LAB PROGRAM---1

```c
#include<stdio.h>

#include<string.h>

#include<stdlib.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 '^':
```

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        case '$':return 6;

        case '(': return 9;

        case ')': return 0;

        default: return 7;

    }


}

void infix_postfix(char infix[],char postfix[])

{

    int top,i,j;

    char s[30],symbol;

    top=-1;

    s[++top] = '#';

    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]!='#')

    {
```

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        postfix[j++] = s[top--];

    }

    postfix[j] = '\0';

}

void main()

{

    char infix[20];

    char postfix[20];

    printf("Enter the valid infix expression\n");

    scanf("%s",infix);

    infix_postfix(infix,postfix);

    printf("the postfix expression is\n");

    printf("%s\n",postfix);


}
```
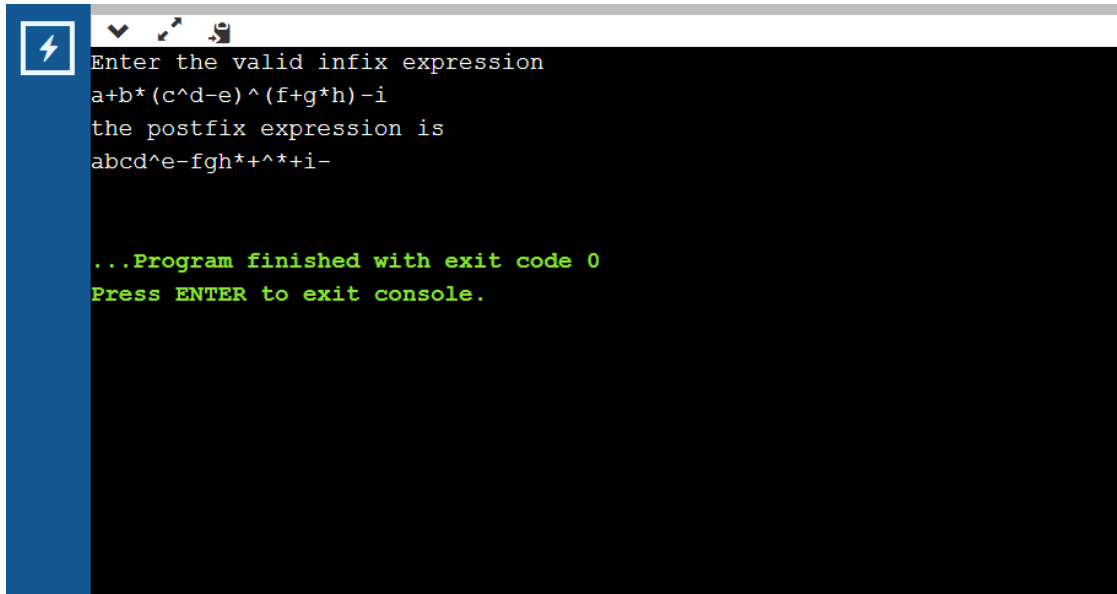


```
Enter the valid infix expression
a+b*(c^d-e)^(f+g*h)-i
the postfix expression is
abcd^e-fgh*+^*+i-


...Program finished with exit code 0
Press ENTER to exit console.
```