

Questions on Stack

1. Explain stack? Which are the applications of stack?
2. State with help of diagrammatic representation push, pop operations, stack full and empty condition
3. List the type of expressions and with example describe process to convert a infix expression into postfix and then evaluate it. (Write code)
4. How can we implement stack and queue using linked list? (Can attempt later)
5. State various realtime applications of stack
6. WAP to create a stack and perform various operations like push, pop
7. WAP to create stack and perform reverse operation on String
8. WAP to create stack and implement Infix to Postfix or Prefix operation

- Given an expression string exp, write a program to examine whether the pairs and the orders of “{”, “}”, “(”, “)”, “[”, “]” are correct in exp.

- **Example:**

- **Input:** exp = “[()]”
Output: Not Balanced

- **Input:** exp = “[()]{}{[()()]()}"
Output: Balanced

- Create a data structure twoStacks that represents two stacks. Implementation of twoStacks should use only one array, i.e., both stacks should use the same array for storing elements. Following functions must be supported by twoStacks.
- - push1(int x) → pushes x to first stack
 - push2(int x) → pushes x to second stack
- - pop1() → pops an element from first stack and return the popped element
 - pop2() → pops an element from second stack and return the popped element
- Implementation of twoStack should be space efficient.