Development Colored

There are **N** unique colors in the universe, numbered from **1** to **N**. George Michael wants to create a rainbow using these colors. The rainbow will consist of exactly **M** layers. For each layer, George Michael selects a color uniformly randomly from the **N** colors and colors the layer with it. George Michael wonders what will be the probability that there will be at least **K** distinct colors in the rainbow after all the layers are colored in this way.

Input

The first line of the input contains an integer **T**, denoting the number of test cases. Each of the next **T** lines will contain three integers, **N**, **M** and **K**.

Constraints

- $1 \le T \le 20$
- $1 \le N, M, K \le 2 * 10^5$

Output

For each test case, print the case number and the probability that the rainbow will contain at least **K** distinct colors after all the layers are colored. Formally, let this probability be an irreducible fraction **P / Q**. Then you need to print $(P * Q^{-1})$ modulo **1000000007**, where Q^{-1} is the modular inverse of **Q** modulo **1000000007**. You may safely assume that there will be a unique modular inverse of **Q** modulo **1000000007**.

Sample Input

```
3
1 1 1
2 2 2
4 2 2
```

Sample Output

```
Case 1: 1
Case 2: 500000004
Case 3: 750000006
```

Challenge(!)

[Colored Development]