IEEE Xtreme Practice

September 17th, 2019

00:

Check if String is a palindrome

01:

https://code.google.com/codejam/contest/6304486/dashboard

Problem

The Constitution of a certain country states that the leader is the person with the name containing the greatest number of different alphabet letters. (The country uses the uppercase English alphabet from A through Z.) For example, the name `GOOGLE` has four different alphabet letters: E, G, L, and O. The name `APAC CODE JAM` has eight different letters. If the country only consists of these 2 persons, `APAC CODE JAM` would be the leader.

If there is a tie, the person whose name comes earliest in alphabetical order is the leader.

Given a list of names of the citizens of the country, can you determine who the leader is?

Input

The first line of the input gives the number of test cases, **T**. **T** test cases follow. Each test case starts with a line with an interger **N**, the number of people in the country. Then **N** lines follow. The i-th line represents the name of the i-th person. Each name contains at most 20 characters and contains at least one alphabet letter.

Output

For each test case, output one line containing `Case #x: y`, where `x` is the test case number (starting from 1) and y is the name of the leader.

Limits

$1 \leq \mathbf{T} \leq 100$.
$1 \leq \mathbf{N} \leq 100$.

Small dataset

Each name consists of at most 20 characters and only consists of the uppercase English letters `A` through `Z`.

Large dataset

Each name consists of at most 20 characters and only consists of the uppercase English letters `A` through `Z` and ' '(space).
All names start and end with alphabet letters.

Sample

Input	Output
2 3 ADAM BOB JOHNSON 2 A AB C DEF	Case #1: JOHNSON Case #2: A AB C

In sample case #1, `JOHNSON` contains 5 different alphabet letters('H', 'J', 'N', 'O', 'S'), so he is the leader.

Sample case #2 would only appear in Large data set. The name `DEF` contains 3 different alphabet letters, the name `A AB C` also contains 3 different alphabet letters. `A AB C` comes alphabetically earlier so he is the leader.

02:

https://csacademy.com/ieeextreme-practice/task/96c8b1313edd72abf600facb0a14dbab/

Running Up Stairs

Time limit: *1000 ms*
Memory limit: *128 MB*

Every 12-year-old boy (at least in America) feels the need to run up the stairs skipping some of them. For this problem, we are going to assume that he randomly skips single steps. (with each step of his foot, he may land on the next step or he may skip one step and land on the following step). For example, if there are three steps, he could traverse them three ways:

The challenge in this problem is: given a number of stairs, calculate the number of ways he could traverse them.

Standard input

The input will start with a single line containing one integer t $(1 \leq t \leq 5)$ specifying the number of instances of the problem. Each subsequent line will contain one instance of the problem – a single integer n $(1 \leq n \leq 22\,000)$ specifying the number of steps in the stair case.

Standard output

For each instance of the problem, your program must output one line containing a single integer – the number of ways the steps could be traversed.

Constraints and notes

- $1 \leq t \leq 5$
- $1 \leq n \leq 22\,000$

Input	Output
1 3	3
1 5	8
2 1 2	1 2