

Develop a lexical Analyzer to identify whether a given line is a comment or not using C

```
#include <stdio.h>

#include <string.h>

// Function to check if the given line is a comment
void checkComment(char *line) {
    int len = strlen(line);

    // Trim leading spaces
    while (*line == ' ' || *line == '\t') {
        line++;
    }

    // Check for single-line comment
    if (line[0] == '/' && line[1] == '/') {
        printf("This is a Single-line Comment.\n");
        return;
    }

    // Check for multi-line comment
    if (line[0] == '/' && line[1] == '*') {
        // Ensure it ends with */
        if (len >= 4 && line[len - 3] == '*' && line[len - 2] == '/') {
            printf("This is a Multi-line Comment.\n");
        } else {
            printf("This is an Unfinished Multi-line Comment.\n");
        }
        return;
    }

    // If none of the above, it's not a comment
```

```
    printf("This is NOT a Comment.\n");  
}
```

```
// Main function
```

```
int main() {
```

```
    char input[200];
```

```
    printf("Enter a line: ");
```

```
    fgets(input, sizeof(input), stdin);
```

```
    checkComment(input);
```

```
    return 0;
```

```
}
```

Input:

```
// This is a test
```

Output:



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  
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-r2l44gi4.oph' '--stdout=Microsoft-MIEngine-Out-0wstzlvy.kdr' '--stderr=Microsoft-MIEngine-Error-2xf11gf.bo4' '--pid=Microsoft-MIEngine-Pid-bqjmf2y.ufg' '--dbgExe=C:\msys64\ucrt64\bin\gdb.exe' '--interpreter=mi'  
Enter a line: //this is a test  
This is a Single-line Comment.
```