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_CONDLOOPS
- 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
- LAB-PRAC-12_FUN-STRUC
- LABEXAM-PRAC-02_ENDSEM
- LAB-PRAC-13_STRUC-NUM
  - Too tired to create a story - part I
  - Too tired to create a story - part II
  - Too tired to create a story - part III
  - Point Proximity
  - The Bisection Method
  - The pace is too fast
  - A Question on Quadrilaterals
  - The Trapezoidal Technique
  - Constrained Candy Crush
  - Major Mobile Madness
  - The Newton Raphson Method
  - The Palindrome Decomposition
- LAB-PRAC-14_SORT-MISC

Too tired to create a story - part III

LAB-PRAC-13_STRUC-NUM

Too tired to create a story - part III [20 marks]

Problem Statement
In the input, you will be given a strictly positive integer K denoting the length of the strings you have to print. In your output, on each line, you have to print a string of length K using only the characters '0' and '1' (without quotes). The strings must be printed in lexicographically increasing order i.e. if you think of these strings as numbers, the numbers should appear in increasing order.

The only property these strings must satisfy is that no two consecutive characters in the strings you generate can be the character '0'. Two or more consecutive characters can be '1' but two consecutive characters cannot be '0'.

Caution

1. The first character in the string can freely be 0 or 1 since there is no previous character to cause consecutive 0. However, second character onwards, we must have a 0 only if the previous character was not 0 to avoid consecutive 0.
2. Be sure to print all leading 0 in the output. Every string you print must contain k characters.
3. We will not penalize you for extra newlines at the end of your output but do not have extra spaces anywhere in your output.

HINTS: Write a function of the form
void genStrings(char *str, int k, int done)

1. str: the character array that contains the (possibly incomplete) string
2. k: the length of the string
3. done: how many characters have we generated yet

The base case can be when done = k in which case you can just print the string. Otherwise you need to set the character at position done appropriately and call the function recursively. The function may be initially invoked as
char str[k+1];
str[k] = '\0';
genStrings(str, k, 0);

EXAMPLE:
INPUT
2

OUTPUT:
01
10
11

Explanation: 00 is an illegal string since it has two consecutive zeros.

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/6257)