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Generate Balanced Parenthesis – medium version





? Ask Doubt

 Time-Limit: 1 sec

 Score: 100.00/100

Difficulty : 

 Memory: 256 MB

 Accepted Submissions: 100

Relevant For:

AZ-201

Description

You have given two positive integers n and k . Your task is to print all balanced parenthesis of length n in lexicographic order (https://en.wikipedia.org/wiki/Lexicographic_order) with depth **exactly** k .

Balanced parentheses mean that each opening symbol has a corresponding closing symbol and the pairs of parentheses are properly nested.

Note:

1.

$\text{depth}("") = 0.$
2.

$\text{depth}('(' + A + ')') = \text{depth}(A) + 1$, where A is a balanced paranthesis sequence.
3.

$\text{depth}(A + B) = \max(\text{depth}(A), \text{depth}(B))$, where A and B are both balanced paranthesis sequence.
4.

$\text{depth}("(") = \text{depth}(")") = 0$

Input Format

The only line of input contains two numbers number n and k .

Output Format

Print all balanced parenthesis of length n with depth k in lexicographic order.

Constraints

$2 \leq n \leq 24$
 $1 \leq k \leq n / 2$
It is guaranteed that n is an even number.

Sample Input 1

Copy

6 2

Sample Output 1

Copy

((()))
((()())

C++14[GCC] ▾



Submit

1 ▾

#include <bits/stdc++.h>

2

3 using namespace std;

4