Eclipse 3.3 on Windows XP Computer for C++

By Dr. Youwen Ouyang

This tutorial describes how you can set up Eclipse 3.3 to compile C++ programs on a computer running Windows XP. For more information about the Eclipse Platform, you can visit the following website: http://www.eclipse.org

From the above web site, a large orange button shows "Download Eclipse". Click on the button and you will be brought to the Eclipse download page where you can further select the appropriate package to meet your needs. You will need to select "Eclipse IDE for C/C++ Developers" if you want to use Eclipse on your computer as the IDE for the class. There is a link under the option for you to find out more information about using Eclipse IDE for C/C++ Developers. I would really encourage you to visit the link: http://www.eclipse.org/downloads/moreinfo/c.php before downloading. The link also provides tutorials that you may find helpful in understanding some problems that you may encounter when setting up and/or running Eclipse. For example, the web site provide a link for contents in individual packages as shown below:

	Java	JEE	C/C++	RCP/Plugin	Classic
RCP/Platform	✓	✓	✓	✓✓	✓✓
CVS	✓	✓	✓	✓	✓✓
EMF	✓	✓		✓	
GEF	✓	✓		✓	
JDT	✓	✓		✓	✓✓
Mylyn	✓	✓		✓	
WST	✓	✓		✓	
PDE		✓		✓✓	✓✓
Datatools		✓			
JST		✓			
CDT			✓		

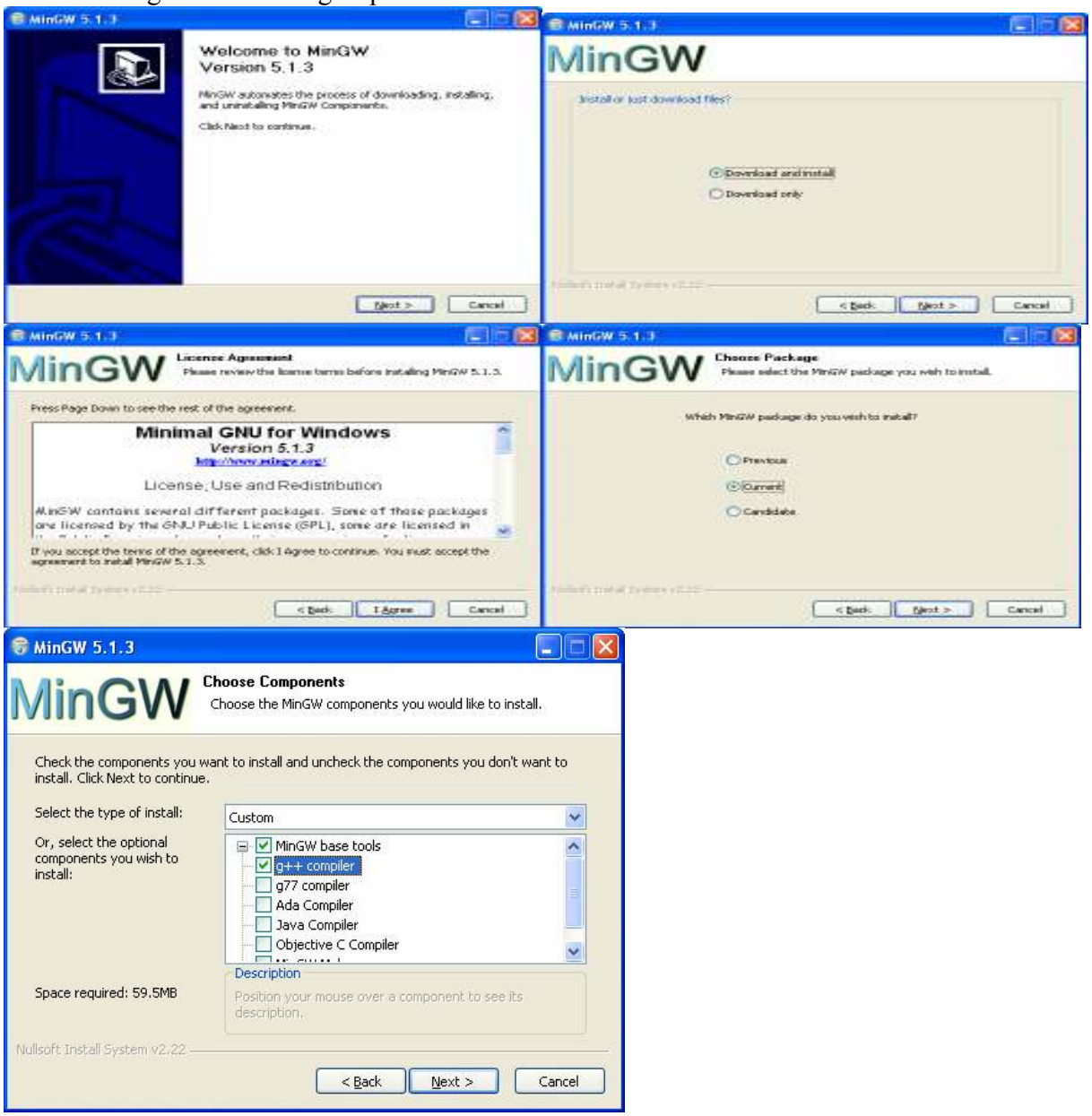
Legend:

✓✓ Included (with Source) ✓ Included ✓ Partially Included

As shown in the above table, the "Eclipse IDE for C/C++" package does not include any compiler for C/C++. Therefore, before using Eclipse to create your programs for this class, you will need to download a MinGW or Cygwin compiler. More information can be found at http://help.eclipse.org/help33/index.jsp. There is a section called "C/C++ Development User Guide". Be sure to read the section "Before you begin" to learn more about downloading

MinGW or Cygwin compiler. The following are instructions and links on how to install the current version of MinGW (copied from the "Before you begin" section). Note that these links may become inaccurate over time as new versions of MinGW components are introduced. Please check the MinGW File Release section for the latest versions.

1. Download and run the MinGW setup program, MinGW-5.1.3.exe. You are likely to go through the following steps:

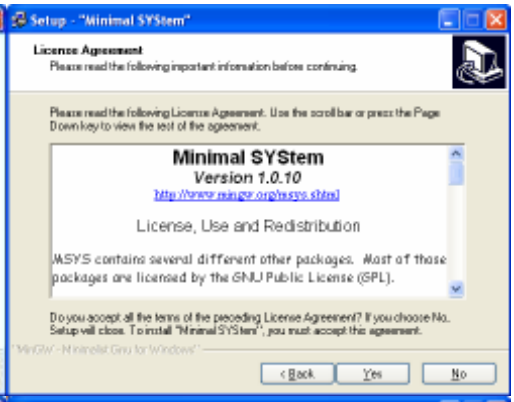


2. Select download and install the MinGW base tools and the g++ compiler. You may select the Current or Candidate version of these tools. You may also install any of the other available compilers as well. **Do not install the MinGW Make feature** as the MSYS version of make from step 5 is a more complete implementation of make. Once you click

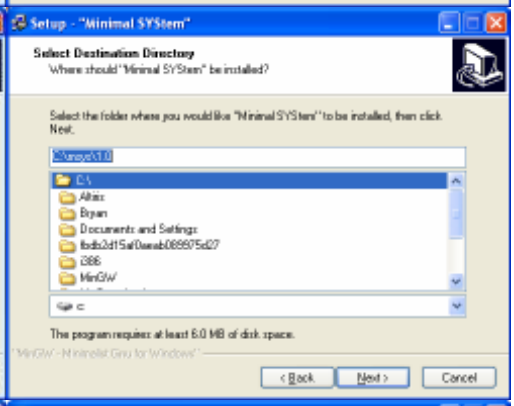
the “Next” button in the above dialog box, you will be asked to go through the following steps. The “installing” step can take a while since there are quite a few files to download.

3. The MinGW setup program currently does not install the gdb debugger. To install the debugger, download the file from the following location: gdb-6.6.tar.bz2
4. Extract the contents of the file gdb-6.6.tar.bz2 to the same location where you installed MinGW.
5. If you want to use Makefile projects, download and run the setup program from the following location: MSYS-1.0.10.exe. MSYS provides an implementation of make and related command line tools. **You really do not need it for CS 111.** But if you decide to use Makefile projects and install MSYS, you will be brought through the following steps:

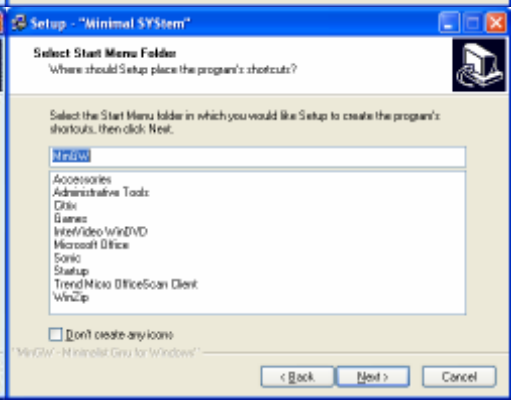

Setup - "Minimal SYStem"
Welcome to the "Minimal SYStem" Setup Wizard
This will install "Minimal SYStem 1.0.10" on your computer.
It is strongly recommended that you close all other applications you have running before continuing. This will help prevent any conflicts during the installation process.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

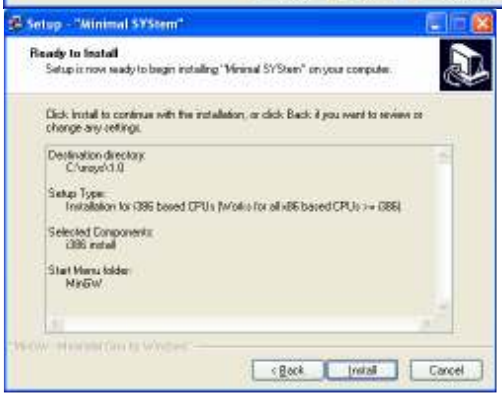

Setup - "Minimal SYStem"
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. Use the scroll bar or press the Page Down key to view the rest of the agreement.
Minimal SYStem
Version 1.0.10
http://www.mingw.org/msys.shtml
License, Use and Redistribution
MSYS contains several different other packages. Most of those packages are licensed by the GNU Public License (GPL).
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install "Minimal SYStem", you must accept this agreement.
< Back
Yes
No

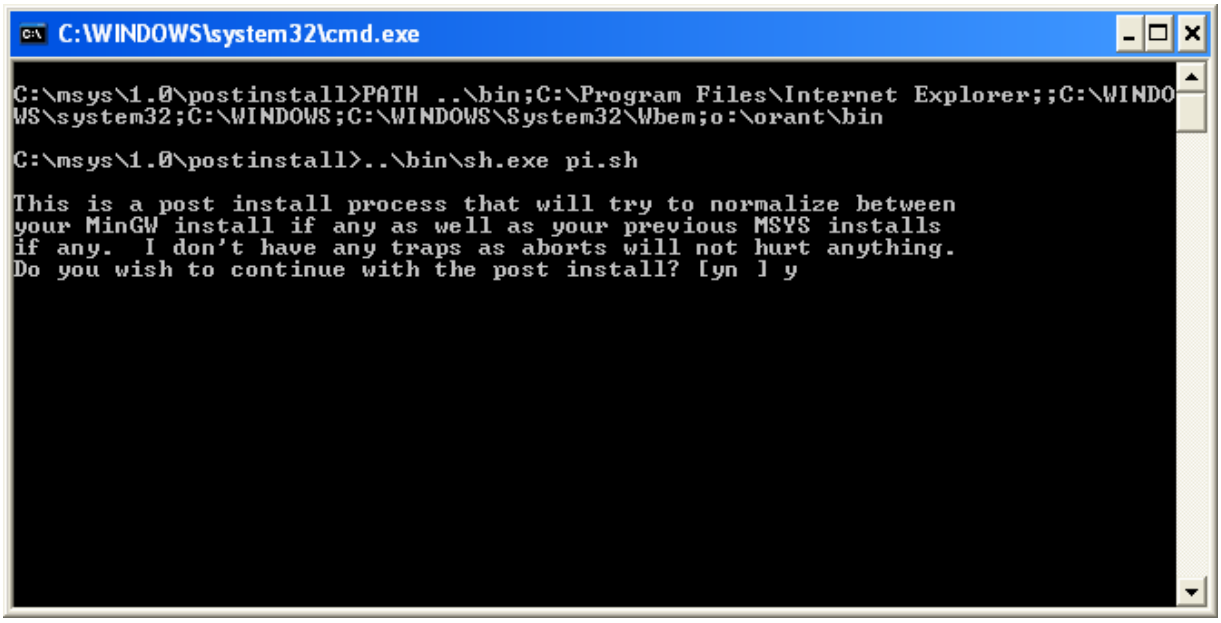

Setup - "Minimal SYStem"
Information
Please read the following important information before continuing.
When you are ready to continue with Setup, click Next.
Minimal SYStem
Version 1.0.10
http://www.mingw.org/msys.shtml
Production Release
The following changes were crafted for this release:
< Back
Next >
Cancel


Setup - "Minimal SYStem"
Select Destination Directory
Where should "Minimal SYStem" be installed?
Select the folder where you would like "Minimal SYStem" to be installed, then click Next.
C:\msys\1.0
C:\
Altec
Bryan
Documents and Settings
8edb2d15af0aeab089875d27
i386
MinGW
c:
The program requires at least 6.0 MB of disk space.
< Back
Next >
Cancel


Setup - "Minimal SYStem"
Select Components
Which components should be installed?
Select the components you want to install, clear the components you do not want to install. Click Next when you are ready to continue.
Installation for i386 based CPUs (Works for all x86 based CPUs >= i386)
< Back
Next >
Cancel


Setup - "Minimal SYStem"
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Select the Start Menu folder in which you would like Setup to create the program's shortcuts, then click Next.
MinGW
Accessories
Administrative Tools
Citrix
Games
InterVideo WinDVD
Microsoft Office
Sonic
Startup
Trend Micro OfficeScan Client
WinZip
Don't create any icons
< Back
Next >
Cancel


Setup - "Minimal SYStem"
Ready to Install
Setup is now ready to begin installing "Minimal SYStem" on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination directory:
C:\msys\1.0
Setup Type:
Installation for i386 based CPUs (Works for all x86 based CPUs >= i386)
Selected Components:
i386 install
Start Menu folder:
MinGW
< Back
Install
Cancel

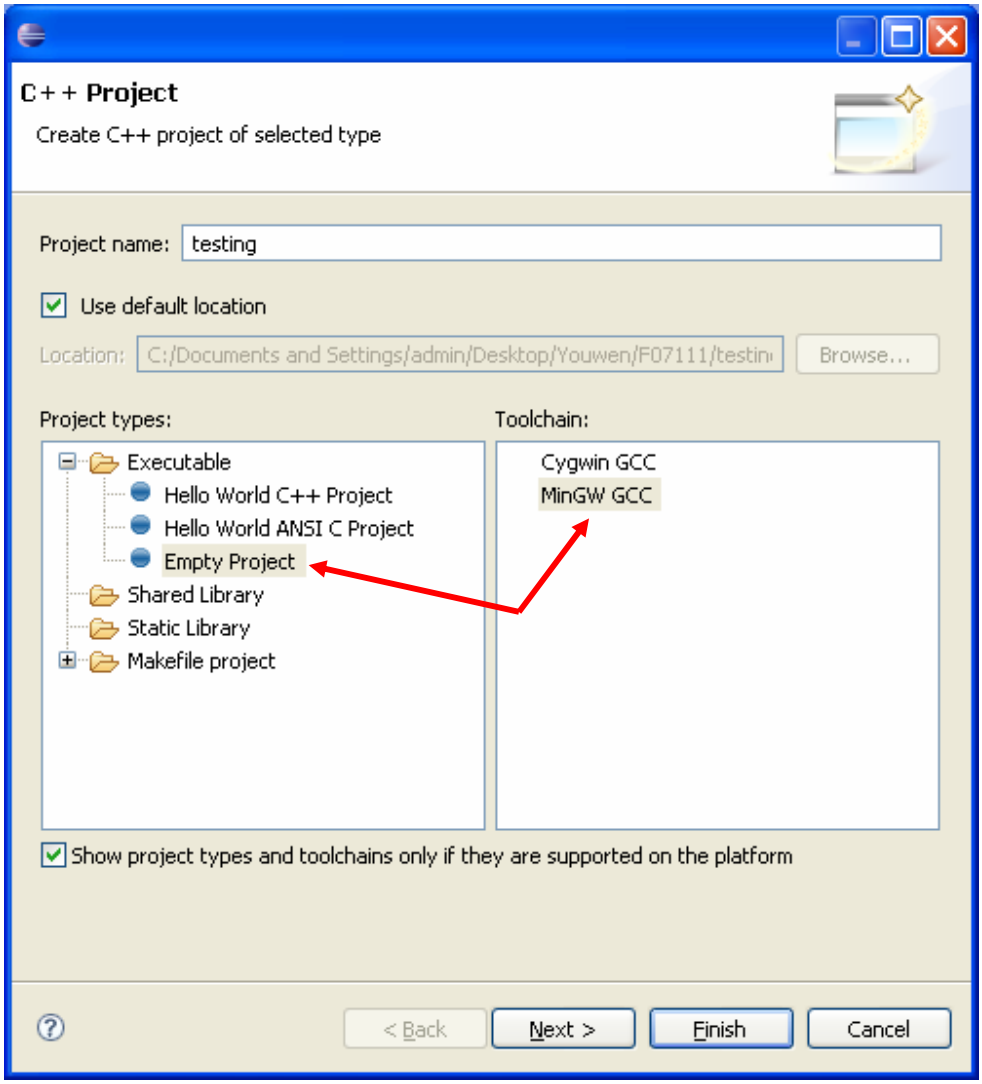


The package "Eclipse IDE for C/C++" is available for Windows, Linux, and MacOSX. So choose the right one based on the operating system on your computer. For this handout, Windows will be selected. A dialog box will pop up and asking you whether to open the zip file directly or save it first. It's always a good idea to save the zip file to your computer first before opening it. This will make the download process faster and free up the Internet connection while you are setting up Eclipse. Again, it is important to remember where you save the zip file instead of simply taking the default folder in the "Save in" box. If you have not done so before, this is a good time to create a folder for Computer Science on your computer.

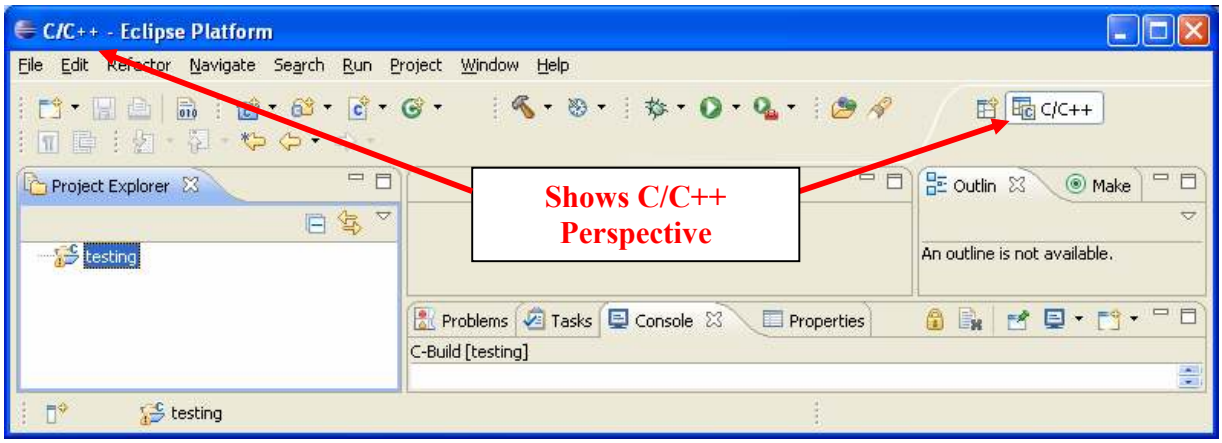
Once the file has been completed downloaded to your computer, you are ready to decompress or extract the files in the zip file to your computer. Once the process is done, an Eclipse folder will be created at the designated location. Open the Eclipse folder and you are ready to run Eclipse by double clicking on the Eclipse.exe file. You may find it helpful to create a shortcut to Eclipse on your desktop.

A Simple Project

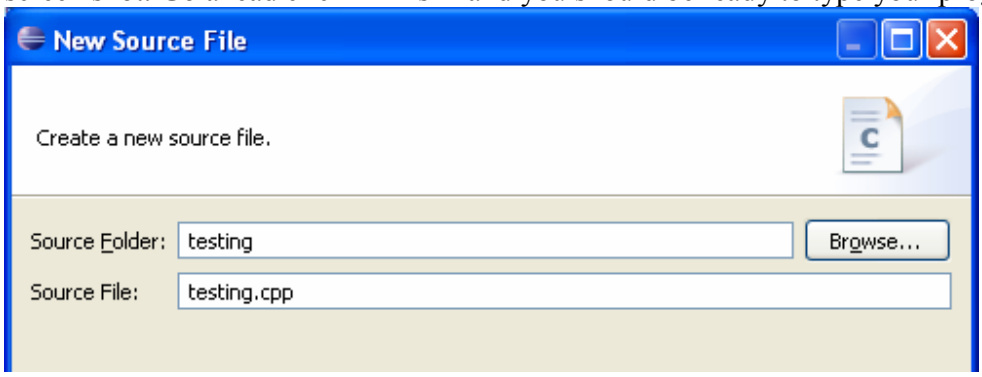
To create and run a C++ program, go to the File menu and select New and then C++ Project. A dialog box will pop up and allowing you to further define the type of the project. Make sure that you select "Empty Project" under "Executable" and "MinGW GCC" under Toolchain since the above process downloaded MinGW compiler not Cygwin compiler. Give a name for the project and you are ready to click the "Finish" button.



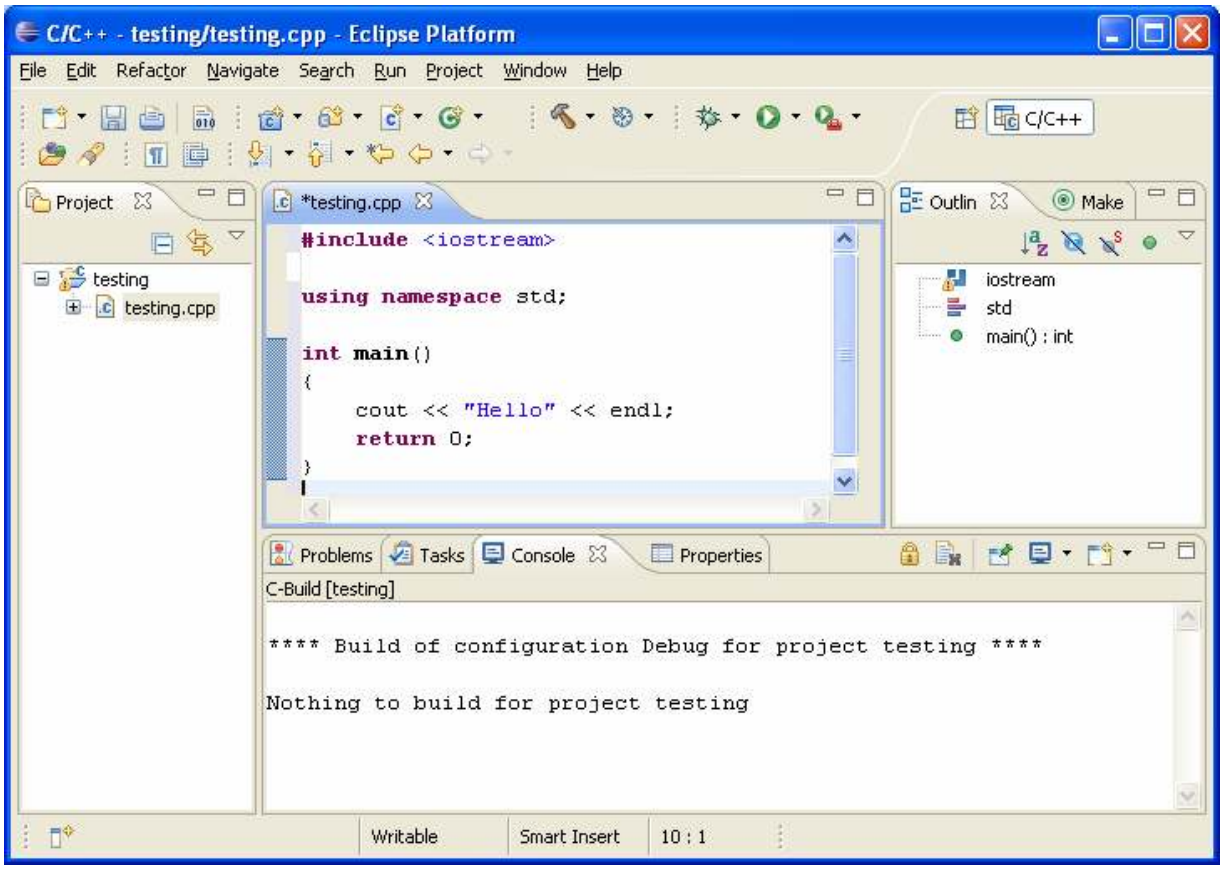
An empty project will be created and you should see Eclipse similar to the following:



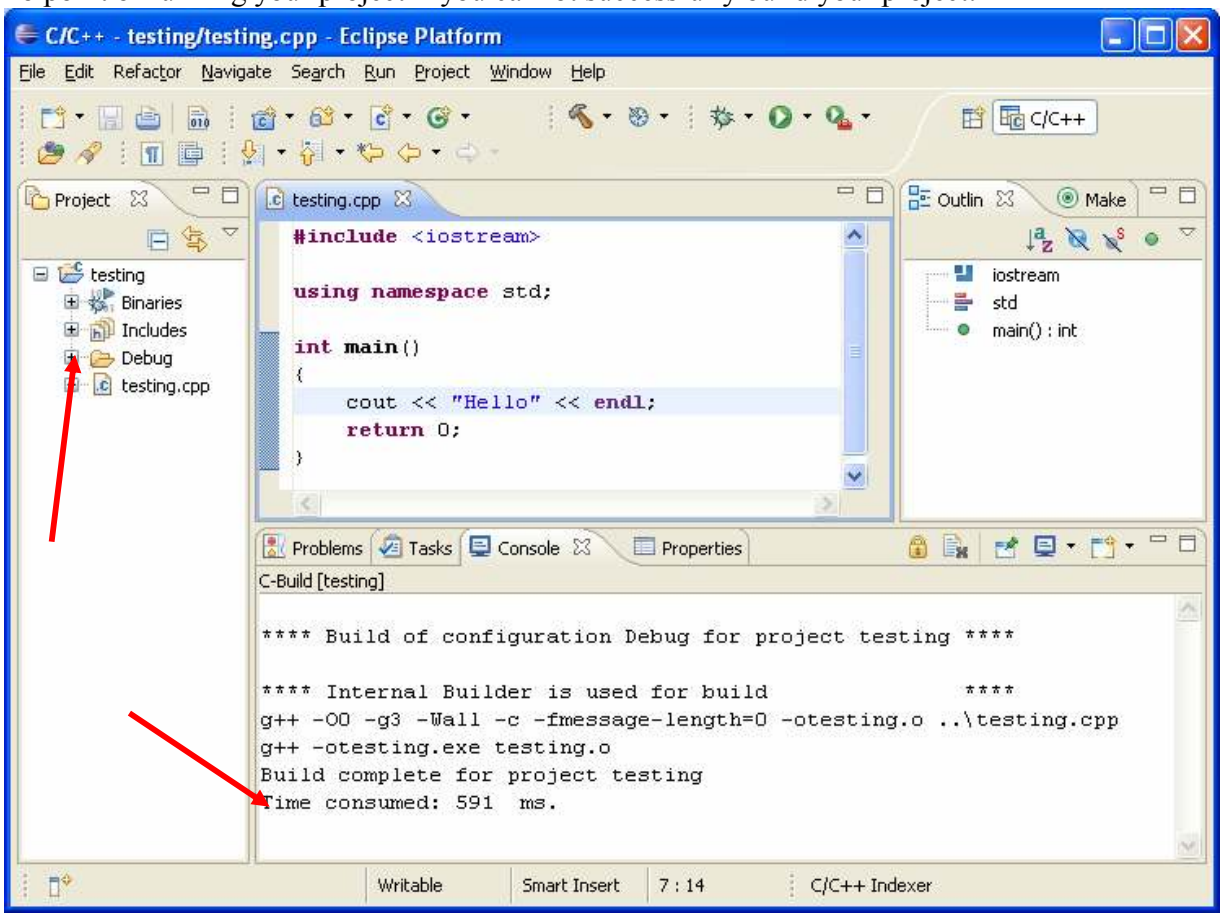
Now you are ready to add program files into the project. At the beginning of CS 111, each project will have only one program file. To create a program file, go to the File menu and select New and then “Source File”. When entering the name for your program file, check to make sure it is under the right project folder and it contains the extension .cpp as shown in the following screen shot. Go ahead click “Finish” and you should be ready to type your program.



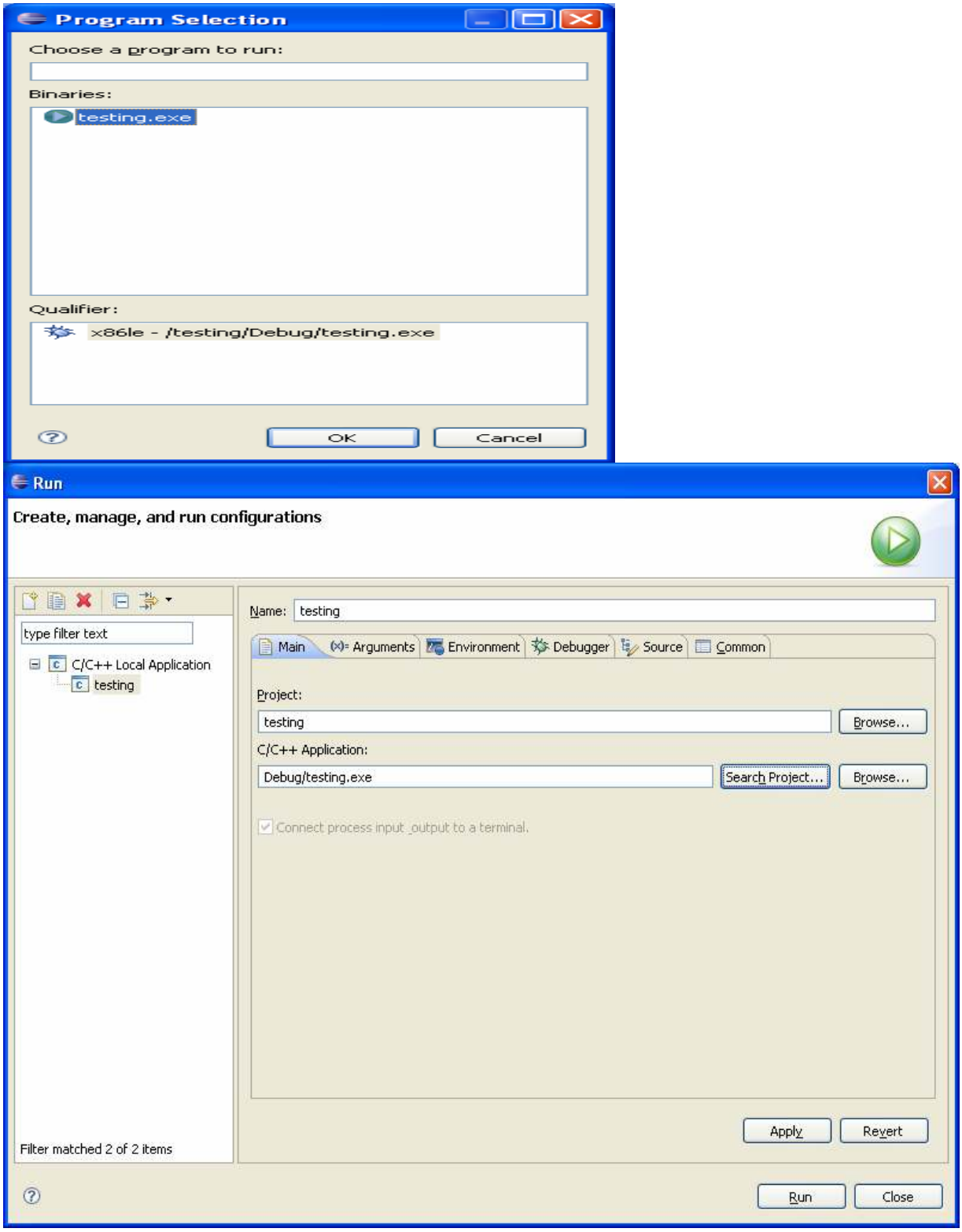
I will type a very simple program just to show how to run a program. The following screen shot shows the content of my simple program and the * next to the program file name indicates that I have not save my file yet.



Be sure to save your file first before building your project. To build the project, go to the "Project" menu option and select "Build Project". A **successful** build will lead to changes to your interface similar to the following. If there are any syntax errors in your program, you need to fix them first so that you can get a successful build before trying to run your project. There is no point of running your project if you cannot successfully build your project.



Click on the + next to the "Debug" folder under the project, you should see an executable file created with extension being .exe. This means that you are ready to run your project. If you have difficulty running the project the quick way, you can always go to the Run menu option and select "Open Run Dialog" and double click on the "C/C++ Local Application" to list all projects available. Select the right project and click the "Search Project" button. You should be able to see and select the executable file before clicking OK. You will then be brought back to the Run dialog box and ready to select "Run". The result of your program will be shown in the "Console" tab of Eclipse.


Program Selection
Choose a program to run:
Binaries:
testing.exe
Qualifier:
x86le - /testing/Debug/testing.exe
OK
Cancel
Run
Create, manage, and run configurations
type filter text
C/C++ Local Application
testing
Filter matched 2 of 2 items
Name: testing
Main
Arguments
Environment
Debugger
Source
Common
Project:
testing
Browse...
C/C++ Application:
Debug/testing.exe
Search Project...
Browse...
Connect process input _output to a terminal.
Apply
Revert
Run
Close