Bloomberg
<CODE/B>

Memory Limit: 1024 MB
Time Limit: 5 s

Elevators (125 points)

Introduction

A tall building may have elevators go to certain floors rather than all floors for efficiency.

Given the total number of floors **F**, the total number of elevators **E**, and the **floors that each elevator** stops on, determine how many elevator rides it takes to get to the **top floor**.

The **ground floor** is floor 0 and if there are **F** floors the **top floor is floor F** (i.e. the ground floor isn't counted).

Input Specifications

Your program will take

- A number **F** representing the number of floors
- A number **E** representing the number of elevators
- The **E lines** containing a list of **space delimeted numbers**, where the **i-th line represents the floors the i-th elevators stops on.**

Output Specifications

Print out the minimum number of elevators rides it takes to get to the top of the building.

Sample Input/Output

Input

```
29
3
0 6
6 15 17 20
6 23 26 29
```

Output

```
2
```

Explanation

There are 29 floors and 3 elevators. The first elevator stops on floors 0 and 6; the second on floors 6, 15, 17, and 20; and the third on 6, 23, 26, and 29. The shortest route to floor 29 is to first take the first elevator from floor 0 to floor 6 and then the third elevator from floor 6 to floor 29, for a total of 2 elevator rides.