Problem B: Finding unique active users

Input file: *testdata.in*
Time Limit: 2 seconds

Problem Description

A manager who runs a web 2.0 service wants to know the number of unique active users of his/her web site so that he/she can measure the popularity of the web site. When a user visits a page of the web site or performs an action, the server records the user's id in a log. At the end of a day, the manager can retrieve the information inside the log and count the number of unique active users. For example, Figure 1 shows the content of a log.

User ID
AA01
0213
AA01
0212
CD26

Figure 1: The daily log of the web site.

Form the log, we know there are 4 unique users (i.e., AA01, 0123, 0212, and CD26). Note that although "AA01" repeats twice, the appearance of AA01 still only be counted once because we want to obtain the number of "unique" user IDs.

Given a log, please write a program that can rapidly count the number of unique users.

Technical Specifications

The number of items in a log would be smaller than or equal to $2,000,000$.

Input Format

The first line of the input file contains an integer indicating the number of test cases to follow. Each test case is ended with a line of "-1". There are N lines ($0 < N \leq 2000000$) in a test case. Each line indicates a user ID. A user ID is a 4-character string. Each character of a user ID can be a single-digit number between 0 and 9 or any letter within the range of a capital A to a capital Z .

Output Format

For each test case, output the number of unique active users in one line.

Sample Input

```
2
AA01
0213
AA01
0212
CD26
-1
AA01
0123
0000
0000
0000
0000
-1
```

Sample Output

```
4
3
```