

MAT 202 – Computer Science II

Homework #6 - Postfix Arithmetic Operations

1. Name _____
2. Due: 11/14/05 10:30am
3. Grading

Given a postfix arithmetic operation sequence, including integers and the operations $+$, $-$, $/$, $*$, and $^$, write an arithmetic calculator for expressions in postfix form. A calculator of this form pushes operands (integers) onto a stack, and pops them off when an operator is encountered. More precisely, when an operator is found, two operands are popped from the stack and the operation is applied to them. The result of this operation is then pushed onto the stack. See the examples below for results. Operations and operands will be separated by some whitespace. Use `cin.putback` to put characters back on the input stream to be read again. The end of an arithmetic expression will be denoted with the `$` symbol. Input will contain some number of arithmetic expressions. If an arithmetic expression is illegal (too few or too many operands), the value of "ERROR" should be output, else the result of the expression should be output.

Sample Input

```
2 13 7 - / $
15 111 108 - *$
1 1 $
1 1 + + $
7 3 + 4 * 21 - 345 344 - * $

7
3 + 2 ^$
```

Sample Output

```
0
45
ERROR
ERROR
19
100
```