

Problem 196: Keeping Inventory

Difficulty: Medium

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Problem Background

Keeping military equipment in working order - be it an airplane, tank, ship, or something else - is a critical task to ensure that the military is able to respond to any situation as quickly as possible. However, all of those airplanes, tanks, ships, and so on are each comprised of thousands of parts; keeping track of them all can be a HUGE task. This is further complicated by the fact that most of those parts are identified by largely incomprehensible part numbers.

Fortunately for contractors like Lockheed Martin, the United States Military has a solution for that. A series of standing orders from the Department of Defense, known as military standards, dictate how parts like these should be managed, all the way down to how to sort a list of part numbers.

Problem Description

Your team is working with Lockheed Martin's Rotary and Mission Systems division to create a new maintenance inventory system for a branch of the US Military. One of your requirements is to provide a list of all parts currently held in inventory. After discussing the requirement with the customer, you learn that the military standard MIL-DTL-38807D provides detailed instructions on how to sort a list of part numbers. Sorting the numbers correctly is important, as if parts are listed out of order, a maintainer may think they're out of stock of a part when they're not.

The full standard is very long and boring, and so we won't quote it here, but the important part (as far as your team is concerned) says that part numbers should be sorted by the characters they contain, from left to right, as follows:

1. Diagonals (represented as a forward slash, /)
2. Periods (.)
3. Dashes (-)
4. Uppercase letters A to N and P to Z, in alphabetic order
5. Numerals from 0 to 9 in increasing order. The uppercase letter O is treated the same as a numeral zero (0).

For example, the part number A-113 should appear before the part number ABC; even though they have the same first character, A-113 has a dash as the second character, which ranks above any letter.

Part numbers will only contain the characters listed above, and will not start with diagonals, periods, nor dashes.

Sample Input

The first line of your program's input, **received from the standard input channel**, will contain a positive integer representing the number of test cases. Each test case will include:

- A line containing a positive integer, **X**, indicating the total number of types of parts in inventory
- **X** lines, each containing the part number of a part in inventory, containing uppercase letters, numbers, periods (.), dashes (-), and/or slashes (/). Within a test case, all part numbers will be unique.

```
1
5
ABC
8CX.12/3
A-113
A.234
GQ/BBQ-12
```

Sample Output

For each test case, your program must print the given list of part numbers, one part number per line, in the order dictated by the military standard.

```
A.234
A-113
ABC
GQ/BBQ-12
8CX.12/3
```