**Algorithm of Infix to Prefix**

Step 1. Push “)” onto STACK, and add 1. “(“ to end of the A

Step 2. Scan A from right to left and repeat step 3 to 6

for each element of A until the STACK is empty

3. Step 3. If an operand is encountered add it to B

Step 4. If a right parenthesis is encountered push it onto STACK

5. Step 5. If an operator is encountered then:

a. Repeatedly pop from STACK and add to B each operator (on the top of STACK) which has same or higher precedence than the operator.

b. Add operator to STACK

Step 6. If left parenthesis is encountered then

1. Repeatedly pop from the STACK and add to B

(each operator on top of stack until a left parenthesis is encountered )

b. Remove the left parenthesis

Step 7. Exit

**Infix to prefix conversion**

Expression = **(A+B^C)\*D+E^5**

**Step 1.** Reverse the infix expression.

**5^E+D\*)C^B+A(**

**Step 2.** Make Every '(' as ')' and every ')' as '('

**5^E+D\*(C^B+A)**

**Step 3.** Convert expression to postfix form

**Step 4.** Reverse the expression.

**+\*+A^BCD^E5**

