LESSON 4: Development Tools: Editor, Compiler, Linker, Debugger, Make

# Exercises 3: Compilation Tools: Editor, Compiler, Linker, Debugger, Make > Documentation

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link: https://dcsit.twiki.ucc.edu.gh/do/view/UCC\_Course/CompilationTools

**Goal:**

## *This exercise was aimed at introducing the tools needed for this course and how they are used.*

## Exercise 1: emacs

The online emacs tutorial was read through and most of the commands and the shortcuts to easily navigating through the emacs editor were tried as required.

## Exercise 2: Makefiles

1. Makefiles were created for the previous week’s exercises, this generated a final executable file and also an assembly language file with a “.s” extension.
2. It was also observed that the macros “$(CC) $(CFLAGS) -S $?” assembled the program and gave it a “.s” extension.
3. It was observed that anytime the program was compiled using the emacs editor and a syntax error was made, the editor would redirect to the line where the error was in when the middle mouse button was clicked on in the compilation messages.
4. Makefiles for all the C programs in the code examples directory download were created.

## Exercise 3: gdb

The “gdb” was started and used to step through the program named “wrong” in the “code examples” directory. It was also used to find the error in the program and the error was corrected as required.

## Exercise 4: Homework

This part of the exercise section was an assignment which required a traffic light simulator to be made. This was done and returned in due tim

**Remarks**

This exercise section I learnt the following:

* how to debug a program using “gdb”.
* how to create Makefiles which automatically compiles programs wen called.
* how to use the emacs editor to check for errors in a program by checking the indentation and also the use of the emacs compilation tool.