








































Practice Arena

Practice problems aimed to improve your coding skills.

-  PRACTICE-02_SCAN-PRINT
-  PRACTICE-03_TYPES
-  LAB-PRAC-02_SCAN-PRINT
-  LAB-PRAC-01
-  PRACTICE-04_COND
-  BONUS-PRAC-02
-  LAB-PRAC-03_TYPES
-  PRACTICE-05_COND-LOOPS
-  LAB-PRAC-04_COND
-  LAB-PRAC-05_CONDDLOOPS
-  PRACTICE-07_LOOPS-ARR
-  LAB-PRAC-06_LOOPS
-  LAB-PRAC-07_LOOPS-ARR
-  LABEXAM-PRAC-01_MIDSEM
-  PRACTICE-09_PTR-MAT
-  LAB-PRAC-08_ARR-STR
-  PRACTICE-10_MAT-FUN
-  LAB-PRAC-09_PTR-MAT
-  LAB-PRAC-10_MAT-FUN
-  PRACTICE-11_FUN-PTR
-  LAB-PRAC-11_FUN-PTR
 -  Name the Clones
 -  The Race of the Clones
 -  Partial Palindrome
 -  Growth Curve
 -  The Family Tree of Mr C
 -  Timely Tasks
 -  Plenty of Palindromes
 -  Count and Say Sequence
 -  Orbiting Indices
 -  Zig-zag Numbers
 -  Parent Palindrome
 -  Leaderboard
-  LAB-PRAC-12_FUN-STRUC
-  LABEXAM-PRAC-02_ENDSEM
-  LAB-PRAC-13_STRUC-NUM
-  LAB-PRAC-14_SORT-MISC

Count and Say Sequence

LAB-PRAC-11_FUN-PTR

Count and Say Sequence [20 marks]

Problem Statement

Sometimes Mr C likes to play games to relieve himself from all the hard work he has to do compiling and running your programs. One of his favorite games is *Speak and Say* and is described below.

1. The game starts with a single digit number, for example 4
2. The first line of the game is simply the starting digit itself i.e. the string "4" (without quotes)
3. The second line of the game is obtained by speaking out the first line and then writing it in numbers. Since there is just "one four" in the first line, the second line is "14" (without quotes).
4. The third line is obtained by speaking and writing the second line. Since there is "one one followed by one four" in the second line, the third line is "1114" (without quotes).
5. The fourth line is "3114" (without quotes) since there are "three ones followed by one four" in the third line
6. The game continues for several rounds like this.

The input will give you two strictly positive numbers, n and k, separated by a space. The number n will be a single digit. You have to print k lines of the game starting with the digit n.

Caution

1. We assure you that all lines of the game will require 99 or less characters to print.
2. We assure you that in none of the lines, will any digit occur more than 9 times consecutively
3. This question will not necessarily benefit from recursive use of functions. However, you should use functions to write neat and easy-to--debug code.
4. Be careful about extra/missing lines and extra/missing spaces in your output.

EXAMPLE:

INPUT

1 6

OUTPUT:

1

11

21

1211

111221

312211

Grading Scheme:

Total marks: **[20 Points]**

There will be partial grading in this question. There are several lines in your output. Printing each line correctly, in the correct order, carries equal weightage. Each visible test case is worth 2 points and each hidden test case is worth 4 points. There are 2 visible and 4 hidden test cases.

Please remember, however, that when you press Submit/Evaluate, you will get a green bar only if all parts of your answer are correct. Thus, if your answer is only partly correct, Prutor will say that you have not passed that test case completely, but when we do autograding afterwards, you will get partial marks.

 **Start Solving!** (</editor/practice/6222>)