

In this lab, you will learn to build and run a C program in a variety of ways.

The basic objectives are:

- (1) Understand the steps involved in compilation.
- (2) Learn the terminologies such as “IDE”, “build”, “compile” and “run”.
- (3) Be able to appreciate the need for IDEs.
- (4) Install and use Code::Blocks IDE and Eclipse IDE.

### **Task 1: Compile and run a simple C program.**

Complete the following steps:

- Open a simple text editor (such as notepad in Windows, nano or vi in Linux)
- Write the “Hello World” program we discussed in the class and save it as hello.c.
- Install MinGW.
- Issue the following command: gcc -o hello.exe hello.c. Linux users will not typically use the .exe filetype. For them, the command would be gcc -o hello hello.c.
- Now, an executable file is ready. Run the file. See the output.

### **Task 2: Install “Code::Blocks”. Build and Run the same hello.c in Code::Blocks.**

Complete the following steps:

- Download the latest mingw version of Code::Blocks.
- Open hello.c.
- Run it. You should see the output in a new console window.
- Note that you cannot debug C programs unless you create a project. So, create a new project. Copy the hello.c into that project.
- Build and Run.
- When you click next to the line number, a breakpoint will be set.
- Now, debug the program. Control will stop at the line which has the breakpoint. You can now step through the program line by line.

### **Task 3: Install “Eclipse IDE for C/C++ Developers”. Build and Run the same hello.c in this IDE. Set a breakpoint and debug.**

Complete the following steps:

- Download and install “Eclipse IDE for C/C++ Developers”.
- Create a new C project. Use an empty project.
- Add the file hello.c.
- Build and Run the code. You will see the output inside the eclipse IDE itself.
- Set a breakpoint. Debug the code step-by-step.

### **Task 4: Find a very interesting C program on the web. Compile and execute.**

### **Task 5: Form teams (4 to 6 students) and discuss project ideas.**