

```
#include<stdio.h>
#include<string.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 8;
        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];
        if(symbol=='(')
            top++;
        else if(symbol==')')
            top--;
        else if(symbol=='+'||symbol=='-'||symbol=='*'||symbol=='/'||symbol=='^'||symbol=='$')
            if(G(symbol)>F(s[top]))
                top++;
            else
                postfix[j++]=F(symbol);
        else
            postfix[j++]=symbol;
    }
}
```

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        case '$':return 6;
        case '(':return 9;
        case ')':return 8;
        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]!='#'){
        postfix[j++]=s[top--];
    }postfix[j]='\0';
}
int main()
{
    char infix[20],postfix[20];
    printf("Enter the valid infix expression\n");
    scanf("%s",infix);
    infix_postfix(infix,postfix);
    printf("The postfix expression is \n");
    printf("%s",postfix); //a^b*c-d+e/f/(g+h)
                        //((a+b)*c-(d-e))^f+g
}

```

C:\Windows\SYSTEM32\cmd.exe
Enter the valid infix expression
 $a^b*c-d+e/f/(g+h)$
The postfix expression is
 $ab^c*d-ef/gh+/-$

(program exited with code: 0)
Press any key to continue . . .