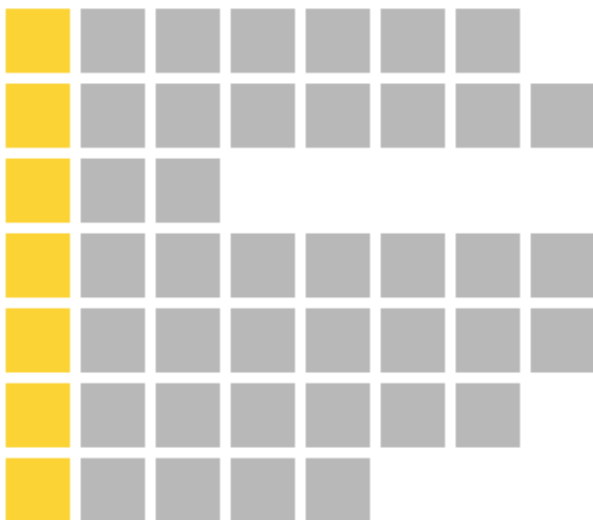


Nuts

Johnny is working as the executive mathematician at NRK's *Påskenhøtter* division. At NRK they have been struggling with having too many people solve all of the puzzles, and as a result they've asked Johnny to devise new schemes for *Påskenhøtter*.



Since Johnny isn't particularly creative, his main focus has been to investigate the number of ways to fill out the board. A board consists of r rows, each of which can have a different number of cells, c_i . Johnny has also been experimenting with using different alphabets, so each cell can hold one of n characters.

Johnny has now come up with a lot of different combinations of boards and alphabets, but has no idea which one to choose. Since the goal is to make *Påskenhøtter* as difficult as possible, Johnny needs your help selecting the scheme which can be filled out in the largest number of ways. Of course, most of these "solutions" won't be actual solutions, they'll just be gibberish, but we don't care about that for now.

Input

Input consists of k lines.

Each line starts with an integer n , the number of characters in the alphabet. Then follows r integers c_i , which describes how many cells there are in row i .

Output

You should output the index (0-indexed, that is) of the scheme with the most number ways to fill out. You can assume that all schemes have a unique number of ways to fill out.

Constraints

$$0 < k \leq 10^3$$

$0 < r \leq 10$
 $0 < n, c_j \leq 10^6$

Sample input

```
29 5 5 5
29 4 5 6 7
29 7 8 19 20 10
```

Sample output

```
2
```