
De Bruijn sequences (1)

P85110_en

A binary de Bruijn sequence of order n is a cyclic sequence of zeros and ones such that every possible subsequence of n consecutive digits appears exactly once. Please compute the lexicographically smallest de Bruijn sequence of order n .

Input

Input consists of several cases, each with an integer number n between 1 and 15.

Output

For every case, print the lexicographically smallest de Bruijn sequence of order n .

Hint

A “reasonable” backtracking algorithm should be fast enough to get this problem accepted.

Sample input 1

2
3
4

Sample output 1

0011
00010111
0000100110101111

Problem information

Author: Xavier Martínez

Generation: 2026-01-25T12:05:03.452Z

© Jutge.org, 2006–2026.

<https://jutge.org>