

# The Fewest Coins

<https://vjudge.net/problem/poj-3260>

Farmer John has gone to town to buy some farm supplies. Being a very efficient man, he always pays for his goods in such a way that the smallest number of coins changes hands, i.e., the number of coins he uses to pay plus the number of coins he receives in change is minimized. Help him to determine what this minimum number is.

FJ wants to buy  $T$  ( $1 \leq T \leq 10,000$ ) cents of supplies. The currency system has  $N$  ( $1 \leq N \leq 100$ ) different coins, with values  $V_1, V_2, \dots, V_N$  ( $1 \leq V_i \leq 120$ ). Farmer John is carrying  $C_1$  coins of value  $V_1$ ,  $C_2$  coins of value  $V_2$ , ..., and  $C_N$  coins of value  $V_N$  ( $0 \leq C_i \leq 10,000$ ). The shopkeeper has an unlimited supply of all the coins, and always makes change in the most efficient manner (although Farmer John must be sure to pay in a way that makes it possible to make the correct change).

## Input

Line 1: Two space-separated integers:  $N$  and  $T$ .

Line 2:  $N$  space-separated integers, respectively  $V_1, V_2, \dots, V_N$  coins ( $V_1, \dots, V_N$ )

Line 3:  $N$  space-separated integers, respectively  $C_1, C_2, \dots, C_N$

## Output

Line 1: A line containing a single integer, the minimum number of coins involved in a payment and change-making. If it is impossible for Farmer John to pay and receive exact change, output -1.

## Sample

Input	Output
3 70 5 25 50 5 2 1	3

## Hint

Farmer John pays 75 cents using a 50 cents and a 25 cents coin, and receives a 5 cents coin in change, for a total of 3 coins used in the transaction.