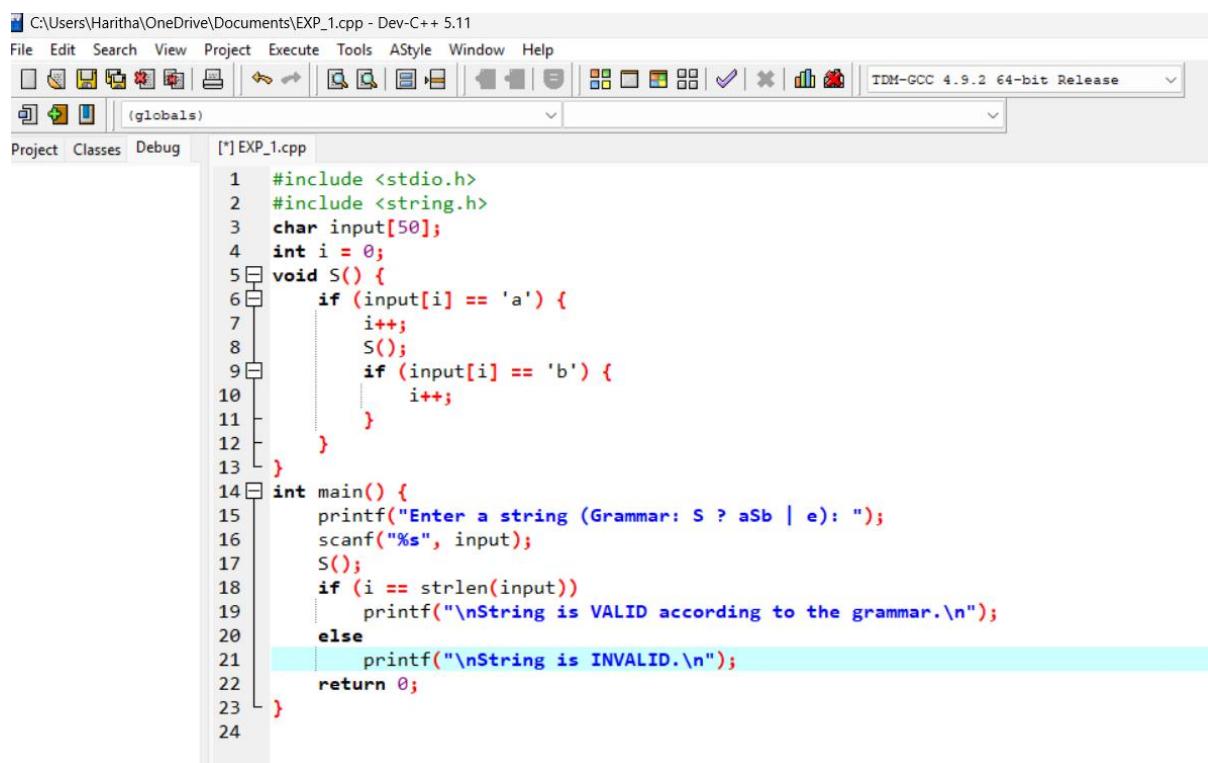


EXPERIMENT-13

AIM:

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.

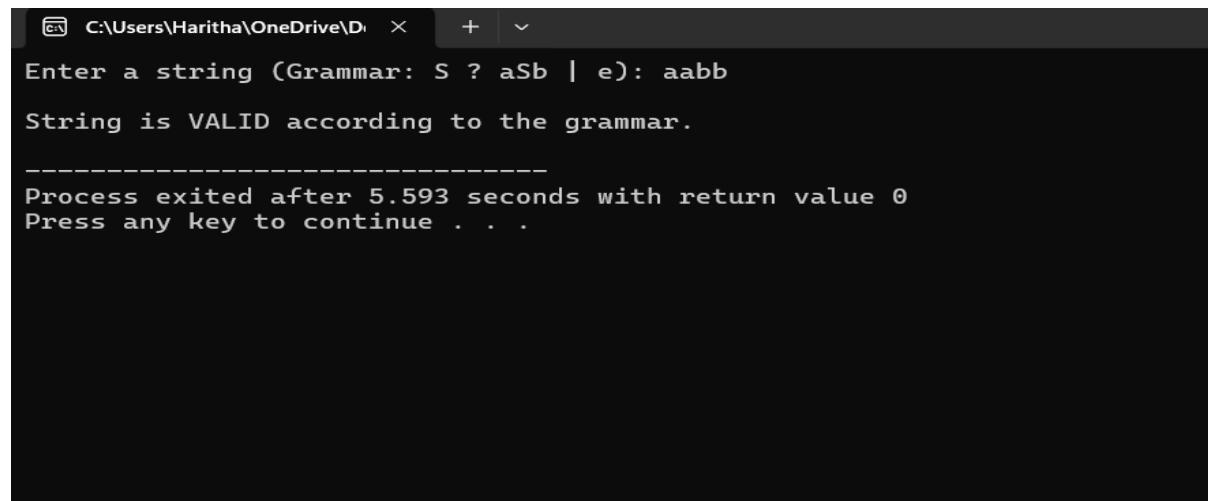
PROGRAM:



The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Build. The status bar indicates "TDM-GCC 4.9.2 64-bit Release". The code editor window displays a C program named EXP_1.cpp. The code implements a top-down parser for a grammar where S can be aSb or e. It reads a string from the user and prints whether it is valid according to the grammar.

```
#include <stdio.h>
#include <string.h>
char input[50];
int i = 0;
void S() {
    if (input[i] == 'a') {
        i++;
        S();
        if (input[i] == 'b') {
            i++;
        }
    }
}
int main() {
    printf("Enter a string (Grammar: S ? aSb | e): ");
    scanf("%s", input);
    S();
    if (i == strlen(input))
        printf("\nString is VALID according to the grammar.\n");
    else
        printf("\nString is INVALID.\n");
    return 0;
}
```

OUTPUT:



The terminal window shows the execution of the program. It prompts the user to enter a string, reads "aabb", and then prints "String is VALID according to the grammar." followed by a process exit message.

```
Enter a string (Grammar: S ? aSb | e): aabb
String is VALID according to the grammar.

-----
Process exited after 5.593 seconds with return value 0
Press any key to continue . . .
```