In-Class Activity 01 – Stacks ADT
Efforts would be counted towards attendance and class participation.

Activity Goals

- To think about using Stacks ADT for solving some practical problems.

Class Exercise Details

You are required to work with your group members. Submit your answers through email. Each group need to send me only one email, with the answers provided by your group by end of today's class.

Part 1: Towers of Hanoi

In the classic problem of the Towers of Hanoi, you have 3 rods and N disks of different sizes which can slide onto any tower. The puzzle starts with disks sorted in ascending order of size from top to bottom (e.g., each disk sits on top of an even larger one). You have the following constraints:

1. Only one disk can be moved at a time.
2. A disk is slid off the top of one rod onto the next rod.
3. A disk can only be placed on top of a larger disk.

Write a pseudocode to move the disks from the first rod to the last using Stacks.
Hint: Do you need to use recursion to build your stack?

Part 2: Stacks Application

Write a pseudocode to sort a stack in ascending order. You should not make any assumptions about how the stack is implemented. The following are the only functions that should be used to write this program: push — pop — peek — isEmpty