1. Write a program that prints the numbers from 1 to 20. But for multiples of three print “Spam” instead of the number and for the multiples of five print “Egg”. For numbers which are multiples of both three and five print “SpamEgg”.

2. Tell me about a time you had to explain something technical to a nontechnical person.

3. Write a program that finds the factorial of a number using recursion.

4. What is the complexity of QuickSort?

5. What don't you like about Python?

6. Write a bash script that deletes all the files that contain “`java`” (case insensitive) in path.

7. Vincent and Desta are childhood friends. Today, Vincent is showing N distinct L-letter words to Desta by using some letter tiles. Each tile contains one uppercase English alphabet letter, and one number between 1 and L. A word consists of the letters spelled out by L tiles with numbers from 1 through L, in order. (Vincent's words are not necessarily real English words.)
For example, if Vincent has N = 3 words with L = 4, and the words are {CAKE, TORN, SHOW}, then Vincent must show the following to Desta:

C$_1$**A**$_2$**K**$_3$**E**$_4$

T$_1$**O**$_2$**R**$_3$**N**$_4$

S$_1$**H**$_2$**O**$_3$**W**$_4$

Desta feels that creating words must be easy, and he wants to create a new word that obeys the rules above and is not one of Vincent's existing words. However, Desta does not have any tiles of his own, so he must use some of Vincent's tiles.
For instance, if Vincent has the words from the previous example, then Desta can make a new word such as CORN or SAKE or CHRE (Desta's words are also not necessarily real English words):

C$_1$**O**$_2$**R**$_3$**N**$_4$

S$_1$**A**$_2$**K**$_3$**E**$_4$

C$_1$**H**$_2$**R**$_3$**E**$_4$

Note that the three rows above are independent. Desta only needs to make one new word.
However, in the above example, Desta cannot make WAKE, for example, because there is no W tile with a number 1. Nor can he make COO, since it is not the right length.
Notice that it may be impossible for Desta to make a new word. For example, if Vincent has only one word, then Desta cannot make anything new. Or, if Vincent has the words {AA, AB, BA, BB}, then any word that Desta can form is already present.
Help Desta to choose a word that he can show to Vincent using only the tiles used by Vincent, or indicate that it is impossible to do so.

Input

The first line of the input gives the number of test cases, T. T test cases follow. Each begins with one line with two integers N and L: the number of Vincent's words, and the length of each word. Then, N more lines follow. The i-th of these lines contains a string of L uppercase English letters representing the i-th of Vincent's words.

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 a valid word to be chosen by Desta, or - (a single dash character of ASCII value 45) if there is no valid word to be chosen by Desta. If there is more than one valid word that Desta can make, you can output any of them.

Limits

$1 \leq T \leq 100$.
Time limit: 15 seconds per test set.
Memory limit: 1GB.
No two of Vincent's words are the same.

Test set 1 (2018-7.in)

$1 \leq N \leq 26^2$.
$1 \leq L \leq 2$.

Test set 2 (Hidden)

$1 \leq N \leq 2000$.
$1 \leq L \leq 10$.

Sample Input

```
5
4 1
A
B
C
D
4 2
WW
AA
SS
DD
4 2
AA
AB
BA
BB
3 4
CAKE
TORN
SHOW
5 7
HELPIAM
TRAPPED
INSIDEA
HAMSTER
FACTORY
```

Sample Output

```
Case #1: -
Case #2: WA
Case #3: -
Case #4: CORN
Case #5: INSIDER
```