Assignment 3

Q.A. Answer the following questions in one or two lines :

1. What is LIFO.

2. Write any two applications of stack in computer.

3. State any two real life applications of stack.

4. Name the data structure used in recursion.

5. In which type expression is converted before evaluating in computer?

6. Convert the following expression : $(A + B) * C - (D - E) \wedge (F + G)$ to equivalent postfix notation.

7. Convert the following infix expression to prefix : $((A + B) * C - (D - E))$

8. What is the result of evaluating the postfix expression AB-CD*/ given A= 2 , B = 10 , C=4 , D=1.

9. Convert the following infix expression to postfix form : $(A * B * C) / ((F * G)-D)$.

10. Convert the following expression from infix to prefix form : $(A + B - C) + (D * (E + F) / G)$.

Q. B. Answer the following questions :

1. Write short note on stack.

2. Consider the given infix expression $u * v + z / w$. Write its postfix expression . Also show steps to evaluate the postfix expression using stack. Given u = 3 , v = 1 , z= 4 , w=2.

3. Convert the infix expression $(A + B) * (D + E + F)$ to prefix notation. Show the stack contents.

4. Write a C function to reverse a sentence using stack.

5. Evaluate the postfix expression showing the contents of the stack.

6. Write C functions push and pop for stack using dynamic implementation.

7. Convert the following expressions to postfix by showing the stack contents :

      i) $((A + B) - (C-D))/(F+G)$ ii) $(A + B - C)+(D * (E + F) /G)$

8. Show to stack content after each step : (Consider Stack of characters)
      a) Push('A')
      b) Push('B)
      c) Push('C')
      d) Pop()
      e) Pop()
      f) Push('A')
      g) Pop()