Problem E. Expression Generation

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

You are given a string s. Each character in s is one of "`0123456789+()?`" (without quotes).

Let t be a string formed by replacing each '`?`' in s with one of "`0123456789+()`". Define $eval(t)$ as follows:

- If t is a valid expression, then it is the value obtained by evaluating t as an expression.
- If t is not a valid expression, then it is 0.

Compute the sum of $eval(t)$ for all possible ways to replace each '`?`' in s with one of "`0123456789+()`", and print the result modulo 998 244 353.

A valid expression is defined by the following BNF:

```
<expression> ::= <expression> + <primary> | <primary>
<primary> ::= ( <expression> ) | <number>
<number> ::= <nonzero-digit> <number-sub> | <digit>
<number-sub> ::= <number-sub> <digit> | <digit>
<digit> ::= 0 | <nonzero-digit>
<nonzero-digit> ::= 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9
```

Input

The input contains a single string s ($1 \le |s| \le 3000$, each character of s is one of "`0123456789+()?`").

Output

Print a single integer: the answer to the problem.

Examples

standard input	*standard output*
?1?	46306
20???0+2??	651059511