

**Lab Goal :** This lab was designed to teach you more about the ArrayList class.

**Lab Description :** Take an expression and solve it. For instance, if you were given  $3 + 4 * 5$ , you should come to the answer of 23. This would require that you handle the multiplication before the addition.

**Sample Data :**

3 + 5  
3 \* 5  
3 - 5  
3 / 5  
5 / 5 \* 2 + 8 / 2 + 5  
5 \* 5 + 2 / 2 - 8 + 5 \* 5 - 2

**Files Needed ::**

ExpressionSolver.java  
Lab04e.java

**Sample Output :**

3 + 5 = 8  
3 \* 5 = 15  
3 - 5 = -2  
3 / 5 = 0  
5 / 5 \* 2 + 8 / 2 + 5 = 11  
5 \* 5 + 2 / 2 - 8 + 5 \* 5 - 2 = 41

**EXPRESSION SOLVER ALGORITHM**

while there are \* and / symbols

{

    find the 1<sup>st</sup> \* or / operator

    get the first operand

    get the second operand

    get the operator

    calc the answer

    remove the first operand

    remove the operator

    replace the 2<sup>nd</sup> operand with the new answer

}

do the same thing for + and -