Lab program 2:-

```
#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 0;
    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';
}
void main()
{
  char infix[20];
  char postfix[20];
  printf("Enter the valid infix expression: ");
  scanf("%s", infix);
  infix_postfix(infix, postfix);
  printf("The postfix expression is: %s\n", postfix);
}
```

```
Enter the valid infix Expression:((A+(B-C)*D)^E+F)

The postfix expression is: ABC-D*+E^F+
PS D:\C Programs> cd "d:\C Programs\" ; if ($?) { gcc

Enter the valid infix Expression:a^b*c-d+e/f/(g+h)

The postfix expression is: ab^c*d-ef/gh+/+
PS D:\C Programs> cd "d:\C Programs\" ; if ($?) { gcc

Enter the valid infix Expression:X^Y^Z-M+N+P/Q

The postfix expression is: XYZ^^M-N+PQ/+
```