Data Structures and Algorithms Lab

03. Structures

Lab Code: 17ECSP201 **Lab No:** 03 **Semester:** III
Date: 29 Aug, 2017 **Batch:** C2

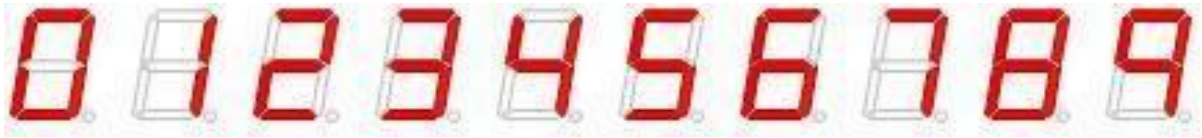
Theme: Life is a Fairly Complex Thing!

Objective: Operating on Structures and Problem Solving Skills

---

"Look at those numbers! I want them too" cried the little Vishwa. His mother looking at it expressed, "Now how shall I get him the seven segment display!"

She was already tired with Vishwa's demands. Every day he used to demand something new, basically whatever new he saw around. The number board put on display in front of electronic shop was his current demand.



She gave a task to Vishwa. She also added that only on successful completion of that, she would purchase him the number board.

She would give him some 'n' number of matchsticks. He had to form the largest and the smallest number he could using those matchsticks, just like in segment display.

Help Vishwa to win his prize! Write a program that could achieve the given task.

Input

The first line input will be a positive number which will indicate the number of test cases. The maximum test cases you can give are 100.

After that per test case, one line with an integer 'n' where 'n' is between 2 to 100 indicating number of match sticks given.

Output

Per test case output the following:
Smallest and largest number you can create using the given matchsticks. The number has to be positive and cannot have leading 0's.

Examples:
Sample Input
4
3
6
7
15

Sample Output
7 7
6 111
8 711
108 7111111

Approach:

- Understand the problem, clearly, along with input and output format and meaning
- Solve it by hand with analysis and then try to transfer them to C code
- Pack the relevant variables as member of a structure in the solution

[Marks: 100]

**** May The Force Be With You ****