AMERICAN COMPUTER SCIENCE LEAGUE

2018-2019 **Contest #4**

Senior Division - Prefix Evaluation

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

PROBLEM: Evaluate a prefix expression. The operands in the expression are integers between -1,000 and 1,000, exclusive. The operators are the unary operator absolute value (|); the binary operators addition (+), subtraction (-), and multiplication (*); and the trinary operators "switcher" (@) and "max" (>). The @ operator of *a*, *b*, and *c* returns *b* when *a* is positive; otherwise, it returns *c*. The > operator returns the largest of its 3 operands.

Each line of data is valid prefix expression with at least one space separating all operands and operators.

Example 1: **`* + 4 5 - 3 -1`** simplifies to **`* 9 4`**, which has a value of 36.

Example 2: **`@ - 8 9 82 46`** simplifies to **`@ -1 82 46`**, which has a value of 46.

Example 3: **`@ | - -8 10 82 46`** simplifies to **`@ | -18 82 46`**,
which simplifies to **`@ 18 82 46`**, which has a value of 82.

Example 4: **`+ > 8 * 2 7 9 6`** simplifies to **`+ > 8 14 9 6`**,
which simplifies to simplifies to **`+ 14 6`**, which has a value of 20.

INPUT: Five lines of data. Each line is a string, <= 128 characters, representing a valid prefix expression with operands and operators as described above. At least one space will separate operands and operators.

OUTPUT: Evaluate each prefix expression and print the answer.

SAMPLE INPUT :

```
* + 4 5 - 3 -1
@ - 8 9 82 46
@ | - -8 10 82 46
+ > 8 * 2 7 9 6
| * @ - 1 6 34 12 > - 990 1000 * -2 3 + -51 49
```

SAMPLE OUTPUT:

#1. 36
#2. 46
#3. 82
#4. 20
#5. 24

TEST INPUT:

```
| > * -4 3 - -20 7 + -8 -3
* -21 - > 990 + * 45 22 7 - * 35 28 -15 907
- + 17 @ - 16 -120 * 7 + 162 -25 - * 5 150 -208 -26
@ | @ - -8 4 -93 -4 > + - 32 4 99 * * 6 7 3 - * 7 17 -6 * 16 52
> @ - -4 -12 -62 -65  @ + 2 11 -60 -61 @ | -3 + 51 -115 * 7 -9
```