

## DS LAB PROGRAM 2

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,j,i;
    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\n");
    scanf("%s",infix);
    infix_postfix(infix,postfix);
    printf("The postfix expression is\n");
    printf("%s\n",postfix);
}

```

OUTPUT:-

The screenshot displays the OnlineGDB web interface in a browser. The address bar shows the URL 'onlinegdb.com'. The left sidebar features a navigation menu with links to 'IDE', 'My Projects', 'Classroom', 'Learn Programming', 'Programming Questions', 'Sign Up', and 'Login'. Below the menu are social media icons for Facebook, Twitter, and a plus sign. A banner for 'GOT AN OPINION?' with a lightbulb icon and 'Oskuten APP' is visible. The main area shows a C++ code editor with a file named 'main.c' containing a switch statement. The console output shows the execution of the code, including the expression 'a+b\*(c\*d-e)^(f+g\*h)-i' and the message '...Program finished with exit code 0'. The bottom status bar shows the date '30-09-2020' and time '12:13'.