**Disease Spread**

On day 1, one person contracts a new disease.

You will be given a **delay** time **D**, which means that each person will spread the disease with a new person each day, starting from **D** days after coming into contact with the person. You are also given **relief** time **R**, which is how much time it takes for a person to be cured of the disease. **Note:** A person cannot spread the disease and be cured of it on the same day, or on any day afterwards.

Do you think you can find the number of people who are infected with the disease after a certain amount of time? The number will get very big, so return it (answer MOD 109+7).

**Input:** The first line of input contains **T**, the number of test cases. The next **T** lines will contain three integers, **N**, the number of days that you will find, **D**, the delay time, and **R**, the relief time.

**Output:** You will first output “CASE #(case number): “ followed by the number of people infected after **N** days.

**Example Input:**

2

6 2 4

4 1 3

**Example Output:**

CASE #1: 5

CASE #2: 6

**Explanation:** For case one, the following is a timeline of events:

DAY 1: suppose the first person is named A. This is when they get infected. (1 person)

DAY 2: A is the only person still infected. (1 person)

DAY 3: A spreads the disease to a new person, B. (2 people)

DAY 4: A spreads the disease to a new person, C. (3 people)

DAY 5: A is cured, and B spreads it to a new person D. (3 people)

DAY 6: B spreads the disease to E, and C spreads it to F. (5 people)

The following timeline is for test case #2:

DAY 1: the first person gets it, person A. (1 person)

DAY 2: A spreads it to B. (2 people)

DAY 3: A spreads it to C, and B spreads it to D. (4 people)

DAY 4: A is cured, B, C, and D, spread it to three new people. (6 people)