

Problem E. Parentheses Sequence

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 512 mebibytes

Petya found an ancient string. The string contains only characters ‘(’, ‘)’ and ‘?’.

Petya would like to replace each ‘?’ with ‘(’ or ‘)’ so that the string becomes valid (defined as follows).

- An empty string is valid.
- If S is valid, (S) is valid.
- If U, V are valid, UV is valid.

Check if the way of replacement can be uniquely determined.

Input

The input contains a string $s_1s_2\dots s_n$ ($1 \leq n \leq 10^6$), consisting of ‘(’, ‘)’ and ‘?’ only.

Output

If there is a unique way to obtain a valid string, print “Unique”. If there is no way of replacement, print “None”. Otherwise, print “Many”.

Examples

standard input	standard output
??	Unique
????	Many
(??	None