LAB PROGRAM - 2

#include<stdio.h>

#include<string.h>

int a(char n){

switch(n)

{

case '+':

case '-': return 2;

case '\*':

case '/': return 4;

case '^':

case '$': return 5;

case '(': return 0;

case '#': return -1;

default : return 8;

}

}

int b(char n){

switch(n)

{

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 in[], char post[])

{

int top,i,j;

char s[50], n;

top = -1;

s[++top]='#';

j=0;

for(i=0;i<strlen(in);i++)

{

n=in[i];

while(a(s[top])>b(n))

{

post[j]=s[top--];

j++;

}

if(a(s[top]!=b(n)))

s[++top]=n;

else

top--;

}

while(s[top]!='#')

{

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

}

post[j]='\0';

}

int main()

{

char in[20];

char post[20];

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

scanf("%s",in);

infix\_postfix(in,post);

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

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

return 0;

}

OUTPUT

Enter the valid infix expression

((a+(b-c)\*d)^e+f

The postfix expression is

abc-d\*+e^f+(

Enter the valid infix expression

x^y^z-m+n+p/q

The postfix expression is

xyz^^m-n+pq/+

Enter the valid infix expression

((a+b)\*c-(d-e))^(f+G)

The postfix expression is

ab+c\*de--fG+^

Enter the valid infix expression

(a+(b-c)\*d)

The postfix expression is

abc-d\*+

Enter the valid infix expression

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

The postfix expression is

ab^c\*d-ef/gh+/+