

Problem G. Game with Balls and Boxes

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 1024 mebibytes

There are N boxes and N balls. You are playing a game that goes as follows.

The boxes are enumerated by sequential integers from 1 to N , and the balls are also enumerated by sequential integers from 1 to N . The i -th box initially contains the ball P_i .

Each box is either open or closed. Initially, all boxes are closed.

Then two rounds of ball movement are performed. In each round, you:

1. Select zero or more boxes and open them. To open the box i for the first round, you pay A_i coins. To open the box i for the second round, you pay B_i coins.
2. Move the balls freely between the open boxes. However, each box must contain exactly one ball when the move is complete.
3. Close all open boxes.

After two rounds, for each i , the box i must contain the ball i . Find the minimal sum of coins you shall pay to complete the game.

Input

The first line of input contains one integer N ($1 \leq N \leq 10^5$).

The second line contains N integers P_1, P_2, \dots, P_N : here, P_i is the number of the ball that was initially placed in i -th box ($1 \leq P_i \leq N$, $P_i \neq P_j$ if $i \neq j$).

The third line contains N integers A_1, A_2, \dots, A_N : here, A_i is the price of opening the i -th box for the first round ($1 \leq A_i \leq 10^9$).

The fourth line contains N integers B_1, B_2, \dots, B_N : here, B_i is the price of opening the i -th box for the second round ($1 \leq B_i \leq 10^9$).

Output

Print one integer: the minimal sum of coins you need to pay to have i -th ball in the i -th box for each i after two rounds.

Examples

<i>standard input</i>	<i>standard output</i>
5 5 3 2 1 4 3 8 3 5 11 9 3 7 6 4	28
1 1 1000000000 1000000000	0