

# Memories of Tower Building

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            1 second  
Memory limit:         256 megabytes

You are playing around with a construction set of rigid blocks. You would like to stack the blocks to build a tower that is  $H$  inches high. The construction set consists of many copies of blocks of different colors; blocks with the same color are identical and, in particular, all have the same height.

What is the **least number** of blocks you need to stack on top of each other in order to build a tower of height **exactly**  $H$  inches?

You may assume that the construction set has infinitely many copies of each color block.

## Input

The first line of input consists of two space-separated integers  $H$  and  $n$ : the height of the tower that you want to build, in inches ( $0 < H \leq 10^5$ ) and the number of different colors of blocks in the construction set ( $1 \leq n \leq 10$ ).

The next  $n$  lines each contain an integer  $h$  ( $1 \leq h \leq 100$ ): the height, in inches, of the blocks of each of the  $n$  colors.

## Output

If it impossible to build a tower of height  $H$  inches, print  $-1$ . Otherwise, print the minimum number of blocks you need to stack on top of each other to build the tower.

## Examples

| standard input                          | standard output |
|-----------------------------------------|-----------------|
| 20 3<br>11<br>5<br>1                    | 4               |
| 99999 6<br>2<br>4<br>6<br>8<br>10<br>12 | -1              |