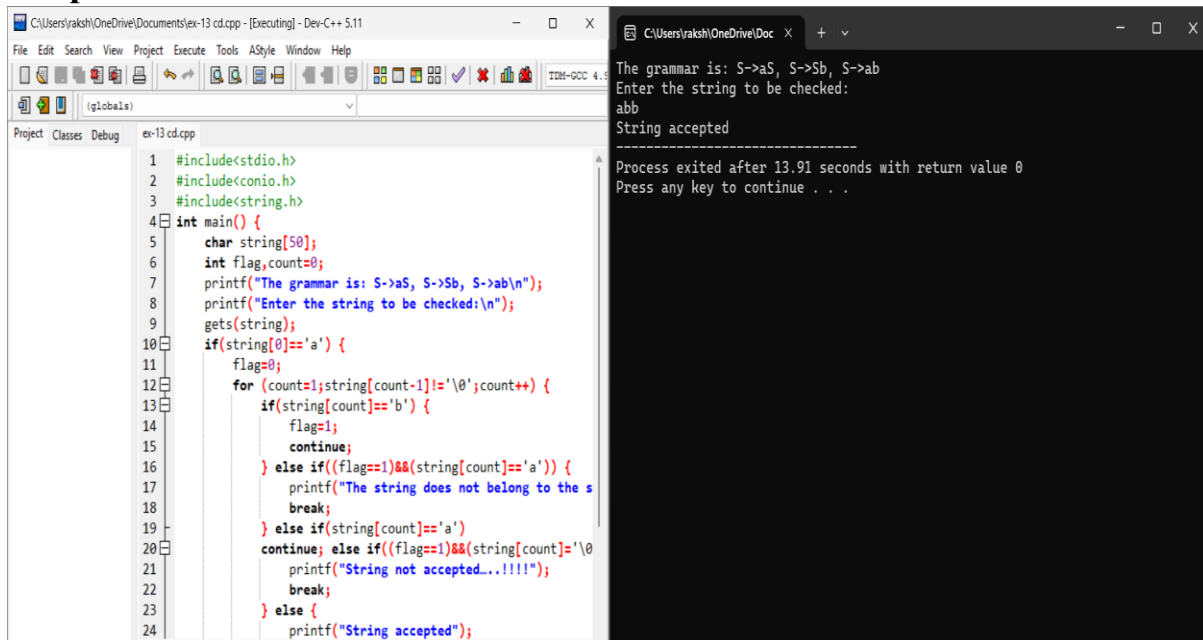# Experiment -13

Write a C program to implement either Top-Down parsing technique or Bottom-Up Parsing technique to check whether the given input string is satisfying the grammar or not.

Program:

```c
#include<stdio.h>

#include<conio.h>

#include<string.h>

int main() {
        char string[50];
        int flag,count=0;
        printf("The grammar is: S->aS, S->Sb, S->ab\n");
        printf("Enter the string to be checked:\n");
        gets(string);
        if(string[0]=='a') {
                flag=0;
                for (count=1;string[count-1]!='\0';count++) {
                        if(string[count]=='b') {
                                flag=1;
                                continue;
                        } else if((flag==1)&&(string[count]=='a')) {
                                printf("The string does not belong to the specified grammar");
                                break;
                        } else if(string[count]=='a')
                        continue; else if((flag==1)&&(string[count]='\0')) {
                                printf("String not accepted…..!!!!");
                                break;
                        } else {
                            printf("String accepted");}}}
 }
```

Output:


```c
#include<stdio.h>
#include<conio.h>
#include<string.h>
int main() {
    char string[50];
    int flag,count=0;
    printf("The grammar is: S->aS, S->Sb, S->ab\n");
    printf("Enter the string to be checked:\n");
    gets(string);
    if(string[0]=='a') {
        flag=0;
        for (count=1;string[count-1]!='\0';count++) {
            if(string[count]=='b') {
                flag=1;
                continue;
            } else if((flag==1)&&(string[count]=='a')) {
                printf("The string does not belong to the s
                break;
            } else if(string[count]=='a')
            continue; else if((flag==1)&&(string[count]='\0
                printf("String not accepted…..!!!!");
                break;
            } else {
                printf("String accepted");
```

```
The grammar is: S->aS, S->Sb, S->ab
Enter the string to be checked:
abb
String accepted
---------------------------------
Process exited after 13.91 seconds with return value 0
Press any key to continue . . .
```