

Bracket Sequences

time limit per test: 5 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

points: 1 · problem code: pondobricks · author: jszqlw

Problem Statement

Give a string s of length n consisting of only characters '(' and ')'. Output the number of sub-sequences of s which are equal to '()'.

This problem can be solved without divide and conquer, but for the purpose of this exercise, please use divide and conquer.

NOTE: A subsequence of s is formed by deleting some characters from s .

Input Format

Your first line will contain a single integer n . Your next line will contain s .

Output Format

Output the number of bracket sequences equal to '()' in s .

Constraints

- $1 \leq n \leq 10^5$

Sample Cases

Input 1

```
5
((()))
```

Output 1

```
6
```

Input 2

```
10
)()()()()
```

Output 2

```
12
```

Template

```
n = int(input())
s = input()

# print your output
```