

LP\_2.cpp

```
1 #include<stdio.h>
2 #include<conio.h>
3 #include<string.h>
4 #include<process.h>
5 int F(char symbol)
6 {
7     switch(symbol)
8     {
9         case '+':
10        case '-': return 2;
11        case '*':
12        case '/': return 4;
13        case '^':
14        case '$': return 5;
15        case '(': return 0;
16        case '#': return -1;
17        default: return 8;
18    }
19 }
20 int G(char symbol)
21 {
22     switch(symbol)
23     {
24        case '+':
25        case '-': return 1;
26        case '*':
27        case '/': return 3;
28        case '^':
29        case '$': return 6;
30        case '(': return 9;
31        case ')': return 0;
32        default: return 7;
33    }
34 }
35 void infix_postfix(char infix[], char postfix[])
36 {
37     int top,i,j;
38     char s[30], symbol;
```



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```
37 int top,i,j;
38 char s[30],symbol;
39 top=-1;
40 s[++top]='#';
41 j=0;
42 for(i=0;i<strlen(infix);i++)
43 {
44     symbol=infix[i];
45     while(F(s[top])>G(symbol))
46     {
47         postfix[j]=s[top--];
48         j++;
49     }
50     if(F(s[top])!=G(symbol))
51         s[++top]=symbol;
52     else
53         top--;
54 }
55 while(s[top]!='#')
56 {
57     postfix[j++]=s[top--];
58 }
59 postfix[j]='\0';
60 }
61 int main()
62 {
63     char infix[20];
64     char postfix[20];
65     system("cls");
66     printf("Enter the valid infix expression\n");
67     scanf("%s",infix);
68     infix_postfix(infix,postfix);
69     printf("the postfix exp is\n");
70     printf("%s\n",postfix);
71     getch();
72     return 0;
73 }
74
```



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C:\Users\sohan\Desktop\C Programs\Data Structures Lab\LP 2\dev\LP\_2.exe

Enter the valid infix expression

$(a+b)*c-d+(e^f)/g*h$

the postfix exp is

$ab+c*d-ef^g/h*+$



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