Prepare Yourself to Competitions!

Prepare Yourself to Competitions!

0 points possible (ungraded)

Input file:	prepare.in
Output file:	prepare.out
Time limit:	2 seconds
Memory limit:	256 megabytes

To successfully participate in programming competitions, you should prepare a lot. This is very clear to young Jamie. So he decided to undertake a scientific point of view. Jamie thinks that the preparation level is determined by a certain number, the ability to solve problems, which accumulates every possible aspect of being ready to compete well.

After reading some books on competitive programming, Jamie understood that there are two ways to improve his skills: studying theory and practicing a lot. There are n days before the next programming competition. Based on his biorhythm calendar, Jamie determined two numbers for each of these days: t_i is how much his ability to solve problems will improve if he studies theory at the i-th day, and p_i is how much it will improve if he practices a lot at the i-th day. Every day should be entirely dedicated to either theory or practice. Additionally, at least one of these days should be theoretical, and at least one should be practical.

Help Jamie construct such a timetable which increases his ability to solve problems to a maximum possible value. You may assume that this value is equal to zero before preparation.

Input

The first line of the input file contains an integer n ($2 \leq n \leq 100$). The second line contains n integers $p_1, p_2, \ldots, p_n$, separated by whitespace. The third line contains n integers $t_1, t_2, \ldots, t_n$, separated by whitespace.
All p_i and t_i are positive and do not exceed 1000.

Output

Output the maximum possible value of ability to solve problems, which Jamie can achieve in n days. Pay attention to the fact that Jamie should spend at least one day for theory, and at least one day for practicing.

Examples

prepare.in	prepare.out
2 1 2 2 1	4
Download	Download
3 1 2 3 1 2 3	6
Download	Download

Choose Files No file chosen

Submit

Discussion
Topic: 02: 1st Week Problems / Prepare Yourself to Competitions!

Show Discussion


Download on the
App Store
ANDROID APP ON
Google play