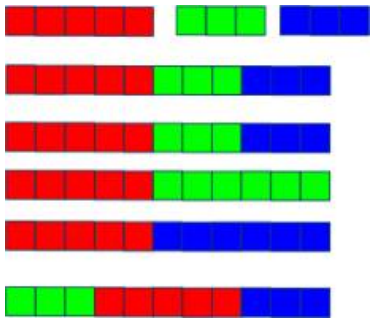
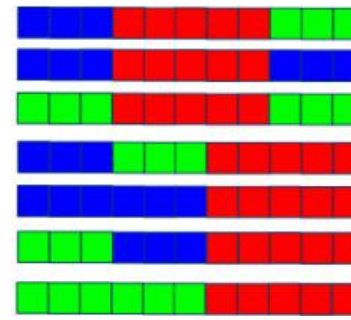
John decided to buy his son Johnny some mathematical toys. One of his most favorite toy is blocks of different colors. John has decided to buy blocks of C different colors. For each color he will buy googol (10^{100}) blocks. All blocks of same color are of same length. But blocks of different color may vary in length.

Jhonny has decided to use these blocks to make a large $1 \times n$ block. He wonders how many ways he can do this. Two ways are considered different if there is a position where the color differs. The example shows a red block of size 5, blue block of size 3 and green block of size 3. It shows there are 12 ways of making a large block of length 11.





Input

Input starts with a positive integer $T \leq 25$. T test cases follow.

Each test case starts with an integer $1 \leq C \leq 100$. Next line consists c integers. i-th integer $1 \leq len_i \leq 750$ denotes length of i-th color. Next line is positive integer $n \leq 10^{15}$.

Output

For each case output case number followed by the number of ways Johnny can make the desired block *modulo* 100000007 (a prime number). See sample output for exact format.

Sample Input

```
4
3
3 3 5
11
3
3 5 3
1111111111111
4
1 1 100 100
1000000
3
1 1 1
5
```

Sample Output

```
Case 1: 12
Case 2: 20634244
Case 3: 94126777
Case 4: 243
```