Problem 3: Paranthseses Again

Time Limit: 1 sec

Memory Limit: 32 MB

Again we are going directly to the problem. You are given a paranthseses sequence. Like - ()))(())()..... etc. That sequence may not be **balanced**. We need you to find, "How many single places are there such that if you reverse the bracket of that position, the sequence will become balanced?"

Input Description

Input file contaings only one string **S** contaning a paranthseses sequence.

Output Description

Print the desired answer as expected.

Constrains

For 60% of the total score, **|S| <= 1000**

For perfect score, **|S| <= 10^5**

Sample

Input	Output
()(())))	4

Explanation

```
12345678
()(()))
```
Reverse position 2 -
```
(((()))
```

Reverse position 5 -
```
()((()))
```

Reverse position 6 -
```
()(()())
```

Reverse position 7 -
```
()(())()
```

So, there are 4 such places. :D