**CS 114 Assignment 5**

**Topic: Stack (4 points)**

**For each task, submit the source code with detail comments electronically.**

**Objective: Using Stack to evaluate expressions**

**Traditionally, arithmetic expressions are written in *infix* notation, meaning that operator is placed between its operands in the form**

**<operand> <operator> <operand>**

**In a postfix expression, the operator comes after its two operands. Therefore, a postfix expression takes the form**

**<operand> <operand> <operator>**

**For a more complicated example, consider the following infix expression:**

**(3 \* 4 – (2 + 5)) \* 4 /2**

**The equivalent postfix expression is**

1. **4 \* 2 5 + - 4 \* 2 /**
2. **Using java.util.stack to write a java program to validate and calculate the result of each arithmetic Expression from input file (infix.txt). All equations from the input file are in traditional infix notation. Display each expression first. Then, if the arithmetic expression is not valid, display “Invalid expression ” message otherwise display the result of the calculation. (2 points)**

1. **Using java.util.Stack and java.util.StringTokenizer to write a java program to validate and calculate postfix expression from the input data file - postfix.dat (2 points)**