq 10^9$
- All input values are integers.

Input

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

```
N Q
A1 A2 ... AN
B1 B2 ... BN
c1 X1 V1
c2 X2 V2
⋮
cQ XQ VQ
```

Output

Output Q lines. The i -th line ($1 \leq i \leq Q$) should contain the answer to the i -th query.

Sample Input 1

Copy

```
4 3
3 1 4 1
2 7 1 8
A 2 3
B 3 3
A 1 7
```

Copy

Sample Output 1

Copy

```
7
9
9
```

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After the 1st query, $A = (3, 3, 4, 1)$, $B = (2, 7, 1, 8)$. Therefore, output $\min(3, 2) + \min(3, 7) + \min(4, 1) + \min(1, 8) = 7$ on the 1st line.

After the 2nd query, $A = (3, 3, 4, 1)$, $B = (2, 7, 3, 8)$. Therefore, output $\min(3, 2) + \min(3, 7) + \min(4, 3) + \min(1, 8) = 9$ on the 2nd line.

After the 3rd query, $A = (7, 3, 4, 1)$, $B = (2, 7, 3, 8)$. Therefore, output $\min(7, 2) + \min(3, 7) + \min(4, 3) + \min(1, 8) = 9$ on the 3rd line.

Sample Input 2

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05:28:56 +11:00

```
1 3  
1  
1000000000  
A 1 1  
A 1 1  
A 1 1
```

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Sample Output 2

Copy

```
1  
1  
1
```

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Sample Input 3

Copy

```
5 3  
100 100 100 100 100  
100 100 100 100 100  
A 4 21  
A 2 99  
B 4 57
```

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Sample Output 3

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```
421  
420  
420
```

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'#telegram)

:url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc420%2Ftasks%2Fabc420_c%3Flang%3Den&title=C%20-
I

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