

时间限制: C/C++/Rust/Pascal 2秒, 其他语言4秒

空间限制: C/C++/Rust/Pascal 1024 M, 其他语言2048 M

Special Judge, 64bit IO Format: %Ild

## 题目描述 🔀

Alice has a valid parentheses sequence s and she wants to share it with Bob through a noisy channel. For each character, the channel independently transmits that character to Bob with a probability of 1/2, or transmits an indistinguishable character '?' to Bob with a probability of 1/2. For example, if Alice's valid parentheses sequence is s = (()()), Bob might receive the character sequences (?)(), (??), but cannot receive the character sequence (?)(). After receiving the message, Bob tries to reconstruct the valid parentheses sequence that Alice transmitted. However, Alice knows that in some cases, the reconstruction is not unique: for instance, when receiving the character sequence (?), there are two possible reconstructions: (()()) and ((())).

Please help Alice calculate the probability that the message Bob received can uniquely reconstruct the valid parentheses sequence. Output the answer modulo  $998\,244\,353$ .

Parentheses sequence s is valid if either of the following holds true:

- s is empty;
- s= ' ( ' + t + ' ) ', where t is a valid parentheses sequence;
- $s=t_1+t_2$ , where  $t_1$  and  $t_2$  are valid parentheses sequences.

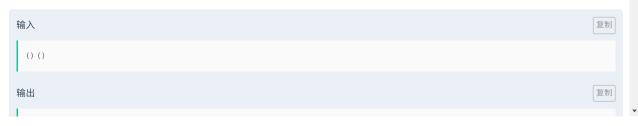
## 输入描述:

The input consists of a single line containing a valid parentheses sequence s ( $2 \le |s| \le 10^6$ ).

## 输出描述:

Output a single integer indicating the probability that the message Bob received can uniquely reconstruct the valid parentheses sequence, modulo  $998\,244\,353$ .

## 示例1



① C++ (clang++18)

1

请通过 入输出 出描述!

ACM模

运行结果

自测辑