

Junior Division - Prefix Evaluation

考号/Exam Code: _____ 姓名/Name: _____ 学校/School: _____

PROBLEM: Evaluate a prefix expression. The operands in the expression are single digit whole numbers. The operators are binary addition (+), subtraction (-), and multiplication (*), and a trinary operator “switcher” (@). The @ operator of a , b , and c returns b when a is positive; otherwise, it returns c .

Example 1: * + 4 5 - 3 1 simplifies to * 9 2, which has a value of 18.

Example 2: @ - 8 9 7 + 4 2 simplifies to @ -1 7 6, which has a value of 6.

INPUT: Five lines of data. Each line is a string, ≤ 128 characters. The string is a valid prefix expression with single digit whole number operands, and uses the operators +, -, * and @. All operands and operators are separated by at least one space.

OUTPUT: Evaluate each prefix expression and print the answer.

SAMPLE INPUT :

```
* + 4 5 - 3 1
@ - 8 9 7 + 4 2
@ - 3 5 - * 2 4 1 0
* 4 @ - 5 7 * 3 2 + 1 9
* + @ 4 6 9 @ - 3 8 1 7 2
```

SAMPLE OUTPUT:

```
#1. 18
#2. 6
#3. 0
#4. 40
#5 26
```

TEST INPUT

```
- + * 4 3 - 7 * 3 1 * 2 8
- @ 7 3 2 @ 2 5 1
@ - 4 9 * 6 3 + 7 5
- * @ - 3 7 2 8 @ - 5 1 + 3 4 + 8 9 6
@ * - 3 5 - 4 8 + 7 * 3 4 + 2 * 6 5
```

AMERICAN COMPUTER SCIENCE LEAGUE

2018-2019

Contest #4

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PROBLEM (问题): 计算前缀表达式。表达式中的操作数是单位整数。运算符包括二进制加法 (+)、减法 (-) 和乘法 (*) 以及三元运算符 “switcher” (@)。a、b 和 c 的 @ 运算符在 a 为正数时返回 b；否则返回 c。

Example 1: * + 4 5 - 3 1 简化为 * 9 2, 其值为 18。

Example 2: @ - 8 9 7 + 4 2 简化为 @ -1 7 6, 其值为 6。

INPUT (输入): 五行数据。每行是一个字符串, 不超过 128 个字符。该字符串是一个有效的前缀表达式, 具有单位整数操作数, 并使用运算符 +、-、* 和 @。所有操作数和运算符至少由一个空格分隔。

OUTPUT (输出): 计算每个前缀表达式并输出结果。

SAMPLE INPUT (示例输入):

```
* + 4 5 - 3 1
@ - 8 9 7 + 4 2
@ - 3 5 - * 2 4 1 0
* 4 @ - 5 7 * 3 2 + 1 9
* + @ 4 6 9 @ - 3 8 1 7 2
```

SAMPLE OUTPUT (示例输出):

```
#1. 18
#2. 6
#3. 0
#4. 40
#5. 26
```

TEST INPUT

```
- + * 4 3 - 7 * 3 1 * 2 8
- @ 7 3 2 @ 2 5 1
@ - 4 9 * 6 3 + 7 5
- * @ - 3 7 2 8 @ - 5 1 + 3 4 + 8 9 6
@ * - 3 5 - 4 8 + 7 * 3 4 + 2 * 6 5
```