**Assignment -2**

**Subject-Data Structures Lab**

**Branch- CS/IT**

**Sem- 2**

**STACK**

**1 . Write a C program to implement the following operation on stack using Array.**

* **push() which adds an element to the top of stack.**
* **pop() which removes an element from top of stack.**
* **findMiddle() which will return middle element of the stack.**
* **deleteMiddle() which will delete the middle element.**

**2 . Write a C program to implement the following operation on stack using Linked list.**

* **push() which adds an element to the top of stack.**
* **pop() which removes an element from top of stack.**

**4. W.A.P in C to convert an Infix expression to postfix expression using Stack.**

**5. W.A.P in C to Evaluate Postfix Expression using Stack.**

**6. W.A.P in C to convert an Infix expression to prefix expression using Stack.**

**7. W.A.P in C for Checking balanced parentheses in an expression.**

**8. Reverse the stack using recursion.**

**10. W.A.P in C to implement two stacks using a single array.**

**11. W.A.P in C to reverse a list of given numbers using Stack.**

**12. Using Stack W.A.P in C to determine if a given string is palindrome or not.**

**13. W.A.P to evaluate infix expression using two stack without converting infix expression to postfix expression.**