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Valid Parentheses AZ101





? Ask Doubt

 Time-Limit: 1 sec

 Score: 100.00/100

Difficulty :  

 Memory: 256 MB

 Accepted Submissions: 100

Relevant For:

AZ-201

AZ-202

Description

You are given a string S. Find the minimum number of parentheses you should add to make the parentheses valid.

A parentheses is valid if:

- 1. It is an empty string
- 2. It can be written as AB where A and B are valid parentheses
- 3. It can be written as (A) where is a valid parentheses

Input Format

The first line of the input contains one integer T - the number of test cases. Then T test cases follow.

The first line of each test case contains one string S.

Output Format

For each test case, print the minimum number of parentheses you should add to make the parentheses valid.

Constraints

$1 \leq T \leq 2 \times 10^5$
 $1 \leq |S| \leq 10^5$
It is guaranteed that the sum of |S| over all test cases does not exceed 10^6 .

Sample Input 1

Copy

```
3
((()))
()()()
))((
```

Sample Output 1

Copy

```
2
1
4
```

C++14[GCC] ▾



1

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