Problem D. Greedy Game

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

There are n items and two players. For each player and for each item, the value of the item for this player is known. Denote values of the i-th item for the first and the second player as a_i and b_i correspondingly.

Players take the items in turns. The first player starts the game. The first player is greedy: each turn, he chooses the item which has the maximal a_i among the remaining items. If there are several such items, he can take any one of them. What is the maximal possible sum of values b_i of items taken by the second player that he can guarantee regardless of the first player's moves?

Input

The first line contains a single integer $1 \le n \le 10^5$, the number of items.

The second line contains n numbers, i-th is equal to a_i, the value of the i-th item for the first player.

The third line contains n numbers, i-th is equal to b_i, the value of the i-th item for the second player.

All values are integers from 1 to 10^9.

Output

Output a single number: the maximal sum of values b_i of items taken by the second player that he can guarantee.

Example

standard input	standard output
5 1 2 3 4 5 2 3 4 5 6	8