

## Weird Bacteria

Jojo is a scientist who was researching strange bacteria, which reproduce by dividing. Since the birth of a bacterium, it needs  $N$  minute to do its first division. After that, the bacterium splits every  $M$  minute. As a good friend of Jojo, you are asked to help him count the number of bacteria after division for  $P$  minutes! You always start with a new birth bacterium!

For this problem please make a function:

```
"int getBacteria(int firstdivision,int afterfirstdivision, int time, int maxtime)".
```

Which gives results, the number of bacteria after division. You are encouraged to use recursive techniques to solve this problem.

DO NOT include any built-in C/C++ function, except for "stdio.h" function.

### Format Input

The first line contains  $T$ , the number of test cases.

For each test case, the input consists of 3 integers:  $N$ , the time for the first division,  $M$ , the time for the next divisions, and  $P$ , the time target for the division of the bacteria.

### Format Output

Output "Case #X: Y" for each question, where  $X$  is the question number, and  $Y$  is the result of the sum.

### Constraints

$$1 \leq T \leq 10$$

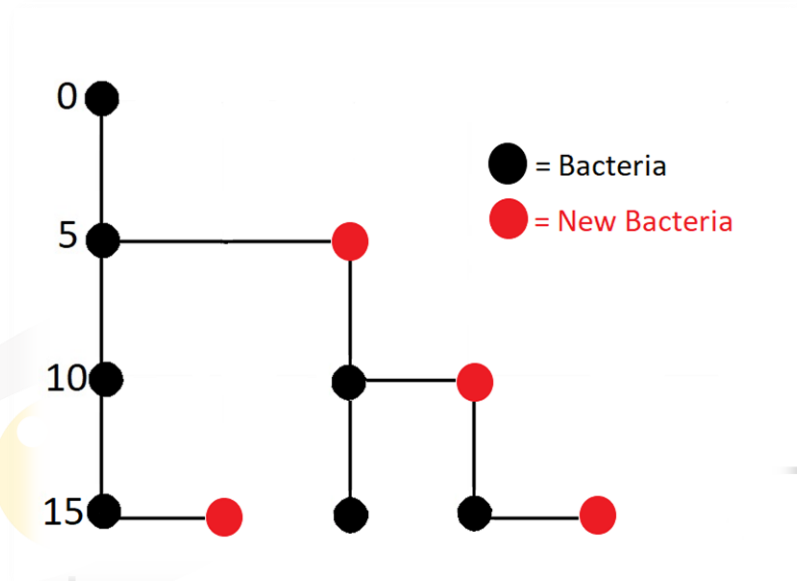
$$1 \leq M \leq 50$$

$$1 \leq N \leq 50$$

$$1 \leq P \leq 23$$

Sample Input	Sample Output
3	Case #1: 5
5 10 15	Case #2: 1
5 10 1	Case #3: 2
1 1 1	

Timeline of bacteria in the first test case:



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