

**Lab Goal :** This lab was designed to teach you more about stacks.

**Lab Description :** Take a postfix expression and solve it. All numbers will be in the range 0 to 9.

Standard infix expression  $7 + 8 - 2$

Standard postfix expression  $7\ 8\ +\ 2\ -$

**Files Needed ::**

Postfix.java

Lab13c.java

**Sample Data :**

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

**Sample Output :**

```
2 7 + 1 2 + + = 12.0  
1 2 3 4 + + - = -8.0  
9 3 * 8 / 4 + = 7.375  
3 3 + 7 * 9 2 / + = 46.5  
9 3 / 2 * 7 9 * + 4 - = 65.0  
5 5 + 2 * 4 / 9 + = 14.0
```

**algorithm help**

```
while there are more values in the original expression  
{  
    get the next value  
    if the value is a number  
        push the number onto the stack  
    else if the value is an operator  
        pop 2 numbers from the stack  
        use the operator to evaluate the 2 numbers  
        push the resulting number onto the stack  
}  
return the top value from the stack
```