Getting started with the coursework

Using Visual Studio 2012 is relatively easy. You can get a copy for yourself from Microsoft Academic Alliance (Dreamspark) for free. Ask your Microsoft representative for login details if you don't know them. I do not know these. Alternatively you can just use the A32 lab PCs.

Important: Microsoft introduced some issues with running various things from a remote directory with Visual Studio 2010. These issues still apply to Visual Studio 2012. These are documented as problems on the web by a number of people, but no solutions seem to have been given. **This document will talk you through avoiding the issues**. At various points I will tell you where to do some things. If you try to do them in alternative locations they may not work. If you instead do this on your own machine, with local directories, all will work well without these issues.

You need different directories at different times:

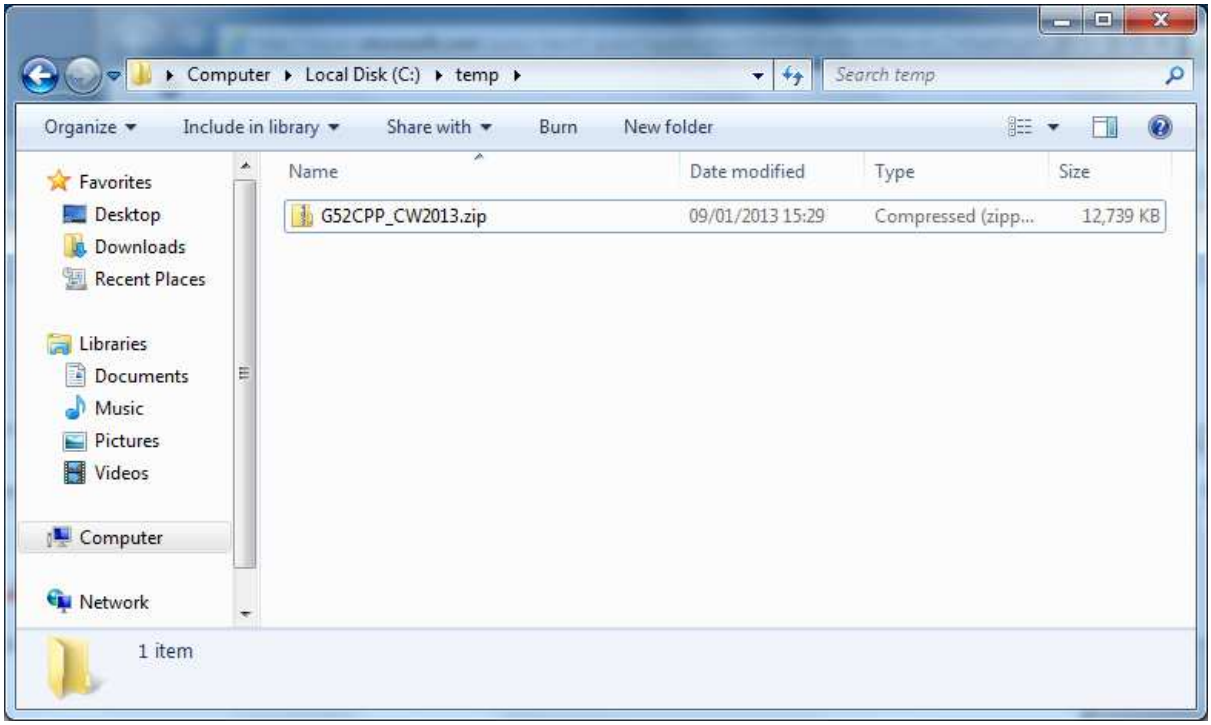
- **Unzip your files in the C:\Temp directory. T**his is a directory on the local machine which you can use. WARNING: files in here are not backed up to your h: drive!!! Do not leave anything in here, just use it temporarily as needed.
  You will probably need to unzip inside the temp directory. I tried downloading as a student account, using the lab PCs, and there seems to be an issue with the unzip program – if you try to unzip directly to the desktop or H: drive it often misses a load of the files. I suspect it's a timing issue but the easy solution is to unzip on the C: drive (in the temp directory) then move the files to the desktop afterwards.
- **Build your project files on your desktop.** The desktop is where you will build and change your project. Visual Studio does not appear to build correctly from your home directory. Your desktop is actually a remote directory on a windows server, so files on your desktop should move with you automatically when you change machines, and are basically the equivalent of working off your h: drive, except that you have a lot less space available. When I tested it, Visual Studio worked fine from the desktop but DID NOT WORK PROPERLY FROM THE H: DRIVE
- **Keep your backups on your H: drive.** You will probably want to back up you project files – particularly the .cpp and .h files, to the private area of your home directory, for backup purposes. You could copy the entire project directory of course, or zip it and copy it. H: has a lot more space than the desktop. Please make regular backups.

Steps to get a working version of the coursework project compiled and running:

1) Get the coursework zip file from the coursework page of the web site, here: http://www.cs.nott.ac.uk/~jaa/cpp/coursework.html

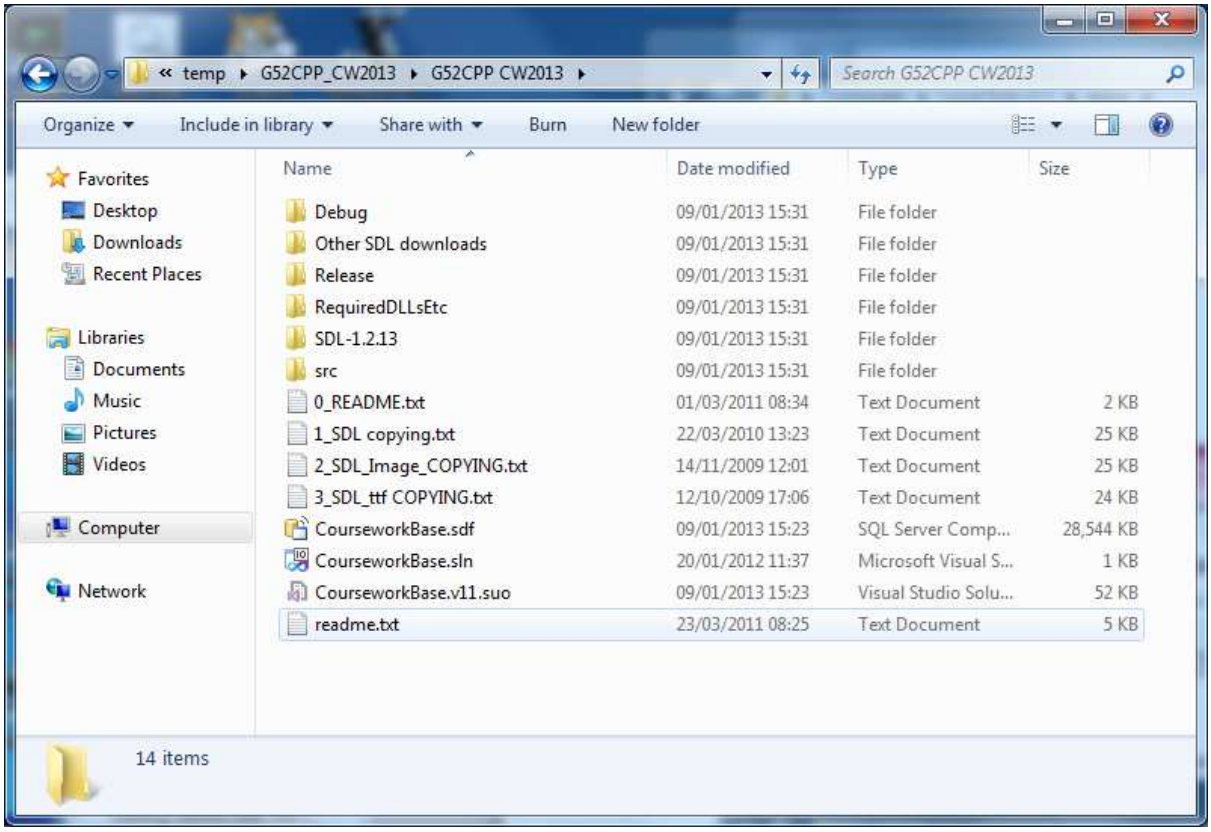
2) Put the zip file in your c:\temp directory.

3) Unzip the file to create the sub-directories. Right click on it and choose ‘extract all’. Important: for some reason the extract does NOT work on the desktop or home directory when I tried it. Putting it in C:\Temp ensures that it is a local directory and the extract works correctly. Your temp will then look something like this:



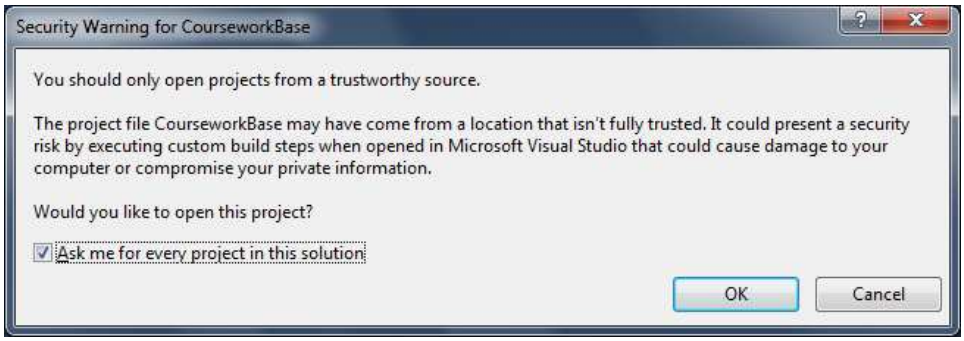
4) After extraction, move the directory called “G52CPP CW2013” (and all sub-directories) which are created to your desktop.

5) Open the directory on the desktop and you will see some files:



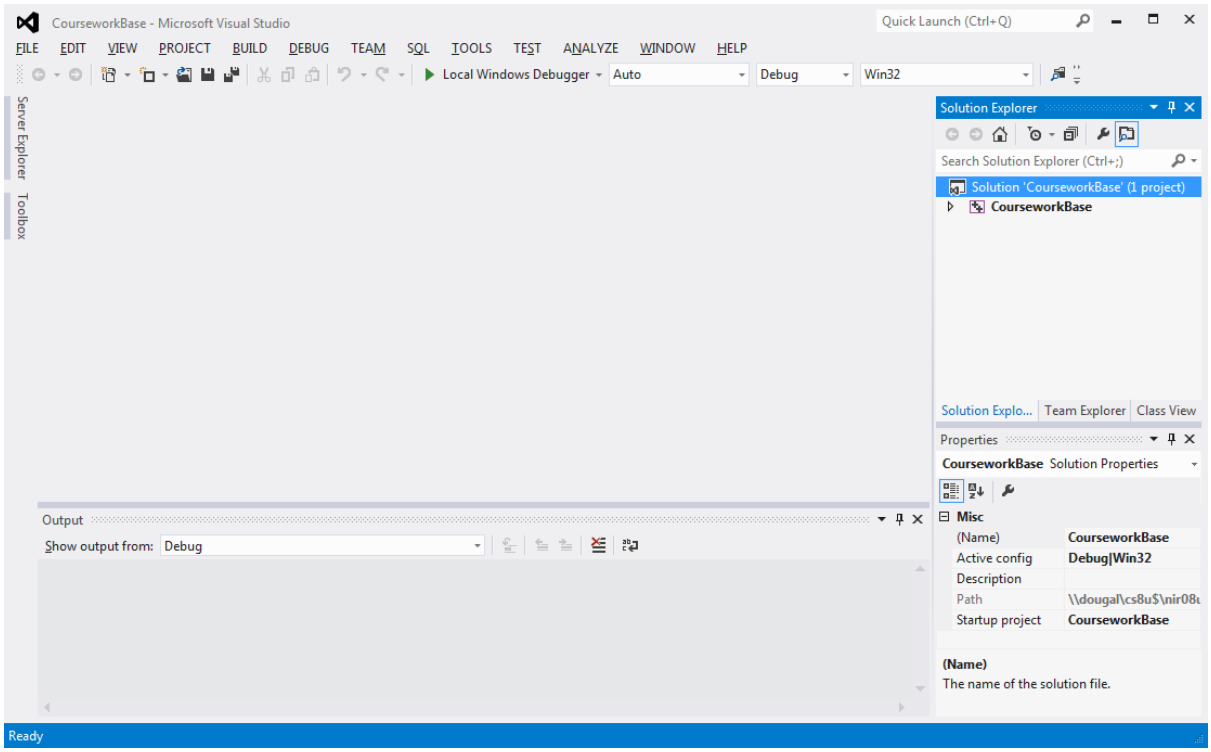
6) Double click on the CourseworkBase.sln file to open Visual Studio. Be patient while it starts for the first time.
If it asks you what language to set as default, choose C++.

If you get this message then just choose OK: (apparently I am not fully trusted ☹)

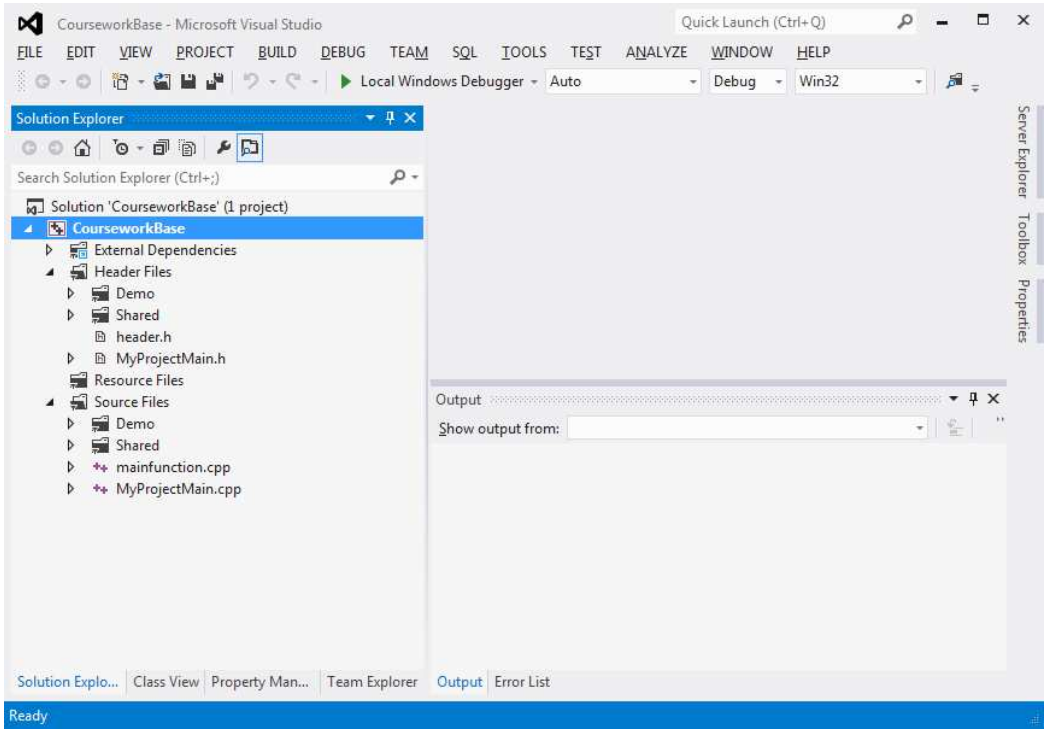


At this point you may get some other error messages, especially if you did not properly follow these instructions about directories to use, depending upon where you are compiling from. I have described one error on the last few pages of this document, but since you should not get it if you compile on the desktop I've not put the info here.

7) The project should then open and look really ugly (in my opinion) due to the move to standardise on blocky grey user interfaces now: (see next page)



Note: You can move the panes around. I prefer the solution explorer pane on the left:

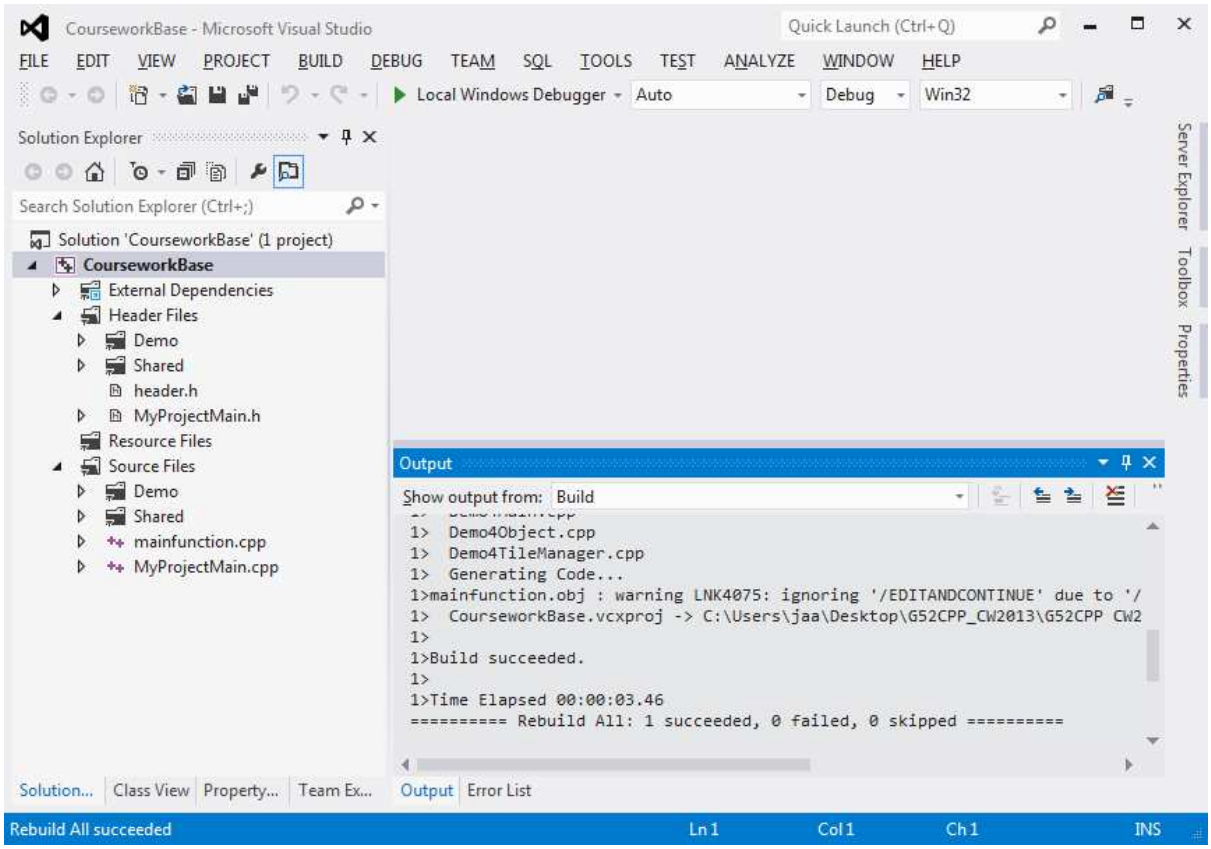


8) You should now be able compile the project, edit files, etc as normal (see the next few pages).

Compiling your project

To build your program for the first time, choose ‘Rebuild Solution’ from the ‘Build’ menu.
In future, you can choose ‘Build Solution’ from the ‘Build’ menu, which will normally work. If build ever fails for no reason, then try the rebuild option.

When the rebuild finishes it should show something like the following:



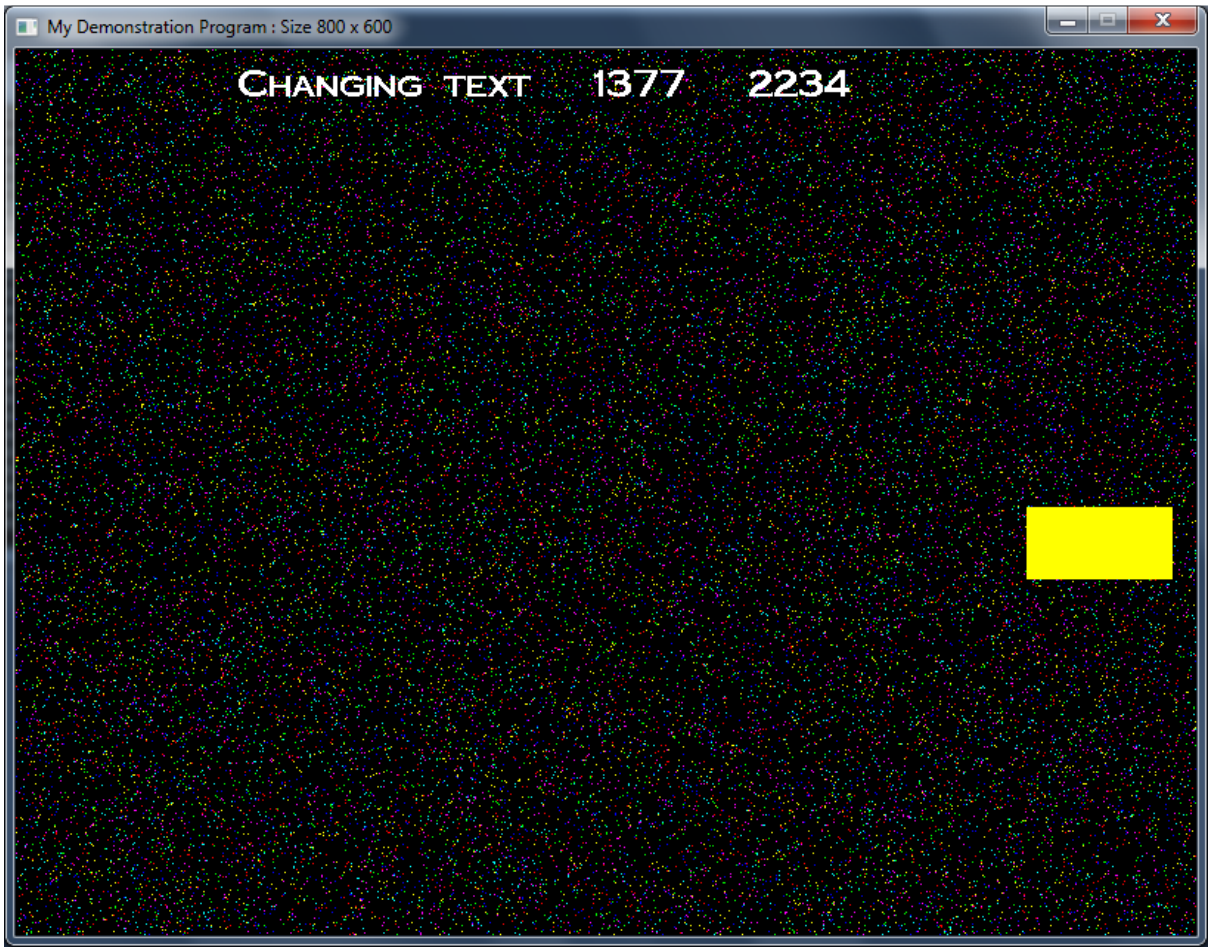
Note the ‘Build succeeded’ at the end.

The build menu option will attempt to recompile and relink all files which it thinks need to be compiled. The rebuild option will recompile all of them regardless of whether they have changed or not. Sometimes Visual Studio gets confused and misses some files on a build, so it is worth doing a ‘rebuild’ every so often if something odd happens. A build is usually a lot quicker than a rebuild.

Running your project

To execute the project which you have built, use either the Start Debugging or 'Start without debugging' menu options from the 'Debug' menu.

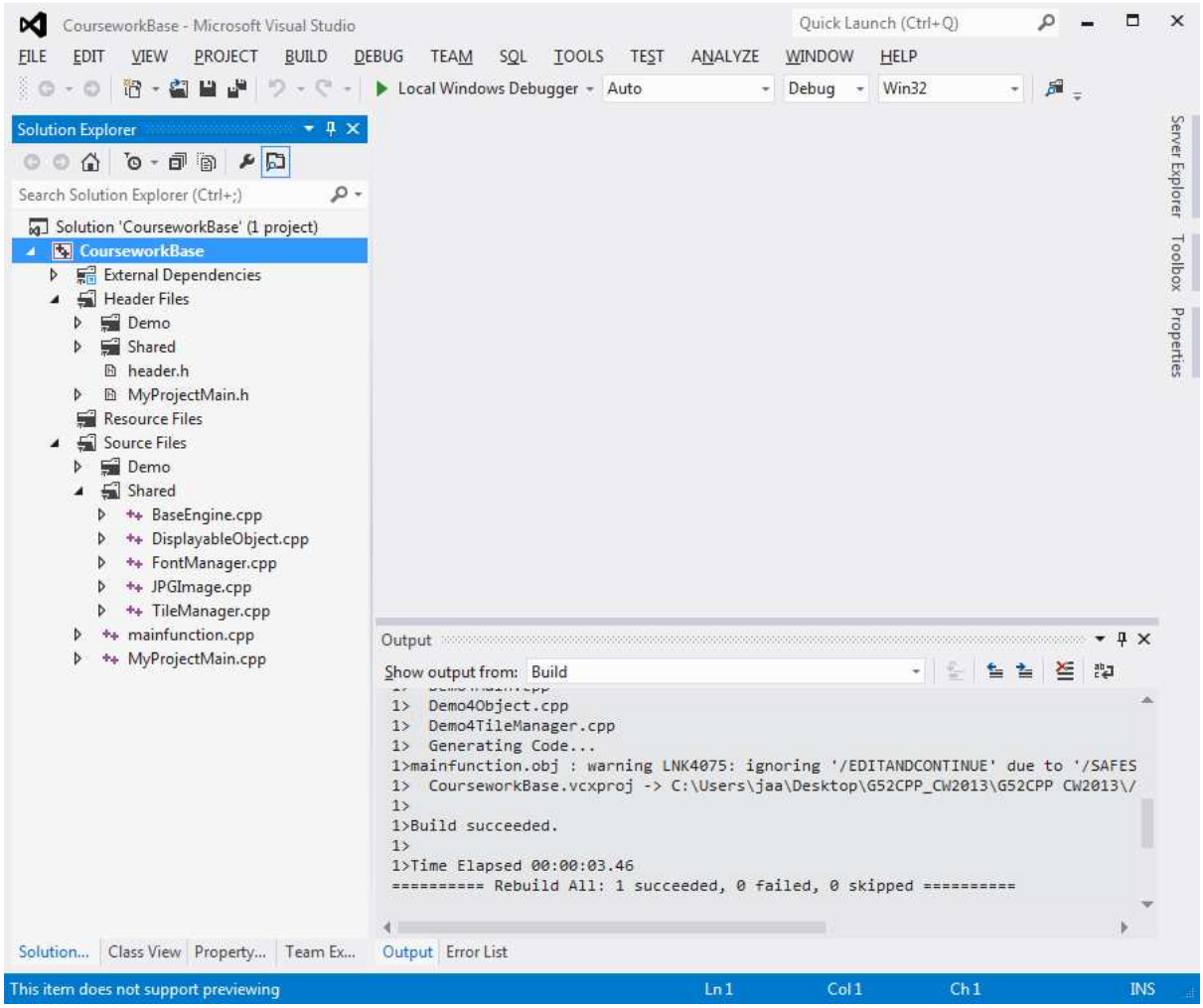
The initial program will look like this if it works, where the yellow rectangle will move around the screen:



It may tell you the project is out of date when you try to run it. If it does then just say yes to rebuild it.

Modifying the code

The solution explorer, in a tab on the right or left of the screen, lists all of the files in your project. I have put them into folders. Expand the folders, as shown below, by clicking on the triangle by the folder name:



To open a file, double click on it and it will open in the other pane.

e.g. in the picture on the next page, I have opened mainfunction.cpp, which is the main entry point for the program.

You can then edit code in the editor.

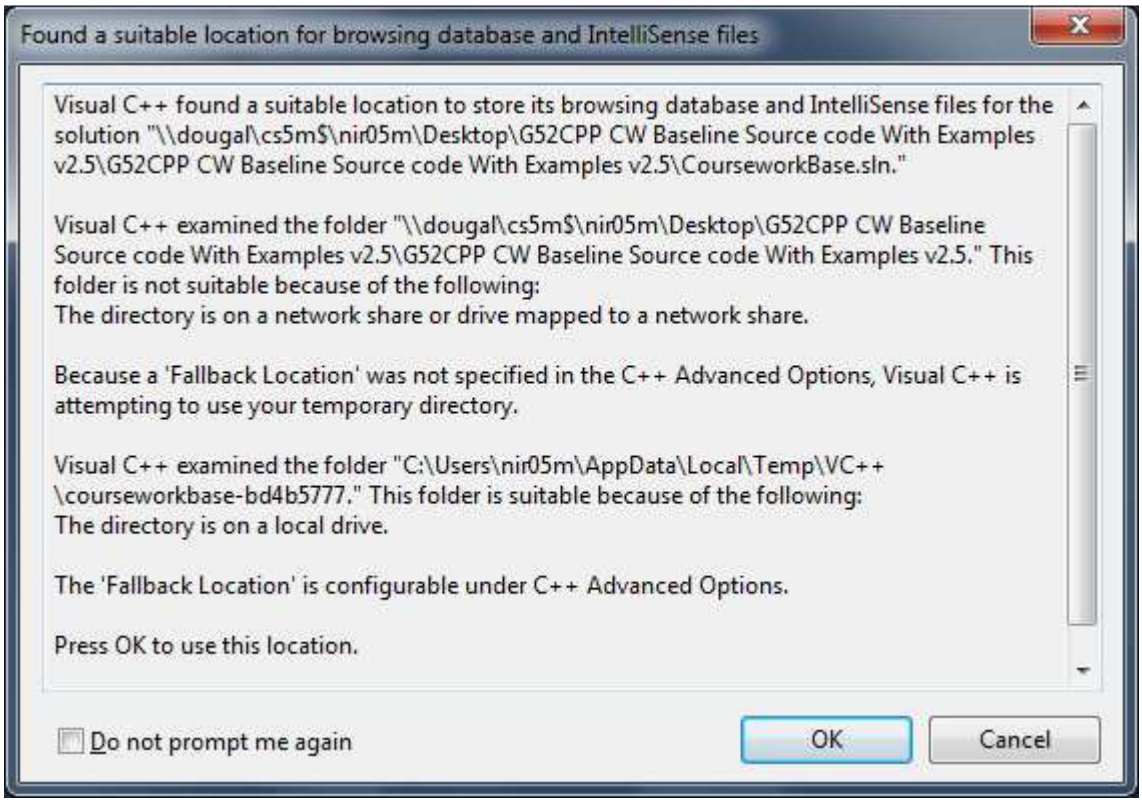
When you are happy with it, compile it as previously described.

The output window will show you the results, telling you about any errors or success.

Potential Problems with Browse Info Files

This was a problem that I saw in previous years, particularly when trying to run from your H: drive. I have not yet seen this this year in testing this, but here is the resolution if you get it:

If you get this message:

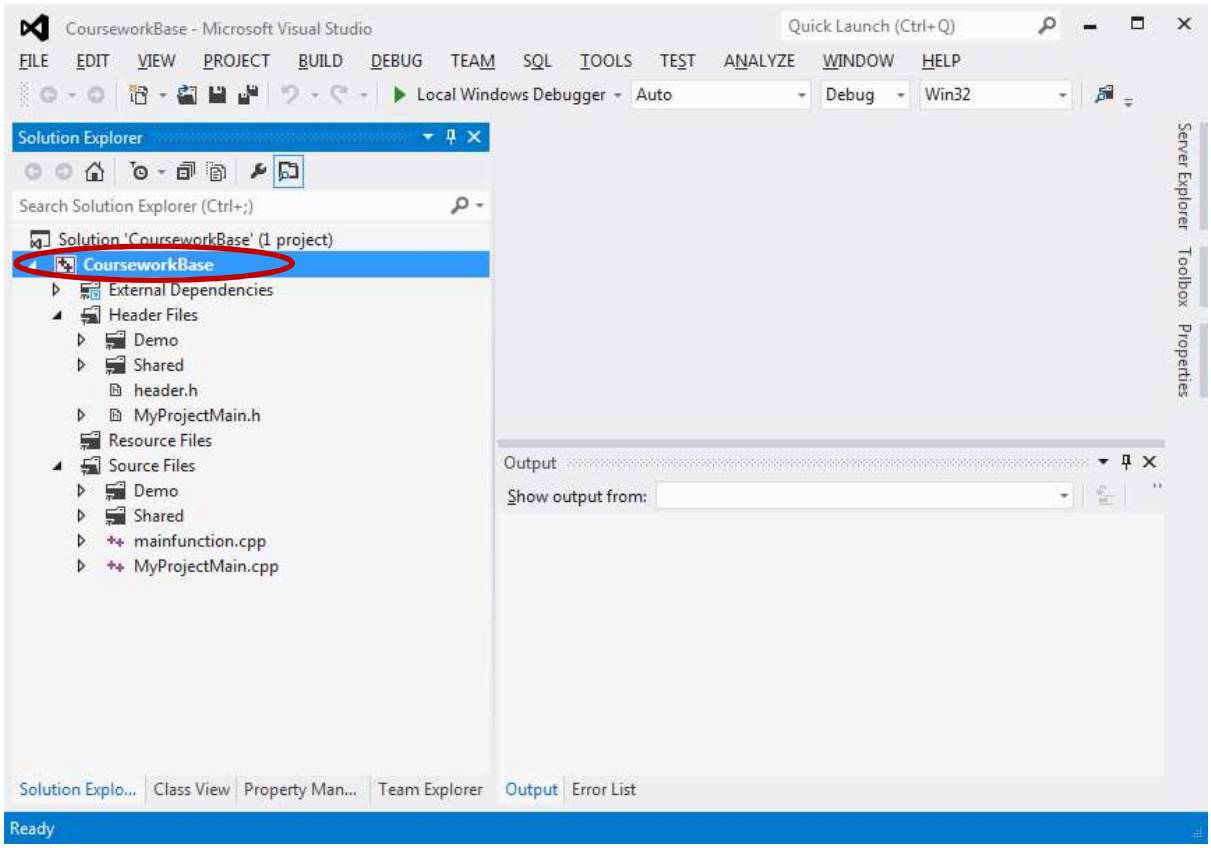


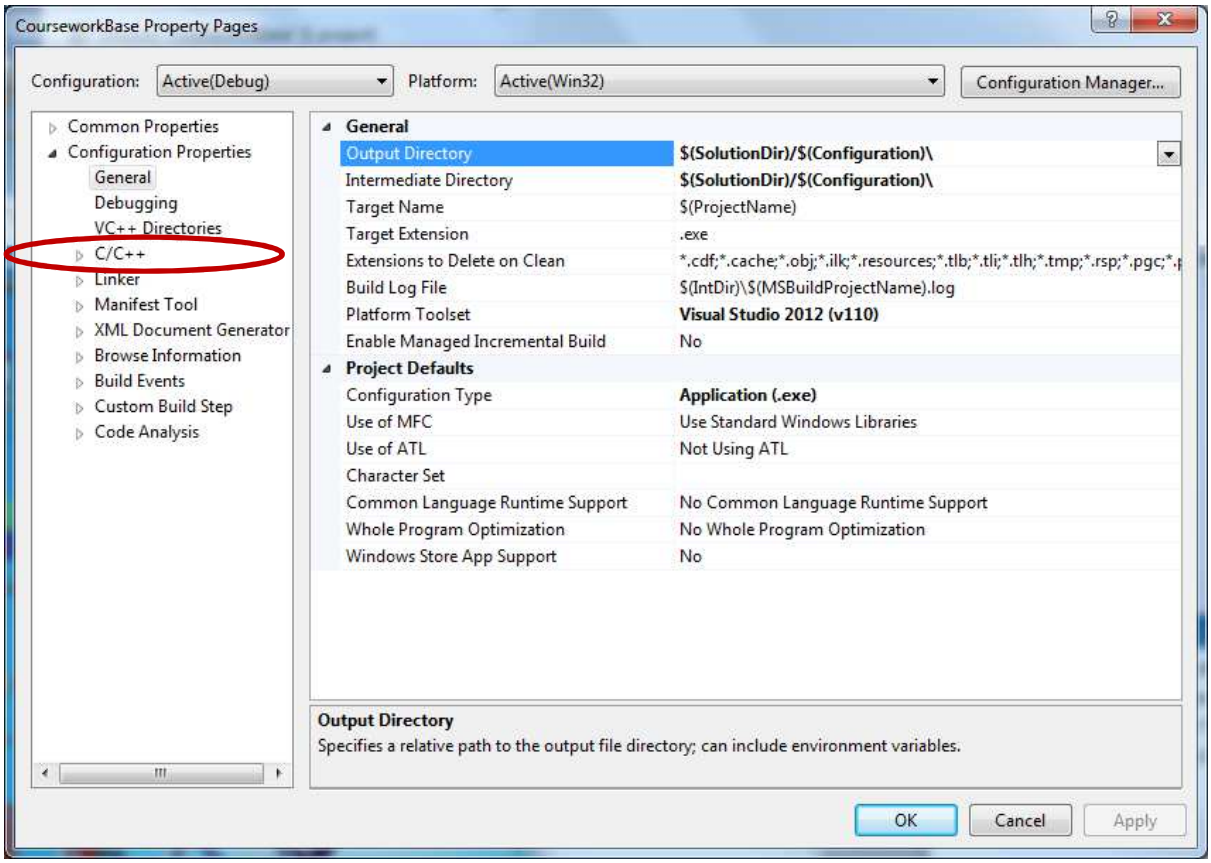
Choose 'CANCEL' to disable intellisense and browse info. You only need to do this because of the Microsoft remote directory bug. **Then you need to turn off browse info files in the project:**

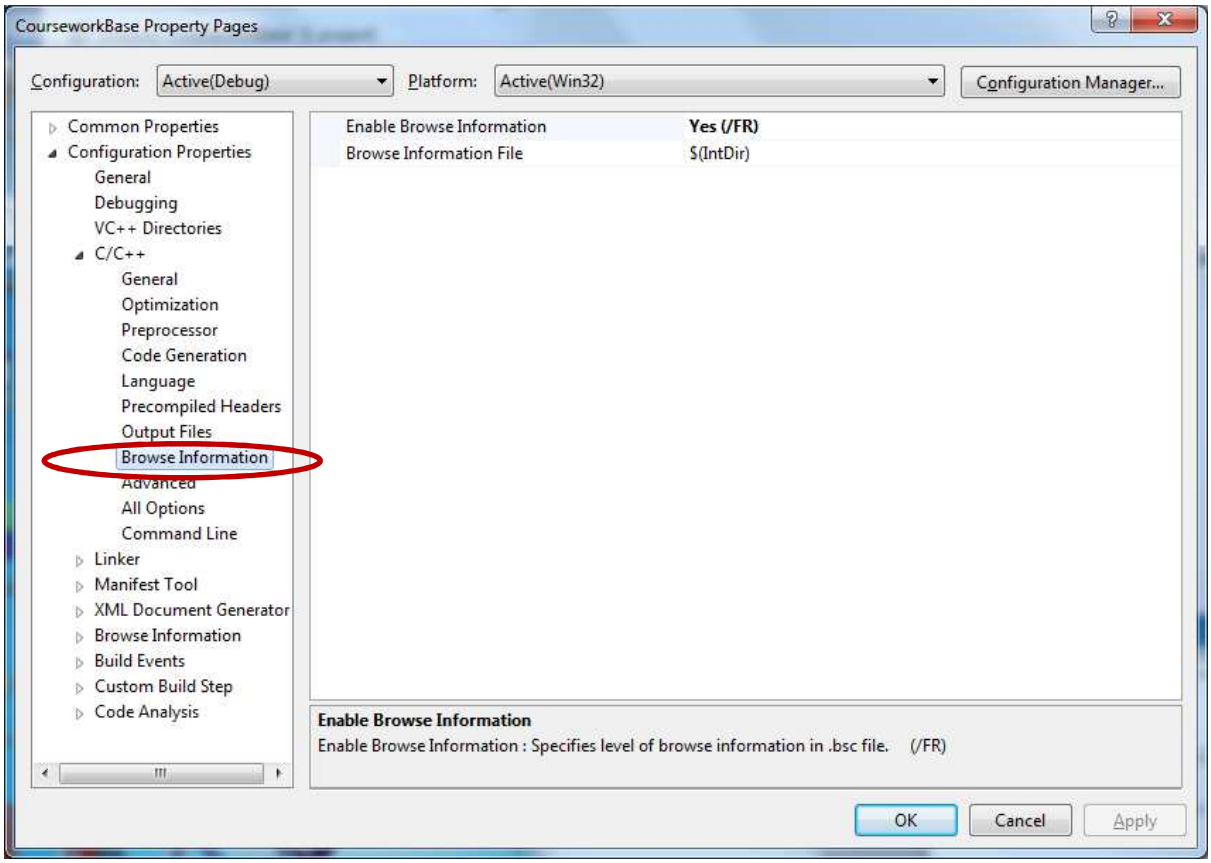
If you turned off browse info (for the second error above) then you will probably need to turn it off in the project as well.

Right click on the project (in the red oval in the picture below).
Select 'Properties' from the bottom of this list. It should then show this window:

Now expand the C/C++ tab on the right (see next page).
Choose Browse information from the list.
This should display the following information (see next page).
Change 'Enable Browse Info' to No.
Choose OK to close the window.


CourseworkBase - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS TEST ANALYZE WINDOW HELP
Local Windows Debugger
Auto
Debug
Win32
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'CourseworkBase' (1 project)
CourseworkBase
External Dependencies
Header Files
Demo
Shared
header.h
MyProjectMain.h
Resource Files
Source Files
Demo
Shared
mainfunction.cpp
MyProjectMain.cpp
Server Explorer
Toolbox
Properties
Output
Show output from:
Solution Explo...
Class View
Property Man...
Team Explorer
Output
Error List
Ready


CourseworkBase Property Pages
Configuration: Active(Debug)
Platform: Active(Win32)
Configuration Manager...
Common Properties
Configuration Properties
General
Debugging
VC++ Directories
C/C++
Linker
Manifest Tool
XML Document Generator
Browse Information
Build Events
Custom Build Step
Code Analysis
General
Output Directory $(SolutionDir)/$(Configuration)\
Intermediate Directory $(SolutionDir)/$(Configuration)\
Target Name $(ProjectName)
Target Extension .exe
Extensions to Delete on Clean *.cdf;*.cache;*.obj;*.ilk;*.resources;*.tlb;*.tli;*.tlh;*.tmp;*.rsp;*.pgc;*.
Build Log File $(IntDir)\$(MSBuildProjectName).log
Platform Toolset Visual Studio 2012 (v110)
Enable Managed Incremental Build No
Project Defaults
Configuration Type Application (.exe)
Use of MFC Use Standard Windows Libraries
Use of ATL Not Using ATL
Character Set
Common Language Runtime Support No Common Language Runtime Support
Whole Program Optimization No Whole Program Optimization
Windows Store App Support No
Output Directory
Specifies a relative path to the output file directory; can include environment variables.
OK
Cancel
Apply


CourseworkBase Property Pages
Configuration: Active(Debug)
Platform: Active(Win32)
Configuration Manager...
Common Properties
Configuration Properties
General
Debugging
VC++ Directories
C/C++
General
Optimization
Preprocessor
Code Generation
Language
Precompiled Headers
Output Files
Browse Information
Advanced
All Options
Command Line
Linker
Manifest Tool
XML Document Generator
Browse Information
Build Events
Custom Build Step
Code Analysis
Enable Browse Information
Yes (/FR)
Browse Information File
$(IntDir)
Enable Browse Information
Enable Browse Information : Specifies level of browse information in .bsc file. (/FR)
OK
Cancel
Apply