Problem A. Talal Coins

Input file:	standard input
Output file:	standard output
Time limit:	2 seconds
Memory limit:	256 megabytes

Talal is a cashier at walmart mall. Customers like to queue on Talal lane because he serves them fast. Talal is fast because he minmizes the number of coin change. Talal likes to give customers less number of coins change when the customers buy from walmart.

Given a list of N coin types, their values (V_1, V_2, ... , V_N), and a total sum S. Find the minimum number of coins which sum up to S (we can use as many coins of one type as we want), or report that it's not possible to select coins in such a way that they sum up to S

Input

The first line has two positive integers N ($N \leq 100$), number of coin types and S ($S \leq 10^6$) the total sum. This line is followed by N types of the coins value V_i ($1 \leq Vi \leq 300$) where V_i is the value of the ith coin type.

Output

Output is one line containes one integer, the minimum number of coins that sum op to S. If there is no coins that can sum up to S, print -1.

Example

standard input	standard output
3 11 1 3 5	3

Note

In this example, the coin used is two 5 coin, and one 1 coin. The total number of coin is 3.