// C program for infix to postfix conversion using stack

#include <stdio.h>

#include <ctype.h>

#define SIZE 50

char stack[SIZE];

int top=-1;

push(char elem)

{

stack[++top]=elem;

}

char pop()

{

return(stack[top--]);

}

int pr(char symbol)

{

if(symbol == '^')

{

return(3);

}

else if(symbol == '\*' || symbol == '/')

{

return(2);

}

else if(symbol == '+' || symbol == '-')

{

return(1);

}

else

{

return(0);

}

}

void main()

{

char infix[60],postfix[60],ch,elem;

int i=0,k=0;

printf("Enter Infix Expression : ");

scanf("%s",infix);

push('#');

while( (ch=infix[i++]) != '\0')

{

if( ch == '(') push(ch);

else

if(isalnum(ch)) postfix[k++]=ch;

else

if( ch == ')')

{

while( stack[top] != '(')

postfix[k++]=pop();

elem=pop();

}

else

{

while( pr(stack[top]) >= pr(ch) )

postfix[k++]=pop();

push(ch);

}

}

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

postfix[k++]=pop();

postfix[k]='\0';

printf("\nPostfix Expression = %s\n",postfix);

}

Output:

Enter infix expression : a+b-c^d\*e/f

Postfix expression = ab+cd^e\*f/-