

```
#include<stdio.h>
```

```
#include<string.h>
```

```
#define MAX 100
```

```
int top=-1;
```

```
char stack[MAX];
```

```
void push(char ch){
```

```
    if (top== MAX-1)
```

```
        printf("Stack is full \n");
```

```
    else {
```

```
        top ++;
```

```
        stack[top]=ch;
```

```
    }
```

```
}
```

```
char pop()
```

```
{
```

```
    char item;
```

```
        if (top== -1){  
            printf("\nStack is empty\n");  
        }  
        else  
            item=stack[top];  
        top --;  
  
    return item;  
    }  
int stackempty(){  
    if (top== -1)  
    {  
        return 1;  
    }  
    else  
        return 0;  
}  
char stacktop()  
{  
    if(top== -1)  
        printf("\n stack is empty !!\n");  
    else
```

```
    return stack[top];  
}
```

```
int precedence(char ch)
```

```
{  switch(ch)
```

```
{
```

```
    case '+':
```

```
    case '-': return (1);
```

```
    case '*':
```

```
    case '/': return (2);
```

```
    case '^': return (3);
```

```
        default: return (0);
```

```
    }
```

```
}
```

```
void main()
```

```
{
```

```
    int i=0;
```

```
    int item;
```

```
char ele[100];

printf("Enter the Infix Expression:: \t");

scanf("%s",&ele);

printf("Expression::: %s",ele);

printf("\n Postfix ::");

while(ele[i]!='\0')
{
    switch(ele[i])
    {
        case '(': push(ele[i]);
            break;

        case ')': while((item=pop())!='(')
            printf("%c",item);
            break;

        case '+':
        case '-':
        case '*':
        case '/':
        case '^':
```

```
        while(!stackempty &&  
precedence(ele[i])<=precedence(stacktop()))
```

```
        {
```

```
            item= pop();
```

```
            printf("%c",item);
```

```
        }
```

```
        push(ele[i]);
```

```
        break;
```

```
    default: printf("%c",ele[i]);
```

```
        break;
```

```
    }
```

```
    i++;
```

```
}
```

```
while(!stackempty()){
```

```
    char item;
```

```
    item=pop();
```

```
    printf("%c",item);
```

```
}
```

```
printf("\n");
```

}