L a b s e s s i o n 9 : S t a c k

O b j e c t i v e

The objective of **lab session 9** is

- To know the properties of stack
- To understand the basic operation of stack
- To create an empty stack using array and linked implementation
- To implement the stack operation

Pre-lab Exercise

1. Which of the following is true about stack
   A. It allows operations at one end
   B. At any given time, we can only access the top element.
   C. Last In Last Out operation
   D. Can be implement using array or linked list
2. The process of putting a new data element onto stack is known as a _____ operation.
   A. PUSH C. POP
   B. PEEK D. FULL/EMPTY
3. Accessing the content while removing it from the stack is known as _____.
   A. DELETE B. POP C. PEEK
4. We don't have to check for the overflow condition at all, when we implement stack using
   A. Array B. Linked List C. None
5. A letter means push and an asterisk means pop in the following sequence. Give the sequence of values returned by the pop operations when this sequence of operations is performed on an initially empty LIFO stack.
   E A S * Y * Q U E * * * S T * * * I O * N * * *
6. Create an empty array stack to store number having the following information
   - Name of the array : NUMBER_STACK

- Size of the array : [1]2

7. Create an empty linked list stack to store student information having the following information
    - Name of the structure : STUDENT_STACK
    - Members of the structure: name and id

In-lab Exercise

8. Write a program that reads in a sequence of characters and prints them in reverse order. Use a linked list stack.
9. Write a program that reads in a positive integer and prints the binary representation of that integer. Hint: divide the integer by 2. Use an array stack.

Post-lab Exercise

1. What is the difference between static stack and dynamic stack? How to create these stacks?