

S. Exam

Time Limit: 3 seconds

Problem description

The New Year comes with a pine tree and happy moments of family and friends around the dinner table. But for students, the New Year also comes with an exam schedule for the end of the semester. For the subject under consideration, the experience sessions are for n consecutive days. Each student can register for the exam on one of those days.

The result is that on day i there are a_i students registering, but on this day the Department can only accept b_i students. To schedule the exams for all students, the Department must arrange some students who registered on day i to take the exam on day j to ensure that day j does not have more than b_j candidates. For students whose exam date is changed, the dissatisfaction level will be $|i-j|$.

Determine the smallest total dissatisfaction level that could be achieved.

Input:

The first line is a integer number n ($1 \leq n \leq 10^6$).

The second line contains n integer numbers a_1, a_2, \dots, a_n ($1 \leq a_i \leq 10^9, i = 1 \div n$).

The third line contains n integer numbers b_1, b_2, \dots, b_n ($1 \leq b_i \leq 10^9, i = 1 \div n$).

Output: a integer number as the smallest total dissatisfaction level that could be achieved, or **-1** if the schedule cannot be adjusted.

Example:

INPUT	OUTPUT
4 6 14 70 1 70 3 16 5	2