Lampice

LAMPICE

2*N light bulbs are arranged in two rows and N columns. Each light bulb can be either off or on, and all lights are initially off.
We want to turn some of them on so that they form a beautiful pattern. In one step we can change the state of a sequence of (one or more) consecutive light bulbs in the same row or column.
Given the desired pattern, write a program that finds the minimum number of steps required to form the pattern.

The following figure illustrates the seven steps needed to obtain the pattern given in the third example:

0	**1**	**2**	**3**
00000000000000000000 00000000000000000000	**111**00000000000000000 00000000000000000000	111000**1**0000000000000 000000**1**0000000000000	1110001000000000000 0**1111101**100000000000
4	**5**	**6**	**7**
1110110**1111**000000000 01111101100000000000	11101101111000**11111**0 01111101100000000000	11101101111000**0**1110 01111101100000**1**0000	11101101111000101**0**10 01111101100000010**1**00

input data
The first line of input contains an integer N, 1 ≤ N ≤ 10,000, the number of columns.
Each of the following two lines contains a sequence of N characters representing the desired final pattern.
Character '1' indicates a light bulb that should be on in the final state, while the character '0' indicates a
light bulb that should be off.
output data
The first and only line of output should contain a single integer – the minimum number of steps required.
examples
input

3
100
000

output

1
input

5
11011

11011

output

3
input

20
11101101111000101010
01111101100000010100

output

7