# Problem F <br> Permutation <br> Input: Standard Input <br> Output: Standard Output 

Given N and K find the N 'th permutation of the integers from 1 to K when those permutations are lexicographically ordered. N starts from 0 . Since N is very large N will be represented by a sequence of $K$ non-negative integers $S_{1}, S_{2}, \ldots, S_{k}$. From this sequence of integers $N$ can be calculated with the following expression.

$$
\Sigma_{1}^{2} S \mathrm{Si} *(K-t)!
$$

## Input

First line of the input contains $\mathrm{T}(\leq 10)$ the number of test cases. Each of these test cases consists of 2 lines. First line contains a integer $\mathrm{K}(1 \leq \mathrm{K} \leq 50000)$. Next line contains $K$ integers $\mathrm{S}_{1}, \mathrm{~S}_{2}, \ldots$, $\mathrm{S}_{\mathrm{k}}\left(0 \leq \mathrm{S}_{\mathrm{i}} \leq \mathrm{K}-\mathrm{i}\right)$.

## Output

For each test case output contains N'th permutation of the integers from 1 to K. These K integers should be separated by a single space.

| Sample Input | Output for Sample Input |
| :---: | :---: |
| 4 | 321 |
| 3 | 213 |
| 210 | 3241 |
| 3 | 2431 |
| 100 |  |
| 4 |  |
| 2110 |  |
| 4 |  |
| 1210 |  |

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