

CS111 – Introduction to C Programming

Fall 2025

Programming Assignment #1 (2%)

Due: Friday September 12, 2025 (23:59)

Getting Started with MS Windows and VS Code

Objectives

- Learn about MS Windows directory structure and file system and about the basic MS Windows terminal commands
- Use an editor (`notepad`) to edit a file (a C program) and then compile and execute the program from a terminal with CMD commands.
- Become familiar the Visual Studio Code (VS Code) to be able to develop a C program, opening files, closing files, editing and running C programs.
- Optionally, install VS Code on your own laptop (Windows or Mac) including all the necessary extensions so that you can work on the future C programming assignments on your own computer.

Part I: MS Windows directory structure and file system

Study the section titled “CMD Commands for Beginners” in this [tutorial](#) and learn the essential terminal commands for manipulating files in Windows MS. Note that you can start a Windows terminal by

- Click the `Start` button or press the `Windows` key, and
- Type `terminal` into the search bar and click on `Windows Terminal` in the search results.

Once you understand and feel comfortable with the directory structure of MS Windows, open a terminal and use Windows commands create a directory on the D drive of your computer, named

```
D:\projects\helloworld
```

“Helloworld” will be the directory where you place your files and C programs in the first assignment. Note D drive is not protected, i.e., anybody can access it. You can consider copying the contents into your own USB drive and deleting it each time you complete your lab session.

Part II: File Editing and C Program Compilation with CMD

A simple file editor in Windows is called `notepad`. You can find this program the same way you find “terminal” in Part I. In this part, you will use `notepad` to create your first C program and compile and run it. Specifically, use `notepad` to create a file called `part2.c` with the following contents:

```
# include <stdio.h>

int main() {

    printf("Hello, World!\n");
    return 0;
}
```

And save it to the directory `D:\projects\helloworld`. Go back to the same terminal as in Part I, in the above directory, compile the C program `part2.c` you have created with the command:

```
gcc -o part2 part2.c
```

If there are error messages after the compilation, examine your file carefully to correct any typos to make sure that it looks identical to the one above. After your correction, run the above command again until you see no error messages.

Once the program is bug-free (no errors), run the program with the command:

```
part2
```

You should see in the terminal the following output:

```
Hello, world!
```

Congratulations! You’ve just completed your first C program.

Part III: Visual Studio Code

Visual Studio Code is an integrated development environment (IDE), which includes an editor, compilers for various languages including C, and debugging tools. You will be primarily using VS Code to complete the programming assignments in this course. In this part of the assignment, first open file “`part2.c`” you have created in Part II, change the string to be printed to “Hello, SUSTech!”, and add a comment section in the beginning of the file with the following information:

```
/*
 * FILENAME:      part3.c
 * PROJECT:       HelloWorld
 * AUTHOR:        John Doe <john.doe@example.com>
 * DATE CREATED:  September 8, 2025
 * LAST MODIFIED: September 12, 2025
 * MODIFIED BY:   John Doe
 */
```

As well, insert at the end of the file a line comment that looks like:

```
// This is my first C program
```

Marking

The programming assignment is worth a total of 2%, distributed as follows:

Part I: 0%

Part II: 1%

Part III: 1%

Assignment Submission

Submit `part2.c` and `part3.c` as two separate files through [blackboard](#) for this class and be prepared to demonstrate to a TA in the next lab session how you completed this assignment.

Notes:

1. Please work on the homework independently. The university has a zero-tolerance policy on plagiarism.
2. Our policy regarding AI assisted programming assignments will be announced later.