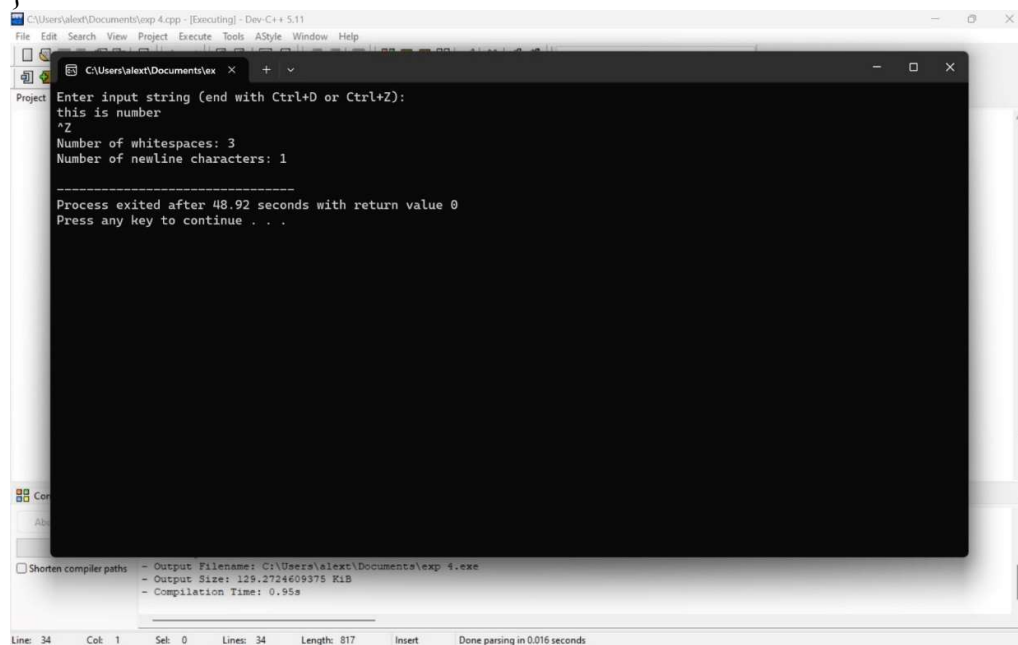


4. Design a lexical Analyzer to find the number of whitespaces and newline characters.

```
#include<stdio.h>
int main()
{
    char ch;
    int spaces=0,newlines=0;
    printf("Enter a string (ctrl+z to end): \n");
    while((ch = getchar()) != EOF)
    {
        if (ch == ' ') {
            spaces++;
        }
        else if(ch == '\n'){
            newlines++;
        }
    }
    printf("Number of spaces:%d\n",spaces);
    printf("number of newlines:%d\n",newlines);
    return 0;
}
```



The screenshot shows a C++ IDE window titled "C:\Users\alext\Documents\exp 4.cpp - [Executing] - Dev-C++ 5.11". The main window displays the output of the program. The user has entered the string "this is number" followed by a newline character (indicated by '^Z'). The program outputs "Number of whitespaces: 3" and "Number of newline characters: 1". Below the output, it states "Process exited after 48.92 seconds with return value 0" and "Press any key to continue . . .". At the bottom of the IDE, a status bar shows "Line: 34 Col: 1 Sel: 0 Lines: 34 Length: 817 Insert Done parsing in 0.016 seconds".

```
Enter input string (end with Ctrl+D or Ctrl+Z):
this is number
^Z
Number of whitespaces: 3
Number of newline characters: 1

-----
Process exited after 48.92 seconds with return value 0
Press any key to continue . . .
```

Shorten compiler paths - Output Filename: C:\Users\alext\Documents\exp 4.exe
- Output Size: 129.2724609375 KIB
- Compilation Time: 0.95s

Line: 34 Col: 1 Sel: 0 Lines: 34 Length: 817 Insert Done parsing in 0.016 seconds