

CS 210 Writing C in Visual Studio

If you do not have Visual Studio on your own computer you can download Visual Studio 2015 Community free from <https://www.visualstudio.com/downloads/download-visual-studio-vs>

When you open Visual Studio for the first time you may need to sign in to a Microsoft account or get a license to continue. The account is free and requires only an email address and password.

From the start menu which comes up when Visual Studio open click on "New Project". Alternatively, you can get rid of the *Start* page by clicking on Tools → Options → Startup. In the menu that comes up select "Show empty environment" and unclick the box that downloads content every so often. You can then open a project from the empty environment by clicking on File → New project. This will get you the *New Project* window shown in Figure 1.

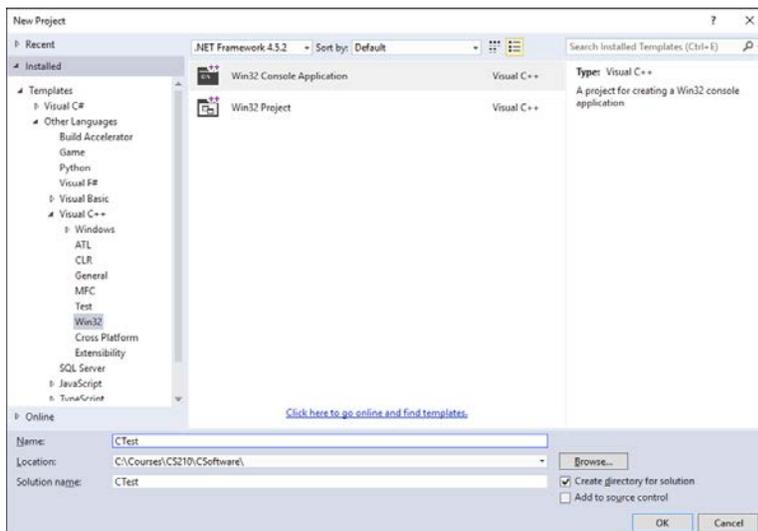


Figure 1
New project window.

On the left side select *Templates* → *Other Languages* → *Visual C++* → *Win32* as shown in Figure 1. In the main window select *Win32 Console Application*. At the bottom of the New Project window enter a project name. In Figure 1 this has been entered as *CTest*. In the *Location* box find a folder where you want your project stored. You can use the *Browse* button to select a folder. I suggest you keep all of the projects for this class in one folder which may be on a USB Thumb drive if you are using a lab computer.

The *Solution* name will be filled in for you. We also want to make sure the box for *Create directory for solution* is checked and the *Add to source control* is not checked. Click on OK to open the application wizard for the project.

The *Application Wizard* will open telling you that you have created a console application. Click on *Next*.

On the next screen click on *Empty Project* as shown in Figure 2.

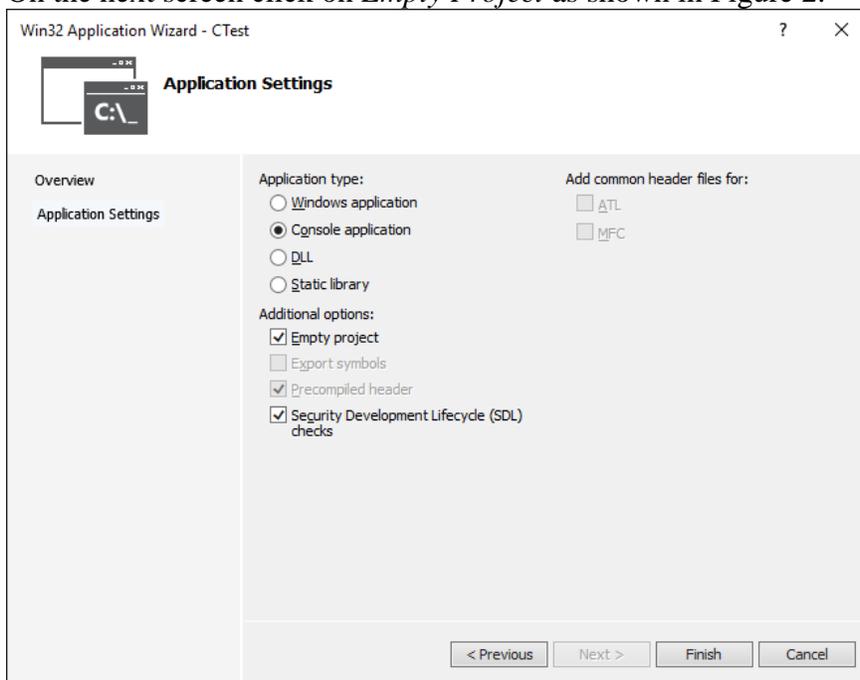


Figure 2

Click on *Empty project*.

Click on the *Empty project* box as shown in Figure 2. Click *Finish* to create the project.

In the project, on the right side you will have a *Solution Explorer* window. (If this is not present click on *View* → *Solution Explorer*. In the *Solution Explorer* right click on source file and select *Add* → *New item*. This will give you the screen shown in Figure 3. Click on *C++ File (.cpp)* and at the bottom of the screen enter the file name. This is usually the same as the project name. Change the file extension from *.cpp* to *.c*. In Figure 3 we have set this to *CTest.c*. Click on *Add* to close this screen.

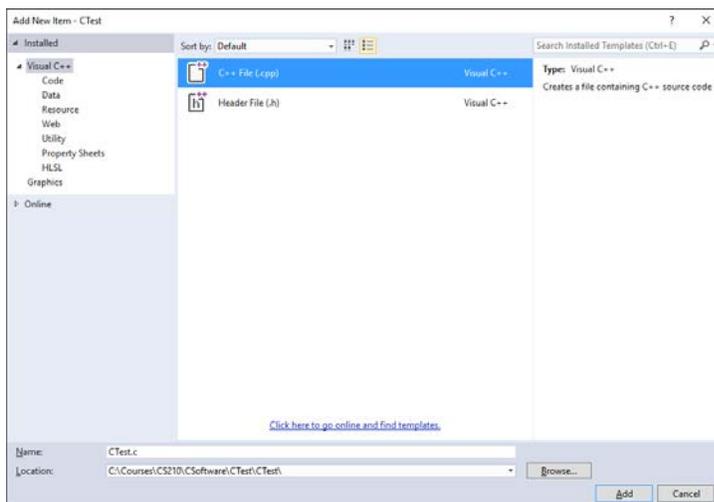


Figure 3

Add a c file to the project.

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At this point the main window in the center is ready for you to enter your c-code. Here is some sample code that you can enter to see how to compile a c-program. This code is from the text book on p. 47 except I have added a few comments.

```
#include <stdio.h>
#define KMS_PER_MILE 1.609

int main(void)
{
    double miles, kms;
    printf("Enter the distance in miles> ");
    //If you use scanf here you get a compiler warning
    //scanf_s prevents buffer overflow
    scanf_s("%lf", &miles); //this is lf not lf
    kms = KMS_PER_MILE *miles;
    printf("That equals %f kilometers.\n", kms);
    return (0);
}
```

After you have the program entered, click on *Build* → *Build Solution*. If you have been living a good clean life in the very bottom left of the screen you will see a message that the Build succeeded. If this is not the case, you have most likely typed something in wrong. Try again.

If you build succeeded you can click on *Debug* → *Start without debugging*. This will pop up the console output screen shown in Figure 4. Enter 10 at the prompt to see the result.

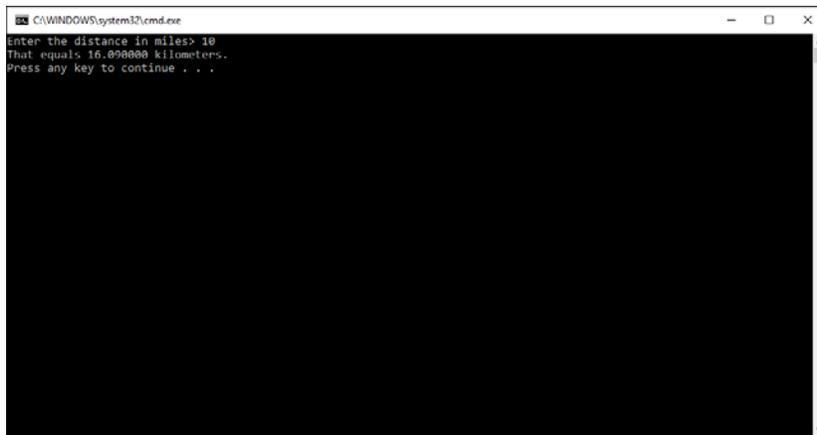


Figure 4

The console output screen.

Press any key to go back to your c-code.

At this point you have successfully entered and compiled a c-program. You can close it by going to *File* → *Close Solution*. To reopen it click on *File* → *Open project/solution*. Browse back to the folder where you stored your project and find *CTest.sln*. Click on this file to reopen your project. Alternatively, you can close Visual Studio and locate the folder with the solution on your computer. Double click on *CTest.vcxproj*. This will open Visual Studio and your project.