Bustling Dockyard

Amidst the noise of cranes and ships at a bustling dockyard, Mr. Allen, the meticulous port manager, was conducting one of his thorough inspections. As he scanned the rows of neatly stacked containers, he noticed that the containers weren't arranged according to the loading schedule for a vessel soon to dock. Mistakes like this could delay shipments and cost the port both time and money. Recognizing the urgency, he quickly approached Ryan, the lead dock supervisor, renowned for his expertise in container management. He handed Ryan the ship's loading list and tasked him with the essential job of reordering the containers to match the ship's requirements.

Each container houses various goods, and certain goods are either fragile or valuable. This characteristic makes some workers hesitant about moving particular containers. When swapping any two adjacent containers, there's a cost involved, which is the sum of the reluctance values associated with moving each container. The challenge is to help Ryan rearrange the containers in the correct order at the lowest cost.

Input Format

The first line of the input tells you how many containers (N) are at the dockyard.

The next line lists, in order, the reluctance values (R) for each container. This shows how hesitant workers are to move each container.

After that, a line provides the current arrangement of the containers.

The last line reveals the intended order for these containers.

Constraints

$1 <= N <= 1000000$

$1 <= R <= 8000$

Output Format

Display a single line indicating the lowest cost required to rearrange the containers as described in the scenario.

Sample Input 0

```
3
1 1 1
3 2 1
1 2 3
```

Sample Output 0

```
6
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Explanation 0

In this case to move all boxes in to the correct order we need to switch the boxes as follows. Since all the boxes have the same cost to move, order is not important in this case (However this may not be the case in all scenarios).

First swap the last two boxes. Cost for this move is 1 + 1 = 2

3 1 2

Then swap the first two boxes. Cost for this move is 1 + 1 = 2

1 3 2

Finally swap the final two boxes again. Cost for this move is 1 + 1 = 2

1 2 3

Since three swaps were made, the total cost is 2 + 2 + 2 = 6