Segment Tree Practice 1

Time limit: 0.6s   **Memory limit:** 256M

Given an array A of size N, support the Q of the following operations:

1. Find the sum of all elements from index l to index r.
2. Update the element at index i to value x.

Constraints

$1 \leq N, Q \leq 2 \times 10^5$

$1 \leq l \leq r \leq N$

$1 \leq i \leq N$

$1 \leq A_i, x \leq 10^9$

Input Specification

The first line contains 2 integers N and Q.

The second line contains N integers $A_1, A_2, \ldots, A_N$, the initial elements of A.

The next Q lines are one of two forms:

1. `S l r` representing the first operation.
2. `U i x` representing the second operation.

Output Specification

For each type 1 operation output one integer on its own line, the answer to that query.

Sample Input

```
5 5
1 2 3 4 5
S 2 4
S 1 5
U 2 6
S 2 2
S 2 4
```

Sample Output

```
9
15
6
13
```