

**Design a lexical Analyzer to find the number of whitespaces and newline characters using C.**

```
#include <stdio.h>

#include <string.h>

// Function to analyze input and count whitespaces and newlines
void lexicalAnalyzer(char *input) {
    int whitespaceCount = 0, newlineCount = 0;

    for (int i = 0; i < strlen(input); i++) {
        if (input[i] == ' ' || input[i] == '\t') {
            whitespaceCount++; // Count spaces and tabs
        } else if (input[i] == '\n') {
            newlineCount++; // Count newlines
        }
    }

    printf("Total Whitespaces (spaces & tabs): %d\n", whitespaceCount);
    printf("Total Newline Characters: %d\n", newlineCount);
}

// Main function
int main() {
    char input[1000];

    printf("Enter your text (press Ctrl+D to end input):\n");
    fgets(input, sizeof(input), stdin);

    lexicalAnalyzer(input);

    return 0;
}
```

Input:

Hello world

This is a test

```
PS C:\Users\valli> & 'c:\Users\valli\.vscode\extensions\ms-vscode.cpptools-1.22.11-win32-x64\debugAdapters\bin\windowsDebugLauncher.exe' '--stdin=Microsoft-MIEngine-In-to3tygzn.ohs' '--stdout=Microsoft-MIEngine-Out-u2wtziny.ulj' '--stderr=Microsoft-MIEngine-Error-pkih00eh.iue' '--pid=Microsoft-MIEngine-Pid-lxh1k01g.3yf' --dbgExe=C:\msys64\ucrt64\bin\gdb.exe' --interpreter=mi'
Enter your text (press Ctrl+D to end input):
hello world
Total Whitespaces (spaces & tabs): 1
Total Newline Characters: 1
```