Matchsticks

Matchsticks are ideal tools to represent numbers. A common way to represent the ten decimal digits with matchsticks is the following:

This is identical to how numbers are displayed on an ordinary alarm clock. With a given number of matchsticks you can generate a wide range of numbers. We are wondering what the smallest and largest numbers are that can be created by using all your matchsticks.

Input

The first line of the input contains an integer t. t test cases follow.

Each test case consists of a single line containing an integer n where n is the number of matchsticks you have.

Output

For each test case, output one line containing "Case #i: x y" where i is its number, starting at 1, x is the smallest number larger than 0 you can create using all matchsticks and y is the largest number you can create using all matchsticks. Leading zeroes are not allowed.

Constraints

- $1 \leq t \leq 100$
- $2 \leq n \leq 100$

Sample Input 1	Sample Output 1
4 2 3 4 5	Case #1: 1 1 Case #2: 7 7 Case #3: 4 11 Case #4: 2 71