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1      //INFIX TO POSTFIX VIA STACK
2      #include<iostream>
3      #include<windows.h>
4      using namespace std;
5      class astack{
6          char arr[30];
7          int top;
8      public:
9          astack()
10         {
11             top=-1;
12         }
13         void push(char a);
14         char pop();
15         int aempty();
16         char retstcktop();
17     };
18     char astack::retstcktop()
19     {
20         if(!aempty())
21             return arr[top];
22         else
23             return -1;
24     }
25     int astack::aempty()
26     {
27         return (top== -1);
28     }
29     void astack::push(char a)
30     {
31         if(top<29)
32             arr[++top]=a;
33         else
34         {
35             cout<<"ERROR : OVERFLOW OCCURED";
36             exit(1);
37         }
38     }
39     char astack::pop()
40     {
41         if(!aempty())
42             return arr[top--];
43         else
44         {
45             cout<<"ERROR : STACK EMPTY";
46             exit(1);
47         }
48     }
49     int priority(char a)
50     {
51         if(a=='(')
52             return -2;
53         else if((a=='*') || (a=='/'))
54             return 2;
55         else if((a=='+') || (a=='-'))
56             return 1;
57         else if(a==' ')
58             return 0;
59         else
60             return -1; //INCASE ITS AN OPERAND
61     }
62     int main()
63     {
64         char exp[30],result[30],temp;
65         int resind=0; //IT HOLDS THE INDEX WHERE ELEMENT IS TO BE PUT
66         astack xyz;
67         cout<<"Enter your expression";
68         cin>>exp;
69         for(int i=0;exp[i]!='\0';i++)
70         {
71             switch(priority(exp[i]))
72             {
73                 case -2:
74                     xyz.push(exp[i]);
75                     break;
76                 case 0:
77                     while((temp=xyz.pop())!='(')

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78         result[resind++]=temp;
79     break;
80 case -1:
81     result[resind++]=exp[i];
82     break;
83 default:
84     if(priority(xyz.retstcktop())<=priority(exp[i]))
85         xyz.push(exp[i]);
86     else
87     {
88         while(priority(xyz.retstcktop())>priority(exp[i]))
89         {
90             result[resind++]=xyz.pop();
91         }
92         xyz.push(exp[i]);
93     }
94 }
95 }
96 while(!xyz.aempty())
97 {
98     result[resind++]=xyz.pop();
99 }
100 result[resind++]='\0';
101 cout<<"\n\n\n"<<result;
102 return 0;
103 }
104

```