The Rise of the Dark

**[ EASY ][ TRD ]**

**Problem:**

Harry Potter and Lord Voldemort are fighting at the Ministry of Magic, and Dumbledore is there to support Harry. They are initially able to defeat Voldemort, but the dark lord has a few more tricks up his sleeves. He rises and makes N clones of himself, each attacking Dumbledore and Harry. In order to protect Harry, Dumbledore conjures the ‘Flame of the Phoenix’ to kill the clones.

Now, the clones of Voldemort are based on synergy. Their health of the clone HP depends upon their adjacent clones. If a clone has both adjacent clones alive, his HP will be . If one of the adjacent clones dies, the HP will be . If both the adjacent clones die, the HP will be .

There is no relation between , and i.e. There is no guarantee that killing adjacent clones will make the current clone weak or strong.

The Flame of Phoenix is guaranteed to kill all the clones, but it will drain equal amount of Dumbledore’s energy as the HP it takes down. So, Dumbledore wants to kill all the clones by using minimum possible energy.

Since Dumbledore is busy fighting the clones, can you help him calculate the minimum energy he would lose in killing the clones?

**Input:**

The first line contains **N,** the number of clones.

The next 3 lines contain N integers each, denoting sequences A, B and C respectively.

**Output:**

Print the minimum possible energy loss for the given data.

**Constraints:**

* N < 3100
* , and < 110

**Example:**

**Sample Input 1:**

4

1 2 3 4

4 3 2 1

0 1 1 0

**Sample Output 1:**

6

**Sample Explanation 1:**

First kill 3rd clone for HP 3

Then kill 4th clone for HP 1

Then kill 1st clone for HP 1

At last kill 2nd clone for HP 1

Total energy loss would be 6.

**Sample Input 2:**

7

8 5 7 6 1 8 9

2 7 9 5 4 3 1

2 3 3 4 1 1 3

**Sample Output 2:**

20

**Problem Setter:**

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