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
```