



Lab 1

Objectives:

- Setting up the IDE (Integrated Development Environment) Code::Blocks
- Running the IDE to edit, build and execute C program
- Learning introductory programs to be familiar with the environment

1) Setting up Code::Blocks and the MINGW Compiler on Windows:

This tutorial gives you detailed instructions for setting up a compiler (the MINGW compiler), a tool that will let you turn the code that you write into programs, and Code::Blocks, a free development environment for C.

Step 1: Download Code::Blocks

- Go to this website: <http://www.codeblocks.org/downloads/binaries>
- Follow the link to "Download the binary release".
- Go to the Windows 2000 / XP / Vista / 7/8.x/10 section.
- Look for the file that includes mingw in the name (the name may be different).
- Download by clicking on "Sourceforge.net" to save the file to your computer.
- Note: If you aware of "nosetup" program (portable), you can download (codeblocks-17.12mingw-nosetup.zip).



Microsoft Windows

File	Download from
codeblocks-20.03-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03-setup-nonadmin.exe	FossHUB or Sourceforge.net
codeblocks-20.03-nosetup.zip	FossHUB or Sourceforge.net
codeblocks-20.03mingw-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03mingw-nosetup.zip	FossHUB or Sourceforge.net
codeblocks-20.03-32bit-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03-32bit-setup-nonadmin.exe	FossHUB or Sourceforge.net
codeblocks-20.03-32bit-nosetup.zip	FossHUB or Sourceforge.net
codeblocks-20.03mingw-32bit-setup.exe	FossHUB or Sourceforge.net
codeblocks-20.03mingw-32bit-nosetup.zip	FossHUB or Sourceforge.net

NOTE: The codeblocks-20.03-setup.exe file includes Code::Blocks with all plugins. The codeblocks-20.03-setup-nonadmin.exe file is provided for convenience to users that do not have administrator rights on their machine(s).

NOTE: The codeblocks-20.03mingw-setup.exe file includes additionally the GCC/G++/GFortran compiler and GDB debugger from [MinGW-W64 project](#) (version 8.1.0, 32/64 bit, SEH).

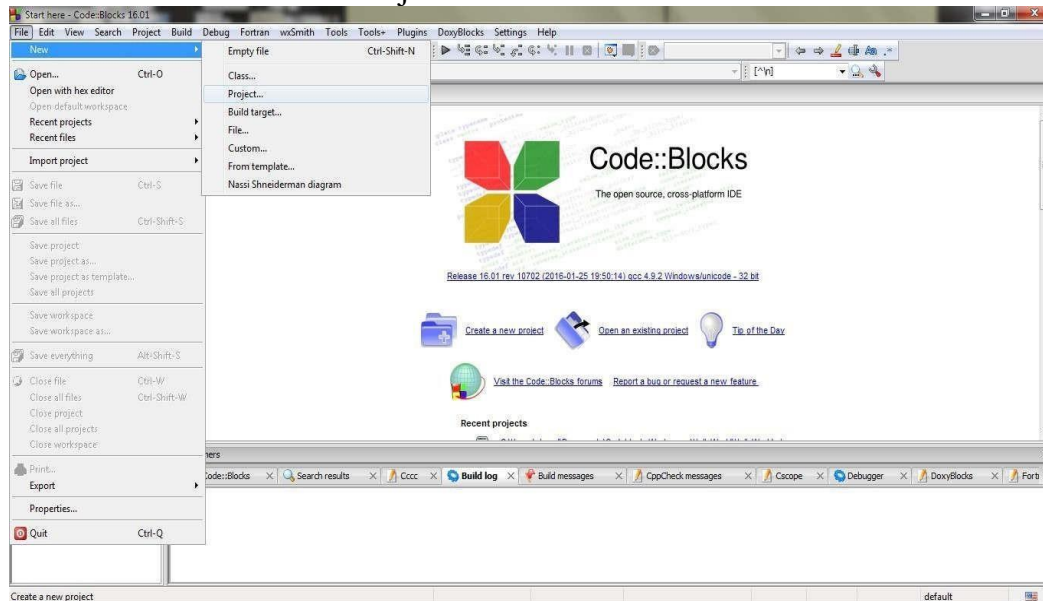
NOTE: The codeblocks-20.03(mingw)-nosetup.zip files are provided for convenience to users that are allergic against installers. However, it will not allow to select plugins / features to install (it includes everything) and not create any menu shortcuts. For the "installation" you are on your own.

Step 2: Install Code::Blocks

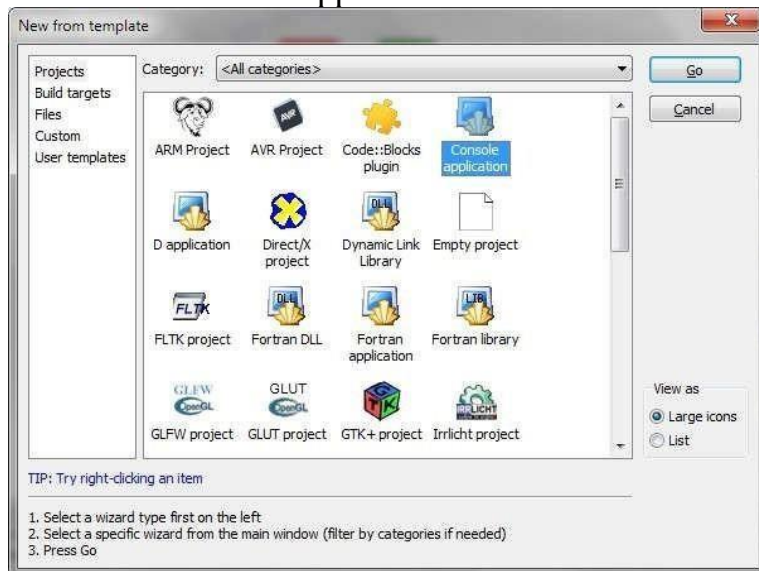
- Double click the installer.
- Hit next several times. Default settings will install Code::Blocks in "C:\ProgramFiles\CodeBlocks", however, you may install elsewhere if you like.
- Do a Full Installation.
- Launch Code::Blocks

Step 3: Creating a new project

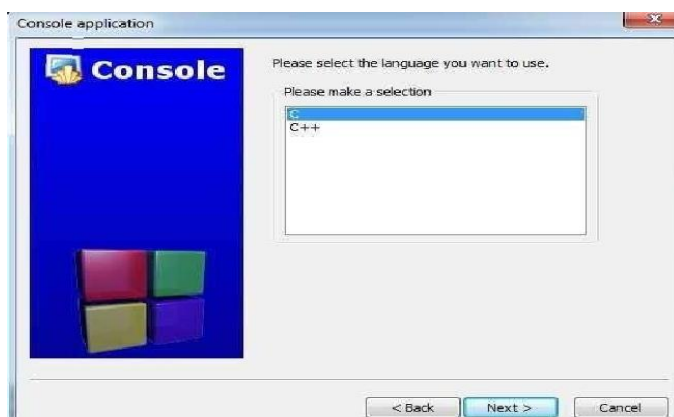
- Go to File then New Project.



- Select “Console application”



- Select “C





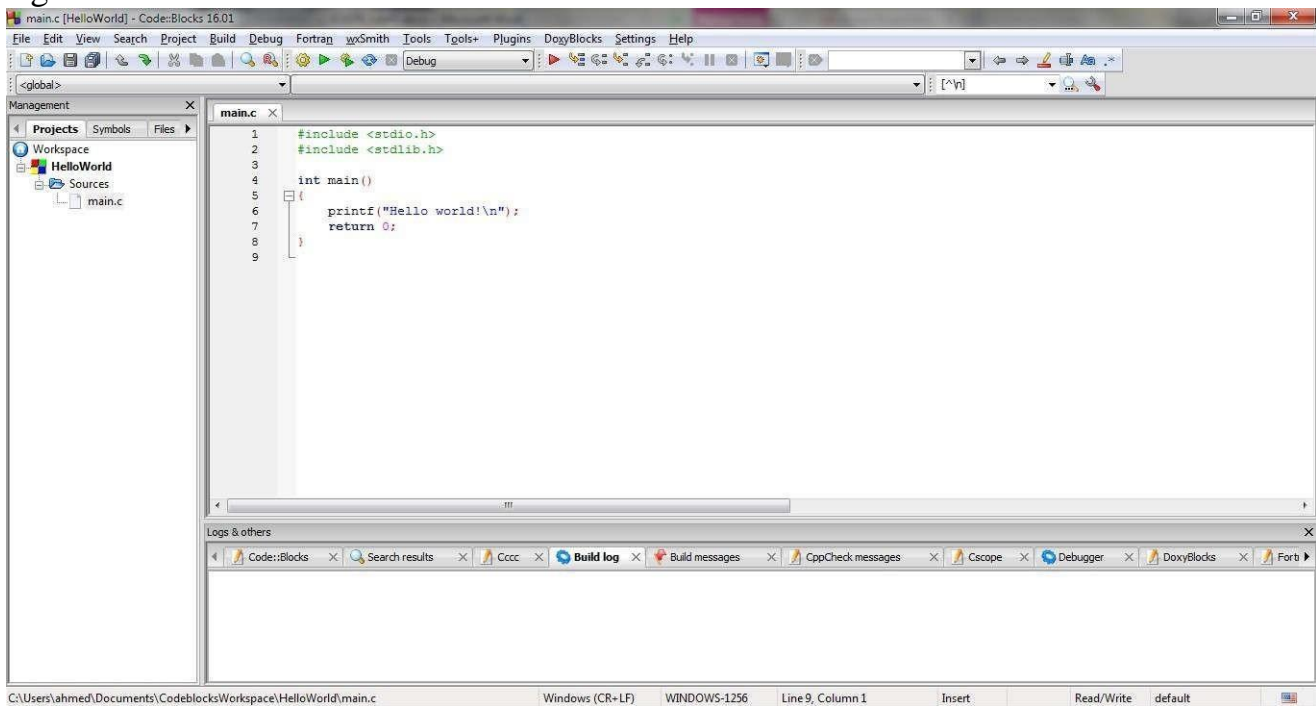
- Select a location for your project in “Folder to create project in” button, and type the project name in “Project title” textbox.



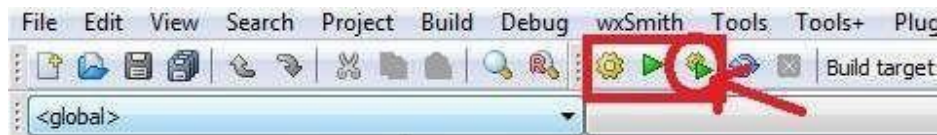
- Click “Finish”



A new project is created with a file named “main.c”. The “main.c” has some auto-generated code.

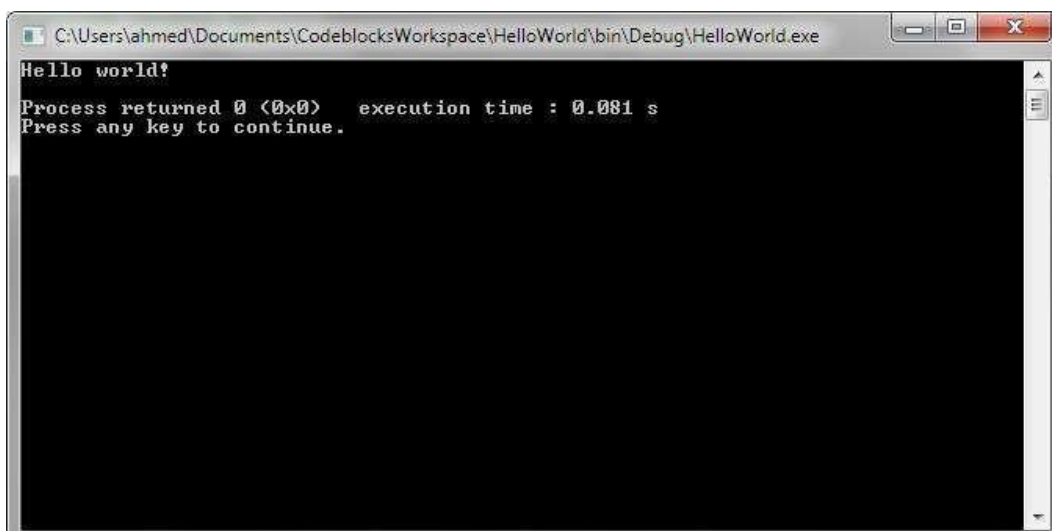


- Click on “Build and Run” button



3 Button in the red rectangle, from left to right: Build, Run, Build and Run

The output of the program will appear





2) Trying out some simple programs:

A. Try out printing the following escape sequences with the “Hello world” program.

Escape sequence	Description
\n	Newline. Position the cursor at the beginning of the next line.
\t	Horizontal tab. Move the cursor to the next tab stop.
\a	Alert. Sound the system bell.
\\	Backslash. Insert a backslash character in a string.
\”	Double quote. Insert a double-quote character in a string.

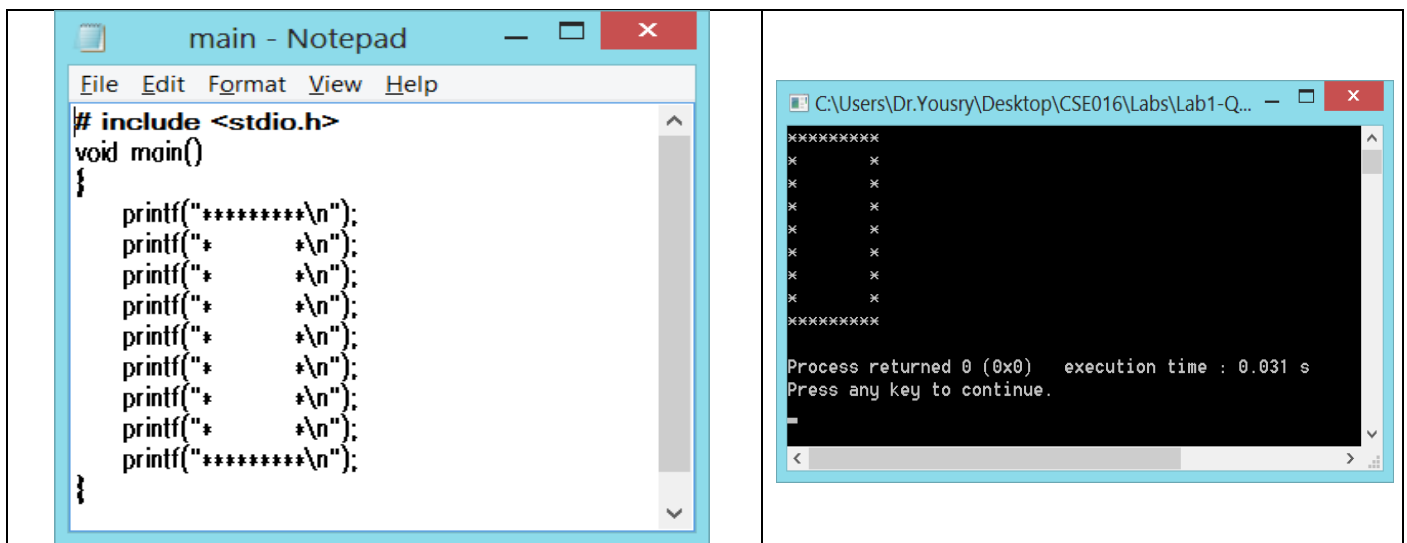
B. Write a program that prints the following shape:

```

*****
*           *
*         *   *
*       *   *   *
*     *   *   *   *
*   *   *   *   *   *
* *   *   *   *   *   *
*****

```

(Try the code without “\n” in printf and observe the output)



C. Take Home Assignment: Write a program that prints the following shape:

```

  *
 * *
*   *
* * *
* * *
 *   *
  * *
   *

```