Data Structure Lab Assignment (CS 2172)
Assignment 6: Stack applications

Time: 2 week

1. **Simulate the Tower of Hanoi problem using recursion and understand the process for number of disks ➔ 1, 2, 3 and 4.**

2. **Develop a subroutine that evaluates a postfix expression using Stack.**

   Phase-1: Provide support only for single digit operand
   Phase-2: Provide the support for multi-digits operand
   Phase-3: Do necessary changes to provide support to evaluate a prefix expression.

3. **Subroutine that converts an infix expression to postfix expression using Stack.**

   Phase-1: Only support following operators ➔ +, -, *, /
   Phase-2: Also support additional operators ➔ (,), ^
   Phase-3: Provide the support for multi-digits operand
   Phase-4: Do necessary changes to provide support to convert infix expression to prefix expression.

Note1: Use your existing array based integer stack APIs to develop these subroutines.

Note2: Marked in red parts are advanced features, should be done only if time permits.