# Reverse Polish notation

Reverse Polish notation (RPN), also known as Polish postfix notation or simply postfix notation, is a mathematical notation in which operators follow their operands, in contrast to Polish notation (PN), in which operators precede their operands. It does not need any parentheses as long as each operator has a fixed number of operands.

You need to write a program that transforms an infix expression to a equivalent RPN according to the following specifications.

1. The infix expression is in the input file in the format of one character per line, with a maximum of 50 lines. For example, `(1+1)*(4*5+1)-4` would be in the form:

```
(
1
+
1
)
*
(
4
*
5
+
1
)
-
4
```

2. There will be only one infix expression in the input file, and it will be an expression with a valid syntax.
3. All operators are binary operators `+, -, *, /` .
4. The operands will be one digit numerals: 0, 1, 2, … , 9.
5. The operators `*` and `/` have the highest precedence. The operators `+` and `-` have the lowest precedence. Operators at the same precedence level associate from left to right. Parentheses act as grouping symbols that override the operator precedence.

**Input**

There will be multiple lines in the input file as specified above.

**Output**

The output file will have a postfix expression all on one **line** with no whitespace between symbols and a single newline character at the end.

**Example**

```
Input:
(
1
+
1
)
*
(
4
*
5
+
1
```

```
)
-
4

Output:
11+45*1+*4-
```