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Roll Number: SYCOC303 Division: C

PRN Number: 122B2B303 Batch: C4

Name: VINAYAK MADAN SHETE

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Problem Statement:

⇨ **Write a C++ program to perform infix to postfix conversion using stack.**

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INPUT:

```
/*
 *   ====================================
 *        Program Name: InfixToPostfix.cpp
 *   Created on: December 01,2022
 *      Author: Vinayak Shete
 *  ====================================
 */

#include <iostream>
#include<bits/stdc++.h>
using namespace std;

//Function to return preedence of character
int precedence(char c)
{
     if(c=='^')
          return 3;
     else if(c=='/'||c=='*')
          return 2;
     else if(c=='+'||c=='-')
```

```
            return 1;
      else
            return -1;
}

//Infix to postfix conversion
void infixToPostfix(string s)
{
      stack<char> st;
      string res;
      int i;

      for(i=0;i<s.length();i++)
      {
            char c=s[i];

      if((c>='a'&&c<='z')||(c>='A'&&c<='Z')||(c>='0'&&c<='9'))
                  res+=c;
            else if(c=='(')
                  st.push('(');
            else if(c==')')
            {
                  while(st.top()!='(')
                  {
                        res+=st.top();
                        st.pop();
                  }
                  st.pop();
            }
            else
            {
```

```
        while(!st.empty()&&precedence(s[i])<=precedence(st.top()))
                {
                        res+=st.top();
                        st.pop();
                }
                st.push(c);
        }
    }

    while(!st.empty())
    {
        res+=st.top();
        st.pop();
    }
    cout<<"\nThe Postfix Expression is: ";
    cout<<res<<endl;
}

int main()
{
    string exp;
    cout<<"\n==================INFIX TO
POSTFIX==================";
    cout<<"\nEnter infix expression to convert to postfix: ";
    cin>>exp;
    //function call
    infixToPostfix(exp);
    return 0;
}
```

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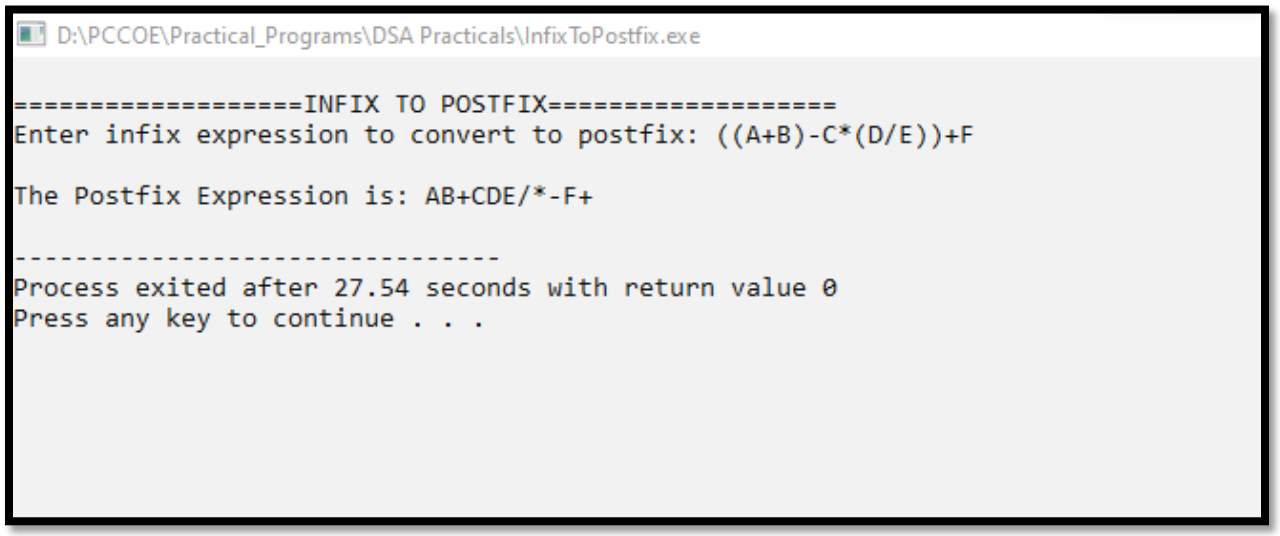
OUTPUT:


D:\PCCOE\Practical_Programs\DSA Practicals\InfixToPostfix.exe
==========INFIX TO POSTFIX==========
Enter infix expression to convert to postfix: ((A+B)-C*(D/E))+F
The Postfix Expression is: AB+CDE/*-F+

Process exited after 27.54 seconds with return value 0
Press any key to continue . . .

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