

# 16.216: ECE Application Programming

Fall 2013

## Programming Assignment #1: A Simple C Program

Due **Monday, 9/9/13**, 11:59:59 PM

### 1. Introduction

This program simply tests your ability to write, compile, execute, and submit programs using the tools available for this course. You will write a simple C program that prints some basic information, thus building upon the basic example shown in class. Please note that, unlike most assignments, this program is worth **50 points** due to its simplicity. A typical assignment will be worth 100 points.

### 2. Deliverables

Submit your source file directly to Dr. Geiger ([Michael\\_Geiger@uml.edu](mailto:Michael_Geiger@uml.edu)) as an e-mail attachment. Ensure your source file name (project name does not matter—see Section 4) is ***prog1\_simple.c***.

You should submit only the .c file. Failure to meet this specification will reduce your grade, as described in the program grading guidelines, which you are strongly encouraged to read before starting the assignment.

The .c file will typically be stored in a project subdirectory. For Visual Studio users, the file will be located in the project subdirectory that has the same name as the project itself. In the example shown in Section 4, since the project is stored in “C:\Users\Michael\_Geiger\Documents\Visual Studio 2012\Projects\” and its name is “test\_project”, you can find the source file for this project in:

C:\Users\Michael\_Geiger\Documents\Visual Studio 2012\Projects\test\_project\test\_project\

### 3. Specifications

For this assignment, write a simple C program that prints the following information. Each bullet point below corresponds to a single line of output:

- Your name
- Your major
- Your class (i.e. freshman, sophomore, etc.)
- The name and semester of this course

Ensure that your code contains appropriate documentation (i.e., comments), as discussed in the grading guidelines and in class. For this simple program, you can just write a header comment that gives your name and other information, and that briefly describes the purpose of the assignment.

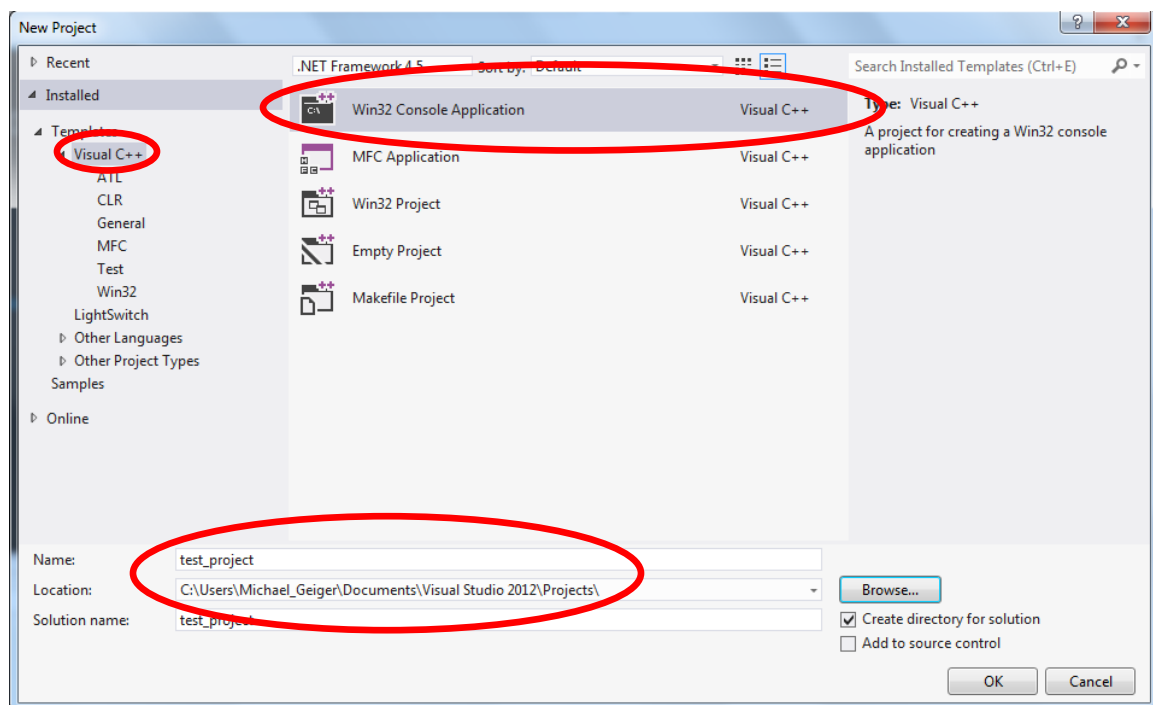
## 4. Using Visual Studio

We will create a sample project to help illustrate the use of Visual Studio. Note that this tutorial assumes the use of Visual Studio 2012.

After starting Visual Studio, select **File→New→Project** from the main menu, or simply click the "**New Project ...**" link on the welcome screen.

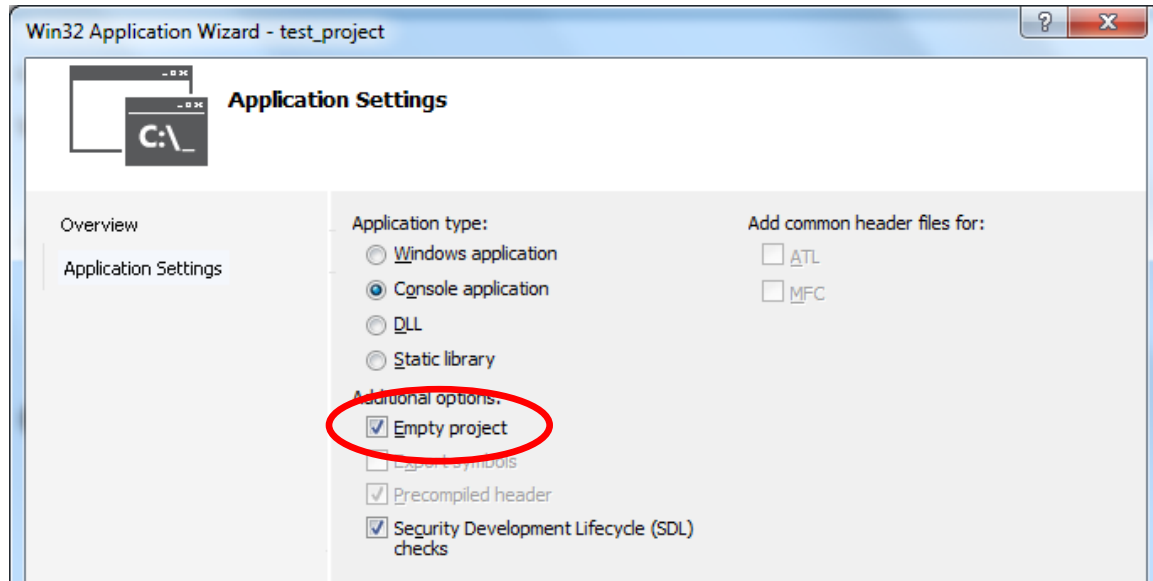
The dialog window that appears allows you to choose the type and name of your project. After selecting **Visual C++** in the list of templates on the left, choose **Win32 Console Application** from the list of project types in the middle. (Note that your choices may not exactly match those shown in Figure 1.) Use the boxes at the bottom of this window to specify a name and location for your project.

**Important note:** Your project name will not need to match the assignment name. To avoid confusion, I suggest choosing a generic name for the project (for example, "program1") and then naming your source file appropriately later.



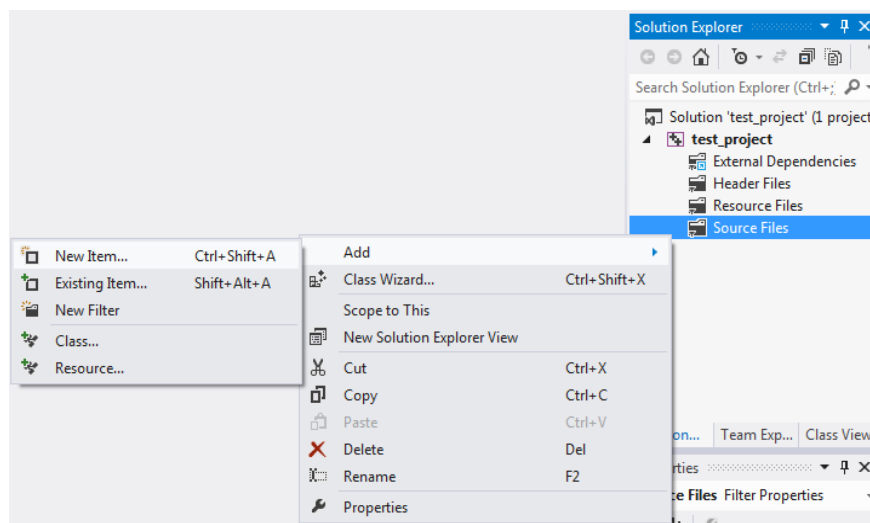
**Figure 1:** Creating a new Win32 Console Application by selecting "Visual C++" from the list of templates, "Win32 Console Application" from the list of project types, and specifying a name and location for your project. In this example, the project—not the source code file—is called "test\_project" and stored in "C:\Users\Michael\_Geiger\Documents\Visual Studio 2012\Projects\".

After accepting these settings, a window appears that you can use to set application settings. Click **Next**, then select the check box next to **Empty project**, which is under **Additional options**, in the following window. Click **Finish** to create your project.

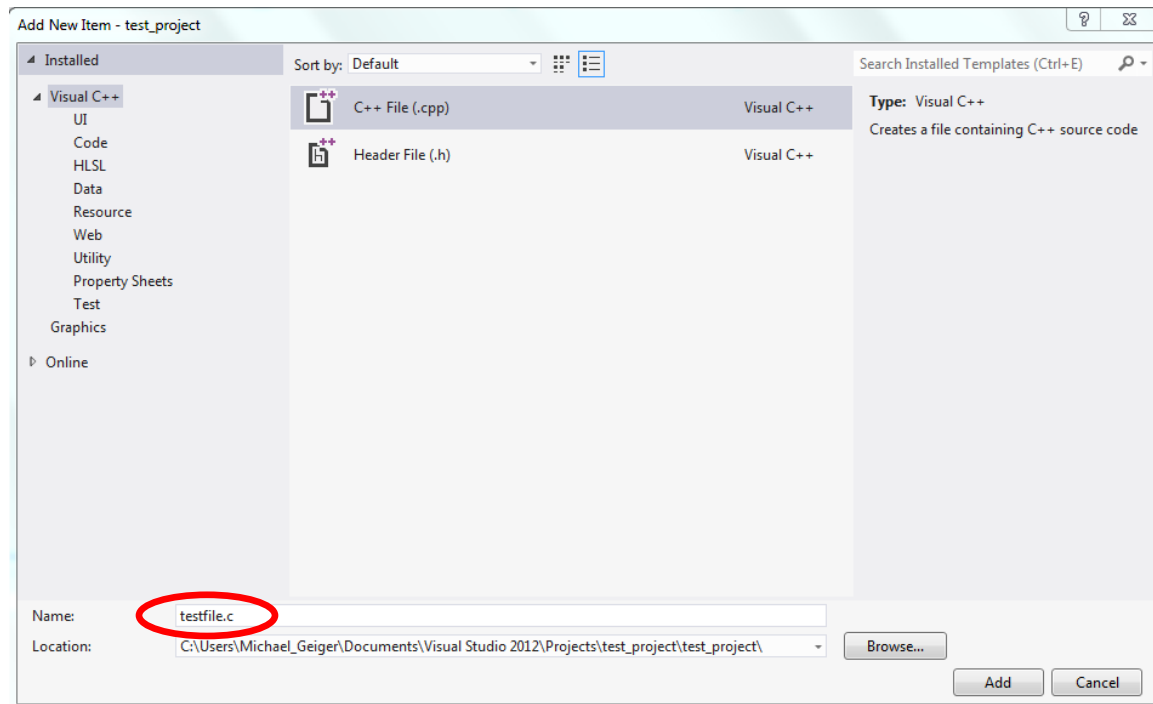


**Figure 2:** Initial application settings. After completing the steps shown in Figure 1, click “Next” in the first window that appears to reach this window—do not choose “Finish.” Once you reach this window, be sure to select the “Empty project” check box before clicking “Finish”.

To create your first C file, right click on **Source Files**, in the **Solution Explorer** window. Choose **Add → New Item**. In the list that appears, choose **C++ file (.cpp)**, then name your file. **Remember that, in your programming assignments, source file names are specified for you. You must choose a name with a .c extension so that the program will be saved as C source code, not C++ source code.** See Figures 3 and 4 below.



**Figure 3:** Adding a new source file to your project



**Figure 4:** Naming your source file. Note that the file name must end with “.c”.

## 5. Test Cases

Given the simplicity of this assignment, the "test cases" simply show the appropriate formatting for your output:

```
C:\windows\system32\cmd.exe
Dr. Michael Geiger
Major: Computer Engineering
Class: Senior
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Press any key to continue . . .
```

Note: to get your program to terminate with a message saying, “Press any key to continue ...”, use the **Start Without Debugging** command (press Ctrl + F5) to run your code. Do not use additional code—such as the `system("pause")` function or an infinite loop—in your code to achieve the same result. Doing so will render our grading program useless.