Problem F

Select Tress
Time limit: 1 second
Memory: 1024 megabytes

Problem Description

In the school campus, planting trees not only aims to protect the environment but also creates a comfortable and pleasant learning space for students and teachers. The trees planted vary in height and beauty, contributing to a lively landscape on the campus. Each tree is numbered from *1* to *N*, with each tree having not only a height but also its own aesthetic value. This aesthetic value can be understood as the beauty of the tree, which can influence the decision of classes in selecting trees to take care of.

The school has decided that each class will choose 3 trees to take care of in order to raise awareness about environmental protection and the development of greenery on campus. In particular, class ABC is very proactive in selecting trees to care for, and they want to ensure that their choice brings the highest aesthetic value.

Class ABC needs to select three trees with indices *i, j, k* such that the sum of their aesthetic values is maximized while satisfying two main conditions: the order of the indices and the height of the trees. This means the class must choose 3 trees such that the index of the first tree is smaller than the index of the second tree, and the index of the second tree is smaller than the index of the third tree. Additionally, the height of the first tree must be less than the height of the second tree, and the height of the second tree must be less than the height of the third tree.

With these conditions, class ABC will need to analyze the heights and aesthetic values of the trees to find a way to select three trees that maximizes the total aesthetic value. This problem not only gives the students in class ABC a chance to become familiar with concepts of optimization but also helps them understand the role of trees in the learning environment.

Problem Requirement: You need to determine the maximum total aesthetic value that class ABC can select from three trees, satisfying the conditions regarding indices and heights. To do this, class ABC needs to gather information about the heights and aesthetic values of all the trees on campus.

Input Structure:

- The first line contains an integer N ($3 \leq N \leq 3000$), representing the number of trees in the school campus. This number of trees must be sufficient to select 3 trees as required.
- The second line contains N integers $H_1, H_2, ..., H_N$ separated by spaces, where H_i is the height of the i-th tree ($1 \leq H_i \leq 10^9$). This is the basic information about the trees that class ABC will use for selection.

- The third line contains N integers $C_1, C_2, ..., C_N$ separated by spaces, where C_i is the aesthetic value of the i-th tree ($1 \le C_i \le 10^9$). This value indicates which tree can provide a more appealing look for the school campus.

Output Structure:

- The program will output a single integer representing the maximum total aesthetic value that class ABC can select from 3 trees.

Example:

INPUT	OUTPUT
5 2 4 5 4 10 4 3 2 1 5	12