Premier University Chittagong

Department of Computer Science and Engineering

Course Title : Compiler Construction Lab

Course Code: CSE 454

Report No : 02

Report Title : Write a program to detect comments from a input.c program paste program in output.c without the comments.

Submission Date: 13.07.2025

Submitted By

Name : Rayanul Kader Chowdhury Abid
ID : 210401020 2162
Semester : 8th A Section

Submitted To

Ms. Tanni Dhoom
Assistant Professor
Department of Computer Science and Engineering

Experiment No: 02

Experiment Name: Write a program to detect comments from a input.c program paste program in output.c without the comments

Objective: To write a C++ program that reads a C source file (input.c), detects and removes all comments (both single-line // and multi-line /* */), and writes the rest of the code into another file (output.c).

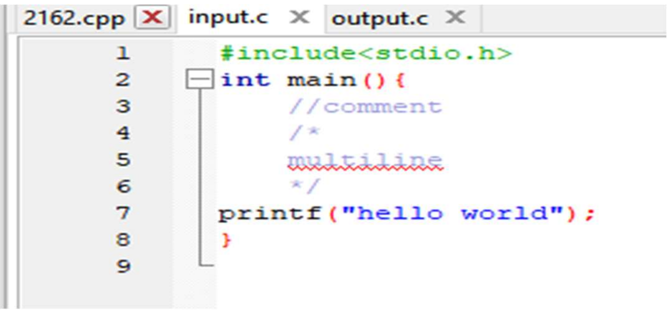
Algorithm:

```
1. Start the program.
2. Open the source file (input.c) using ifstream.
3. Open the destination file (output.c) using ofstream.
4. Read the file character by character:
   a. If a '/' is found:
      i. Check the next character using peek().
      ii. If it is another '/', skip all characters until a newline (\n) is reached (single-line comment).
      iii. If it is a '*', skip all characters until the sequence */ is found (multi-line comment).
      iv. Otherwise, write the '/' to the output file.
5. If the character is not part of a comment, write it directly to the output file.
6. Continue until the end of the file.
7. Close both input and output files.
8. End the program.
```

Code:

```
#include <bits/stdc++.h>

using namespace std;

int main() {

    ifstream inputFile("input.c");

    ofstream outputFile("output.c");

    char ch, next;


    while (inputFile.get(ch)) {
        if (ch == '/') {
            if (inputFile.peek() == '/') {
                inputFile.get(next);
                while (inputFile.get(ch) && ch != '\n');
                outputFile.put('\n');
            }
            else if (inputFile.peek() == '*') {
                inputFile.get(next);
                while (inputFile.get(ch)) {-
                    if (ch == '*' && inputFile.peek() == '/') {
                        inputFile.get(next);
                        break;
                    }
                }
            }
            else {
                outputFile.put(ch);
            }
        }
        else {
            outputFile.put(ch);
        }
    }

    inputFile.close();
    outputFile.close();
    return 0;
}
```

Input:



```
#include<stdio.h>
int main(){
    //comment
    /*
    multiline
    */
printf("hello world");
}
```

Figure 2.1: Input File

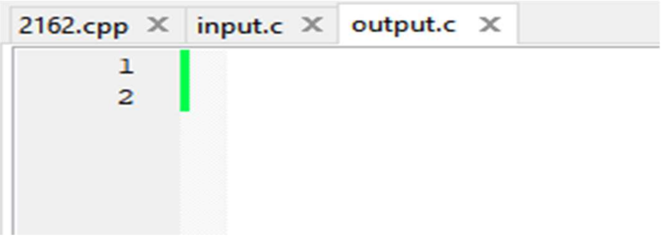
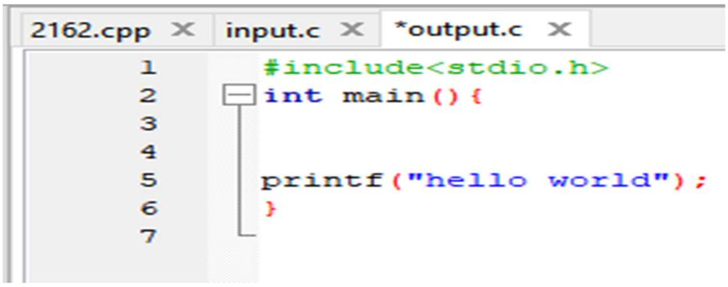


Figure 2.2: Output file before copying

Output:



```
#include<stdio.h>
int main(){


printf("hello world");
}
```

Figure 2.3: Output file with contents copied from input file

Discussion:

This experiment demonstrates how to identify and remove comments from a C program using basic file handling and conditional logic in C++. The program handles both single-line (//) and multi-line (/* ... */) comments. It reads each character and uses lookahead (peek()) to decide whether to skip or write the character. This is useful in scenarios where we need to process or analyze code files without the extra noise of comments. After running the program, the output.c file will contain only the actual code without any comments, making it cleaner for further processing or compilation.