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#include<stdio.h>
#include<string.h>
#include<process.h>
int F(char symbol)
{
    switch(symbol)
    {
        case '+':
        case '-':return 2;
        case '*':
        case '/':return 4;
        case '^':
        case '&':return 5;
        case '(':return 0;
        case '#':return -1;
        default : return 8;
    }
}
int G(char symbol)
{
    switch(symbol)
    {
        case '+':
        case '-':return 1;
        case '*':
        case '/':return 3;
        case '^':
        case '&':return 6;
        case '(':return 9;
        case ')':return 0;
        default : return 7;
    }
}
void infix_postfix (char infix[] , char postfix[] )
{
    int i,j,top;
    char s[30],symbol;
    top=-1;
    s[++top]='#';

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j=0;
for(i=0;i<strlen(infix);i++)
{
    symbol=infix[i];
    while(F(s[top])>G(symbol))
    {
        postfix[j]=s[top--];
        j++;
    }
    if(F(s[top]) != G(symbol))
        s[++top]=symbol;
    else
        top--;
}
while(s[top]!='#')
{
    postfix[j++]=s[top--];
}
postfix[j]='\0';
}

int main()
{
    int i,o=0,c=0,flag1,flag2,j;
    char infix[20],postfix[20];
    char ops[10]="+-*/^&";
    printf("Enter a valid infix expression :");
    scanf("%s",&infix);
    for(i=0;i<strlen(infix);i++)
    {
        if(infix[i]=='(')
            o++;
        if(infix[i]==')')
            c++;
        for(j=0;j<strlen(ops);j++)
        {
            if( infix[i]== ops[j] )
                flag1=1;

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        if(infix[i+1]== ops[j])
            flag2=1;
    }
    if(flag1==1&&flag2==1)
    {
        printf("the input expression is
invalid");
        exit(1);
    }
}
if(o!=c)
{
    printf("the input expression is invalid");
    exit(1);
}
infix_postfix(infix,postfix);
printf("The postfix expression is : %s",postfix);
return 0;
}

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Enter a valid infix expression :a+b(
the input expression is invalid
-----
Process exited after 5.524 seconds with return value 1
Press any key to continue . . . █

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```

Enter a valid infix expression :a+-b
the input expression is invalid
-----
Process exited after 3.771 seconds with return value 1
Press any key to continue . . . █

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Enter a valid infix expression :((A+(B-C)*D)^E+F)
the input expression is invalid

Process exited after 2.333 seconds with return value 1

Press any key to continue . . .