Ex 5: Infix to Postfix

PROGRAM:

#include<stdio.h>

#include<malloc.h>

int top=0,st[20];

char inf[40],post[40];

void postfix();

void push(int);

char pop();

void main()

{

printf("Enter the infix expression:");

scanf("%s",inf);

postfix();

}

void postfix()

{int i,j=0;

for(i=0;inf[i]!=0;i++)

{switch(inf[i])

{

case '+':while(st[top]>=1)

post[j++]=pop();

push(1);

break;

case '-':while(st[top]>=1)

post[j++]=pop();

push(2);

break;

case '\*':while(st[top]>=3)

post[j++]=pop();

push(3);

break;

case '/':while(st[top]>=4)

post[j++]=pop();

push(4);

break;

case '^':

post[j++]=pop();

push(5);

break;

case '(':push(0);

break;

case ')':while(st[top]!=0)

post[j++]=pop();

top--;

break;

default:

post[j++]=inf[i];

}}

while(top>0)

post[j++]=pop();

printf("\nPostfix expression is =>\n\t\t%s",post);

}void push(int ele)

{

top++;

st[top]=ele;

}char pop()

{int el;

char e;

el=st[top];

top--;

switch(el)

{case 1:

e='+';

break;

case 2:

e='-';

break;

case 3:

e='\*';

break;

case 4:

e='/';

break;

case 5:

e='^';

break;

}return(e);

}

OUTPUT:

