Problem F. Color

Description

Recently, Mr. Big recieved n flowers from his fans. He wants to recolor those flowers with m colors. The flowers are put in a line. It is not allowed to color any adjacent flowers with the same color. Flowers i and $i+1$ are said to be adjacent for every i, $1 \leq i < n$. Mr. Big also wants the total number of different colors of the n flowers being exactly k.

Two ways are considered different if and only if there is at least one flower being colored with different colors.

Input

The first line of the input gives the number of test cases, T. T test cases follow. T is about 300 and in most cases k is relatively small.

For each test case, there will be one line, which contains three integers n, m, k ($1 \leq n, m \leq 10^9$, $1 \leq k \leq 10^6$, $k \leq n, m$).

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 number of ways of different coloring methods modulo $10^9 + 7$.

Samples

Sample Input	Sample Output
2 3 2 2 3 2 1	Case #1: 2 Case #2: 0