

## Problem **K**. **KYKNEION ASMA**

**Time Limit: 3 seconds**

### Problem Description

On the last day before the famous mathematician Swan's death, he left a problem to the world: Given integers  $n$  and  $a_i$  for  $0 \leq i \leq 4$ , calculate the number of  $n$ -digit integers which have at most  $a_i$ -digit  $i$  in its decimal representation (and have no 5, 6, 7, 8 or 9). Leading zeros are not allowed in this problem.

### Input

There is one integer  $T$  ( $1 < T \leq 10$ ) in the beginning of input, which means that you need to process  $T$  test cases. In each test case, there is one line containing six integers representing  $n$  and  $a_0$  to  $a_4$ , where  $2 \leq n \leq 15000$  and  $0 \leq a_i \leq 30000$ .

### Output

For each test case, you should print first the identifier of the test case and then the answer to the problem, module  $10^9 + 7$ .

### Sample Input

```
10
5 0 1 2 3 4
5 1 1 1 1 1
5 2 2 2 2 2
5 3 3 3 3 3
5 3 2 1 3 2
5 3 2 0 0 0
5 0 0 0 5 0
7000 41 2467 6334 2500 3169
7000 7724 3478 5358 2962 464
7000 5705 4145 7281 827 1961
```

## Sample Output

Case #1: 535  
Case #2: 96  
Case #3: 1776  
Case #4: 2416  
Case #5: 1460  
Case #6: 4  
Case #7: 1  
Case #8: 459640029  
Case #9: 791187801  
Case #10: 526649529