**CS 542 Homework #8: Boolean calculator**

For this program, you will write a Boolean calculator that will evaluate as many Boolean expressions as the user wants to enter.

Your program will recognize

! as the (unary) not operator

& as the and operator (not && like in C++, just &)

^ as the exclusive-or operator

| as the or operator

() parens to override precedence

0 as the value false

1 as the value true

As with C++, these 4 operators will have 4 levels of precedence:

From highest to lowest: ! & ^ |

Spaces will be tolerated and ignored.

An example of a valid Boolean expression would be

(0 & 1) ^ (0 | 1)

This particular Boolean expression has value 1 because

(0 & 1) is 0

(0 | 1) is 1

0 ^ 1 is 1

Your program will handle paren nesting to any depth

Your program will input as many (correct) Boolean expressions as the user want to type, giving the value of each one (either 0 or 1), and terminate when the user enters a blank line.