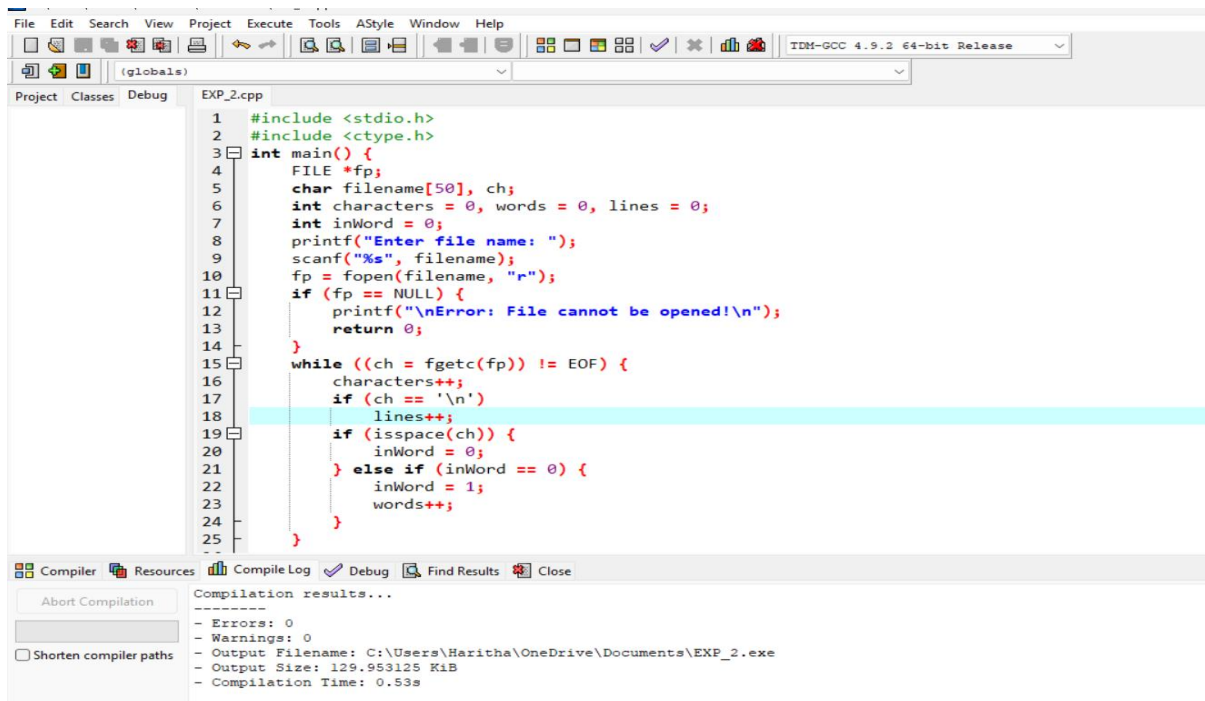


EXPERIMENT-17

AIM:

Write a C program for implementing a Lexical Analyzer to Scan and Count the number of characters, words, and lines in a file.

PROGRAM:



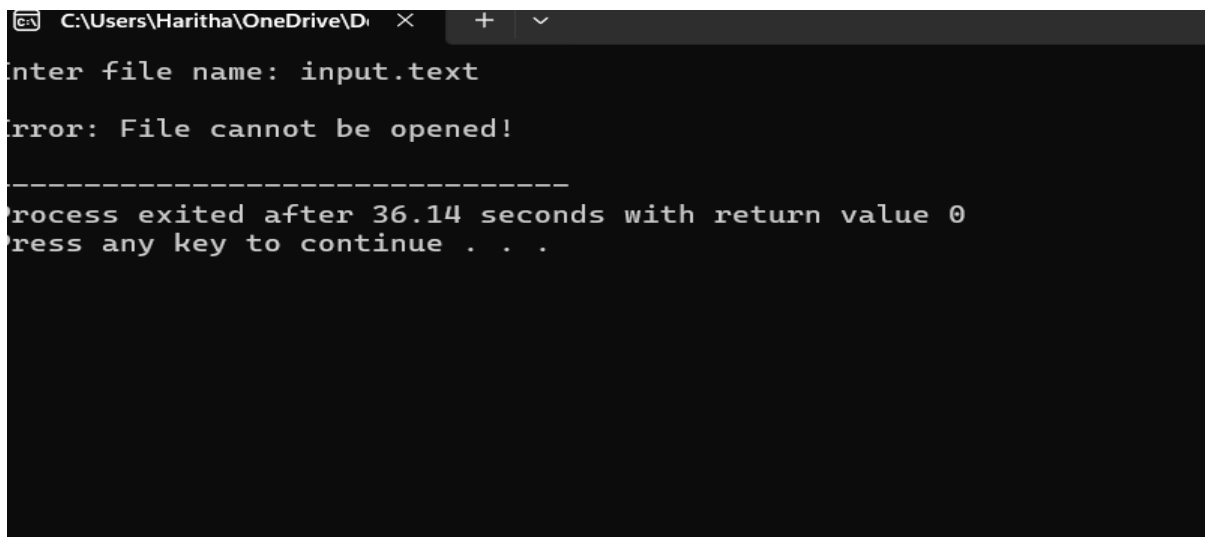
The screenshot shows a code editor with a C program named EXP_2.cpp. The program includes `<stdio.h>` and `<ctype.h>`. It defines a `main()` function that prompts the user for a filename, attempts to open it, and then counts characters, words, and lines. The compilation results at the bottom show 0 errors and 0 warnings, with the output file named C:\Users\Haritha\OneDrive\Documents\EXP_2.exe.

```
1 #include <stdio.h>
2 #include <ctype.h>
3 int main() {
4     FILE *fp;
5     char filename[50], ch;
6     int characters = 0, words = 0, lines = 0;
7     int inWord = 0;
8     printf("Enter file name: ");
9     scanf("%s", filename);
10    fp = fopen(filename, "r");
11    if (fp == NULL) {
12        printf("\nError: File cannot be opened!\n");
13        return 0;
14    }
15    while ((ch = fgetc(fp)) != EOF) {
16        characters++;
17        if (ch == '\n')
18            lines++;
19        if (isspace(ch)) {
20            inWord = 0;
21        } else if (inWord == 0) {
22            inWord = 1;
23            words++;
24        }
25    }
26 }
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Haritha\OneDrive\Documents\EXP_2.exe
- Output Size: 129.953125 KiB
- Compilation Time: 0.53s

OUTPUT:



The screenshot shows the program's output in a terminal window. The user enters 'input.text', and the program outputs an error message: 'Error: File cannot be opened!'. The process then exits after 36.14 seconds with a return value of 0.

```
C:\Users\Haritha\OneDrive\Documents> .\EXP_2.exe
Enter file name: input.text
Error: File cannot be opened!
Process exited after 36.14 seconds with return value 0
Press any key to continue . . .
```