**3. Design, Develop and Implement a Program in C for converting an InfixExpression to Postfix Expression. Program should support for both parenthesizedand free parenthesized expressions with the operators: +, -, \*, /, %(Remainder),^(Power) and alphanumeric operands.**

**#include<stdio.h>**

**#include<ctype.h>**

**char s[20];**

**int top=-1;**

**void push(char);**

**char pop();**

**int prior(char);**

**main()**

**{**

**char infix[20],postfix[20];**

**inti,j=0;**

**printf("enter the infix expression:");**

**scanf("%s",infix);**

**push('#');**

**for(i=0;infix[i]!='\0';i++)**

**{**

**if(isalnum(infix[i]))**

**postfix[j++]=infix[i];**

**else if(infix[i]=='(')**

**push(infix[i]);**

**else if(infix[i]==')')**

**{**

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

**postfix[j++]=pop();**

**pop();**

**}**

**else**

**{**

**while(prior(s[top])>=prior(infix[i]))**

**postfix[j++]=pop();**

**push(infix[i]);**

**}**

**}**

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

**postfix[j++]=pop();**

**postfix[j]='\0';**

**printf("postfix expression is:%s",postfix);**

**return 0;**

**}**

**void push(char x)**

**{**

**s[++top]=x;**

**}**

**char pop()**

**{**

**return(s[top--]);**

**}**

**int prior(char x)**

**{**

**if(x=='^')**

**return 3;**

**if(x=='\*'||x=='%'||x=='/')**

**return 2;**

**if(x=='+'||x=='-')**

**return 1;**

**if(x=='('||x=='#')**

**return 0;**

**}**