

Heaven's Light is Our Guide
Rajshahi University of Engineering & Technology
Department of Computer Science & Engineering

Lab Manual

Course Code: **CSE 1203 (Sec A)**
Course Title: Sessional based on CSE 1201
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CSE 1202 (Data Structure Lab)
Module 5 [Stacks]: (for Week 6)

Topic 1: [Stack Operations]

- i) Draw flowcharts for i) PUSH() and ii) POP() operations of a stack using array.
- ii) Fill up the Table-1 during execution
- iii) Write a Menu program using C++ to implement Stack operations and make it as user-friendly as possible.

Operation	Data	Top
PUSH()	10	?
PUSH()	30	?
PUSH()	50	?
POP()	?	?
PUSH()	15	?
POP()	?	?

Table 1:

***** Menu *****

1. PUSH

2. POP

3. Display

4. Exit

Enter your option[1-4]:

Topic 2: [Stack Operations]

Problem Statement: Repeat Topic-1 by implementing Linked list instead of array.

Topic 3: [Polish Notation]

Problem Statement:

- i) Draw the flowchart to convert infix expression to postfix expression.
- ii) Fill up the following table (Ref. lecture slides)
- iii) Write a C++ program that accepts postfix expression and outputs its value.

Label No.	Symbol Scanned	Stack	Expression

Topic 4: [Polish Notation]

Problem Statement:

- i) Draw the flowchart for calculating the value of the postfix expression.
- ii) Show the push and pop values of the stack in each iteration.
- iii) Write a C++ program that accepts postfix expression and outputs its value.