

Homework

Jojo is doing his homework, his homework consists of N multiple choice questions where each question has M choice. There are several questions which he doesn't know the answer, so he will just make a guess, but because he knows that his teacher always makes homework such that all the answer will be distributed evenly on each choice, he will choose based on the least chosen answer. In each scenario, which answer will he choose?

Format Input

The first line will contain an integer T , the number of test cases.

The next line will contain two integers N and M , each denoting the number of questions he already answered and how many choices for each question.

Next line will consist of N integer (A_1, A_2, \dots, A_n), the answer to the K -th question.

Format Output

For each test case, print "Case #X: " (X starts from 1), then the answer of the next question, if there is more than one answer, print the smallest one.

Constraints

$1 \leq T \leq 10$

$1 \leq N \leq 100,000$

$1 \leq M \leq 100$

$1 \leq A_1, A_2, \dots, A_n \leq M$

Sample Input	Sample Output
4 4 5 1 2 3 4 5 5 1 2 2 4 5 5 5 1 2 3 4 5 5 7 1 2 3 4 5	Case #1: 5 Case #2: 3 Case #3: 1 Case #4: 6