

Longest Valid Parenthesis

Link : <https://practice.geeksforgeeks.org/problems/longest-valid-parentheses/0>

Given a string **S** consisting of opening and closing parenthesis '(' and ')'. Find length of the longest valid parenthesis substring.

Input:

First line contains number of test cases **T**. Each test case have one line string **S** of character '(' and ')' of length **N**.

Constraints:

$1 \leq T \leq 500$

$1 \leq N \leq 10^5$

Example:

Input:

```
2
((()
)())
```

Output:

```
2
4
```

Explanation:

Testcase 1: Longest valid balanced parantheses is () and its length is 2.