1. Permutation

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| Program: permute.(py|cpp|java)  Input: permute.in |

**Description**

Given a list of integers A. Your task is to write a program that reads A from an input file (permute.in) prints all different permutations of A to the standard output.

Input

The input file starts with a single integer *N<20* denoting the number of test cases followed by test cases each on a separate line.

A test case starts with a positive integer *X<11* representing the number of integers in this case followed by *X* integers where each integer 0=< *ai* < 1010

Output

For each test case, first print the total number of permutations *T* on a separate line. Then each permutation on a separate line.

Time and Space Analysis

Discuss your implementation time and space requirements.

**Sample Input /output**

2

3 10 65 33

2 10000 3234

6

10 65 33

10 33 65

65 10 33

65 33 10

33 10 65

33 65 10

2

10000 3234

3234 10000

OUTPUT

permute.in