1023 – Discovering Permutations

In this problem you have to find the permutations using the first **N** English capital letters. Since there can be many permutations, you have to print the first **K** permutations.

Input

Input starts with an integer **T (≤ 100)**, denoting the number of test cases.

Each case contains two integers **N, K (1 ≤ N ≤ 26, 1 ≤ K ≤ 30)**.

Output

For each case, print the case number in a line. Then print the first **K** permutations that contain the first **N** English capital letters in alphabetical order. If there are less than **K** permutations then print all of them.

Sample Input	Output for Sample Input
2 3 8 10 10	Case 1: ABC ACB BAC BCA CAB CBA Case 2: ABCDEFGHIJ ABCDEFGHJI ABCDEFGIHJ ABCDEFGIJH ABCDEFGJHI ABCDEFGJIH ABCDEFHGIJ ABCDEFHGJI ABCDEFHIGJ ABCDEFHIJG