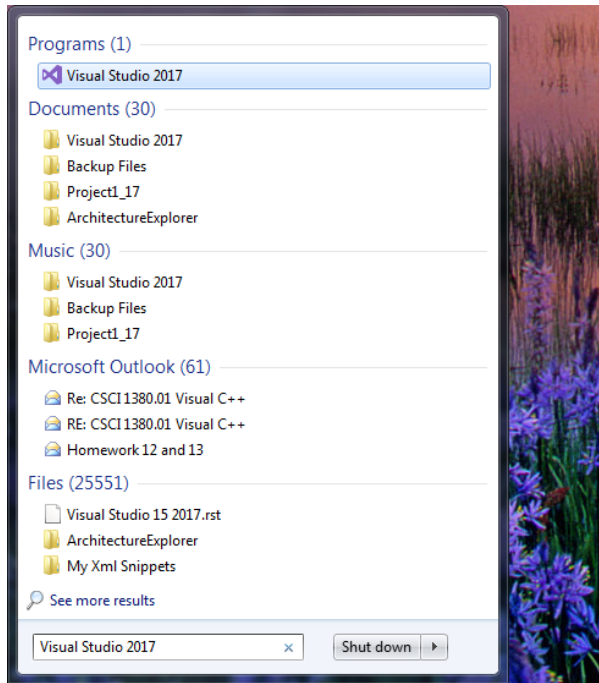


Introduction to the use of the environment of Microsoft Visual Studio 2017

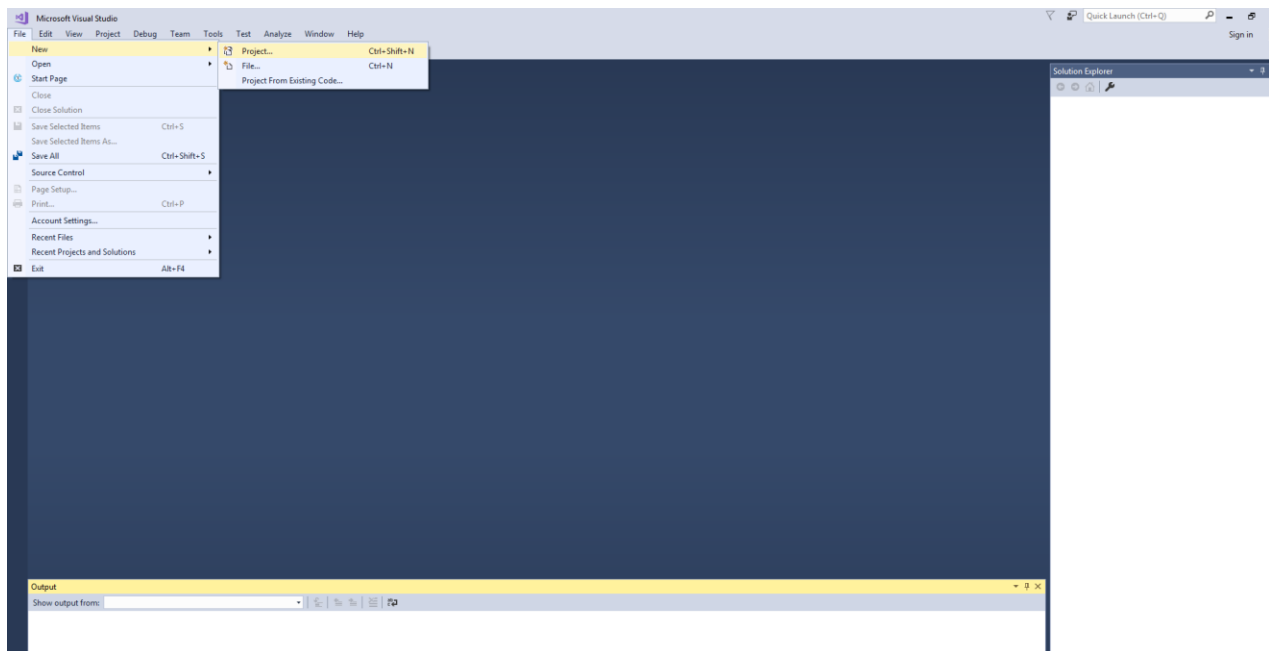
Steps to work with Visual Studio 2017

- 1) Start Visual Studio 2017. To do this you need to:
 - a) Using the Search box next to the Start button at the lower-left corner of your screen search for Visual Studio 2017
 - b) Click the mouse on the **Visual Studio 2017** option to start it.



You will see Visual Studio 2017 window displayed on the screen. Close the **Start Page**.

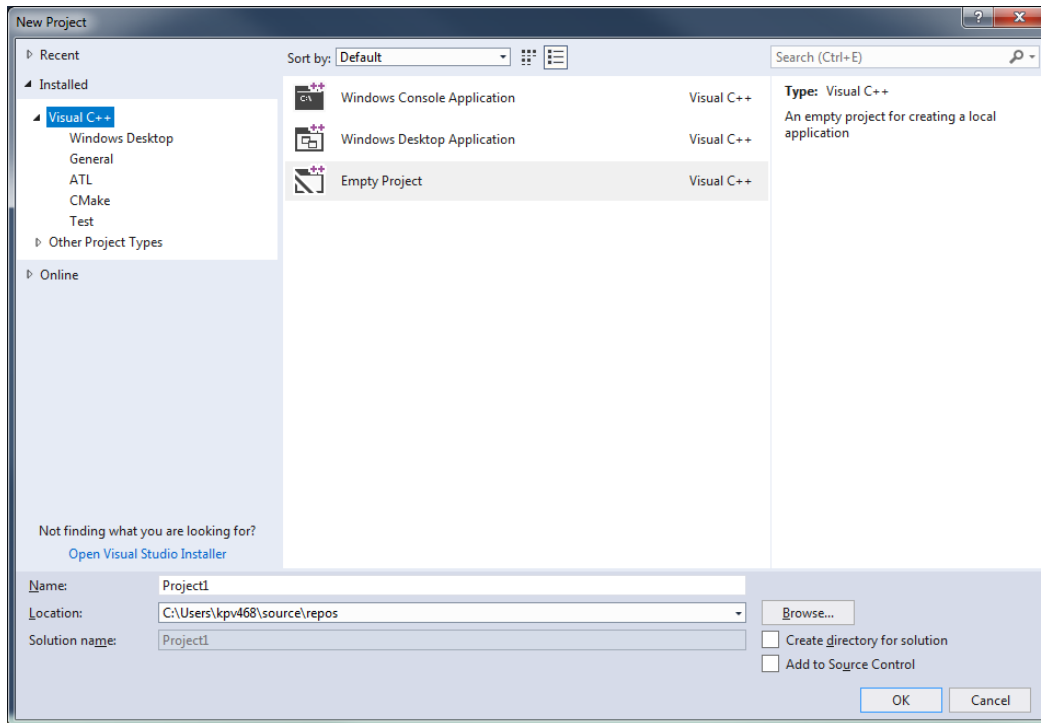
- 2) Create a new Visual Studio 2017 project
Click the menu item **File**, and select **New | Project**. Now a “**New Project**” dialog window pops up.



- a) In the left pane, select **Visual C++** if necessary
- b) In the right pane, select **Empty Project**

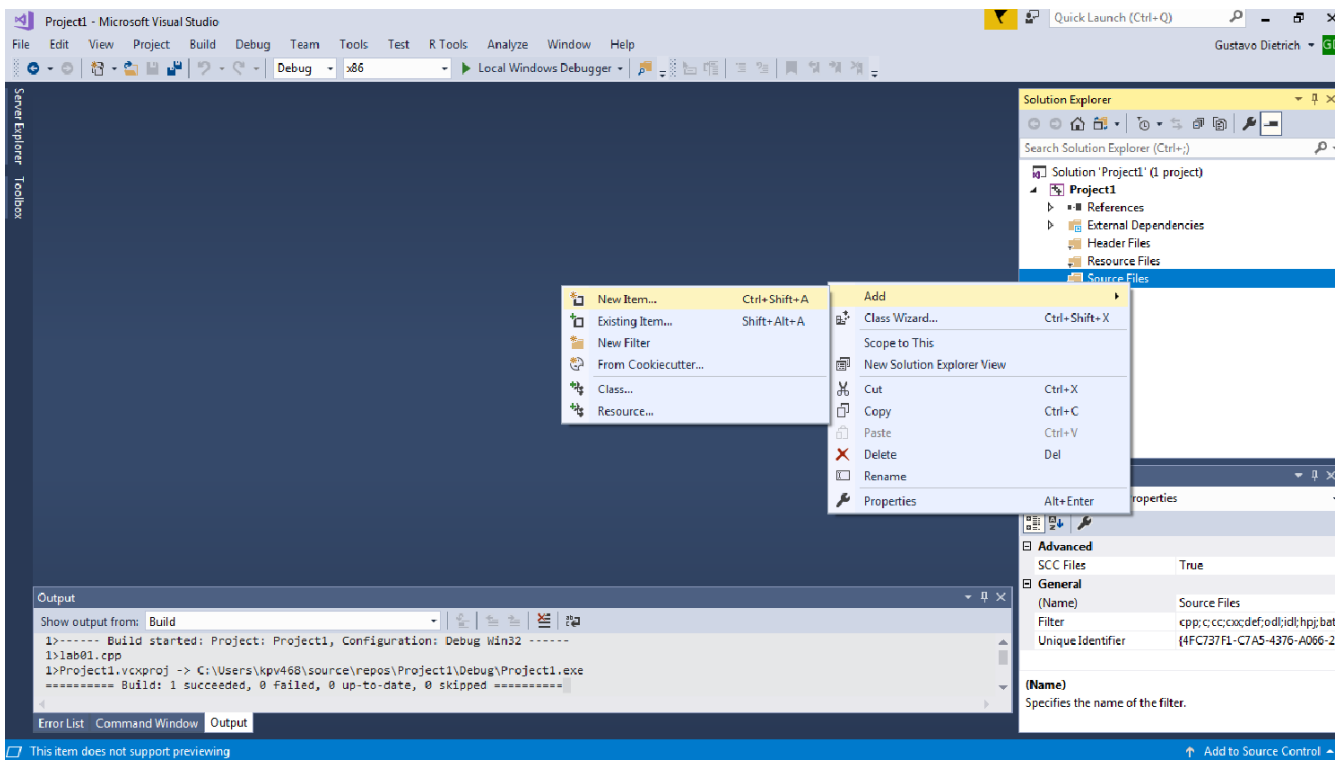
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- c) In the **Name:** text box at the bottom of the window, enter your **project name** (or use the suggested one)
- d) In the **Location:** text box, you can browse to the location where you want to create your project.
- e) Uncheck the check box **Create directory for solution**.



- f) Click **OK** to continue.

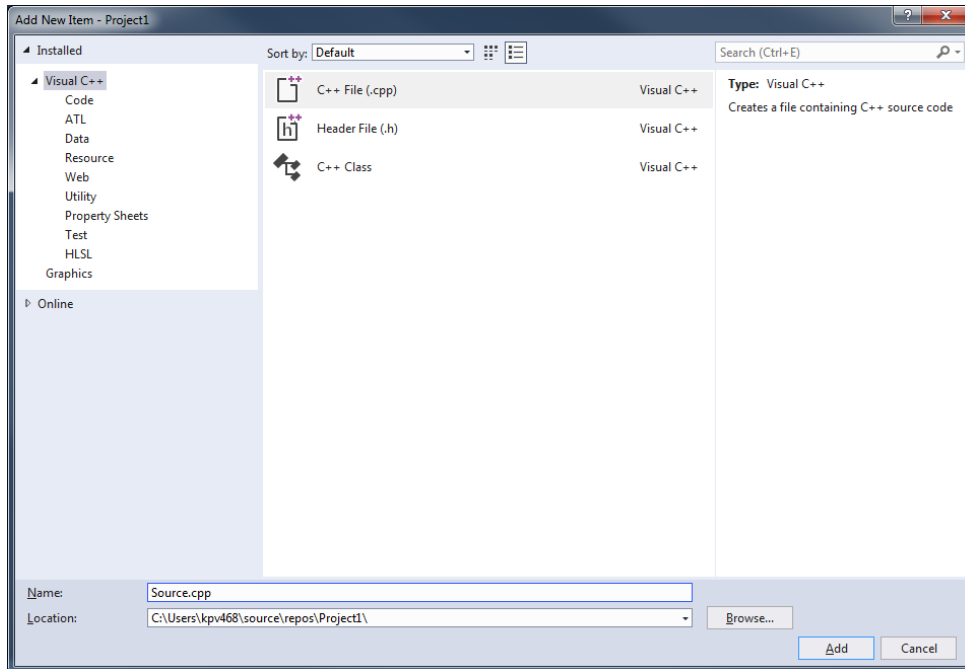
- 3) Add a program file to your project
Right-click on the **Source Files** folder in the right pane, then move the pointer over **Add**, and then select **New Item** (or click on the main menu item at the top of the screen **Project**, and then select **Add New Item**)



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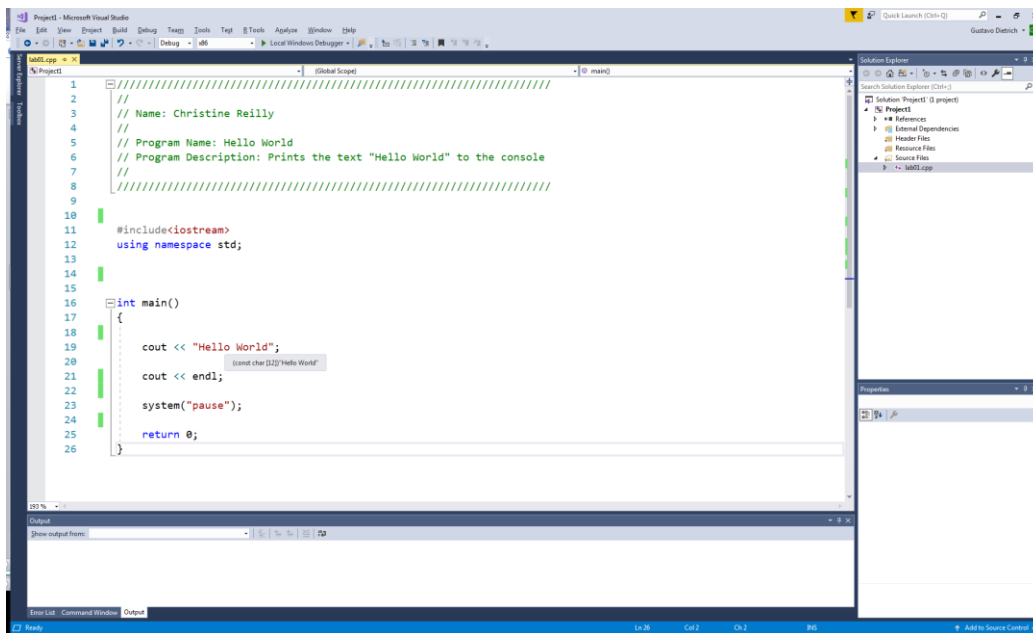
Now an “Add New Item – Project1” dialog window pops up.

- a) Select **C++ File (.cpp)** from the list on the right pane (Note: you may need to click on **Code** in the left pane first)
- b) Type your program name (ex. **lab1**) in the text box labeled **Name:** at the bottom of the window
- c) **Note:** The location should be the location you selected in step 2 d. Notice it created folder **Project1** in this location (this is where the project files are). Make a note of this path in case you need to locate your program and data files.



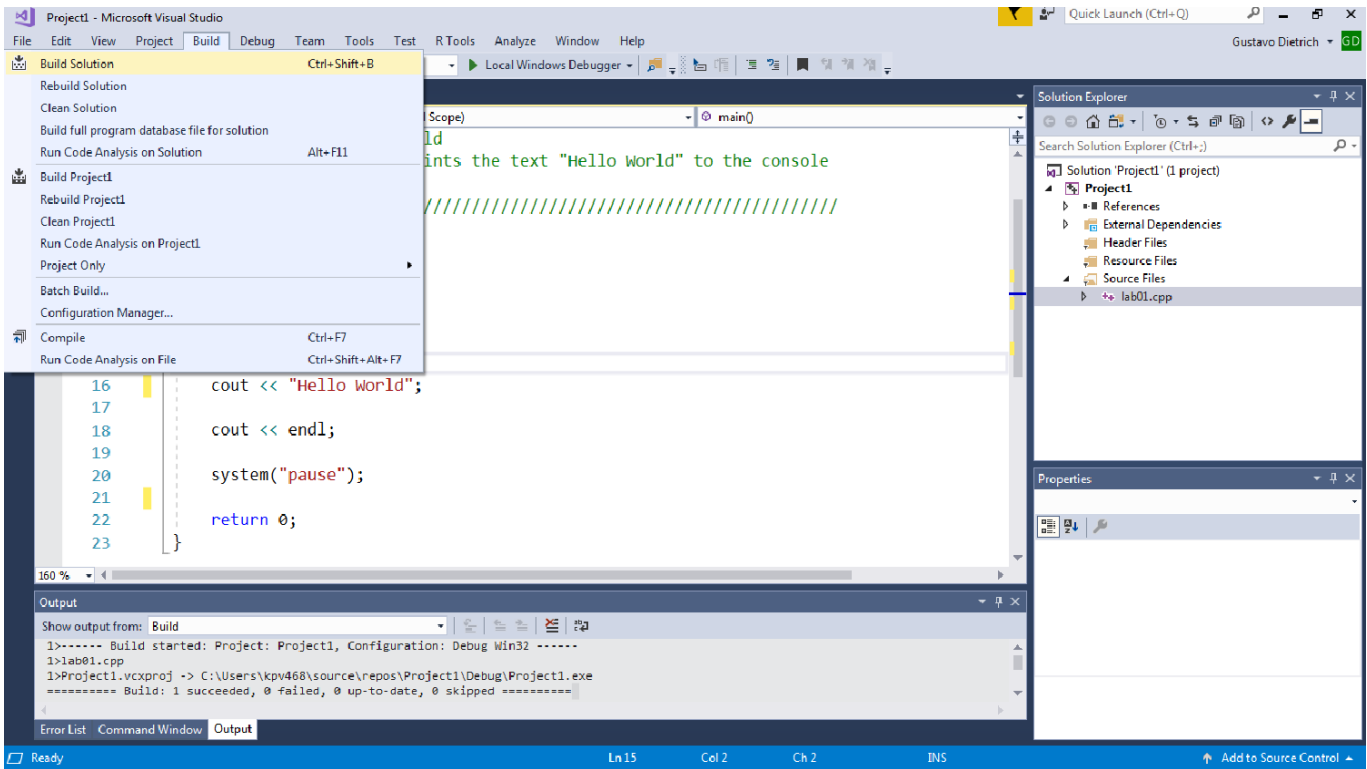
- d) Click the **ADD** button to get in the program edit mode

- 4) Type your program in
Now you can type your program in the **source code workspace** or use **cut and paste from a preexisting file**. If you want, you can save your program by selecting **SAVE** from the File menu, but it will be automatically saved when you do step 5, or you will be prompted when you exit VisualStudio2017.



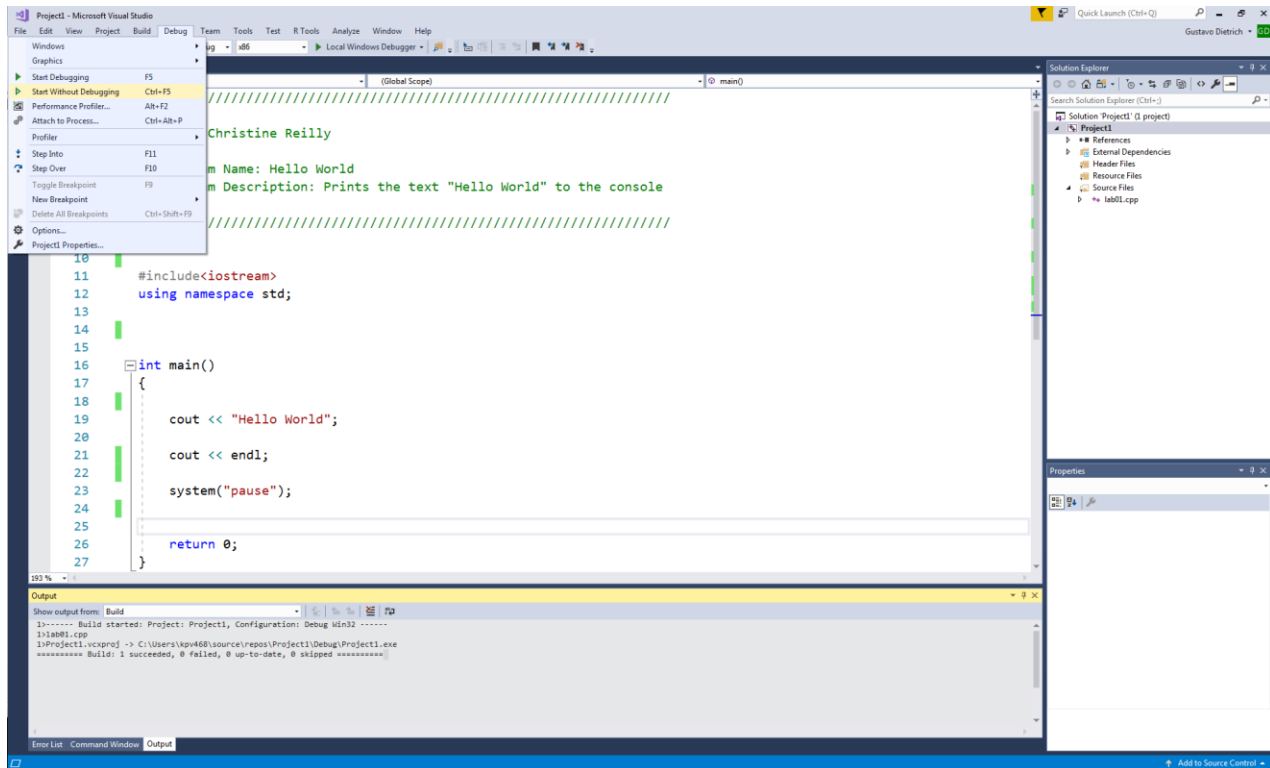
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- 5) Build the executable file
 - a) Click on the **Build** command in the main menu bar, and select the forth item **Build Project1** (here **Project1** is your project name)



- b) If your program passes the VC++ compiler, you will see the message "**Build: 1 succeeded, 0 failed, 0 skipped**" in the bottom **Output** window. This means that you have created the executable file that is stored in the **Debug** folder that is in your project folder **Project1**.
 - c) If syntax errors are found, they will be listed in this **Output** window. Double click on an error message to get a pointer in the source code workspace showing where the error was found.
 - d) Fix the first error in the list and **rebuild** your program (in some occasions many of the following errors will disappear because they were "produced" by the first one).
 - e) Repeat the above four steps until your program is error free.
- 6) Run your program. Now you have 2 ways to do this:
 - a) Click on the **Debug** option of the menu bar, and then select the **Start Without Debugging** option (**do not** select **Start** option here)
 - b) Press **Ctrl+F5**.

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Note: You can combine steps 5 and 6. Select Start Without Debugging. If you have made changes to your program, you will get a window, asking you if you want to rebuild. Click on YES, and it will rebuild and if successful, run your program. If not successful, it will prompt you if you want to run the “last successful build”, Select No. and continue to make corrections to your program.

- 7) If you need to print your file, click on the window where you have your source code to make it the active window, click on the **File** option of the Menu bar and then select **Print** from the drop-down menu.

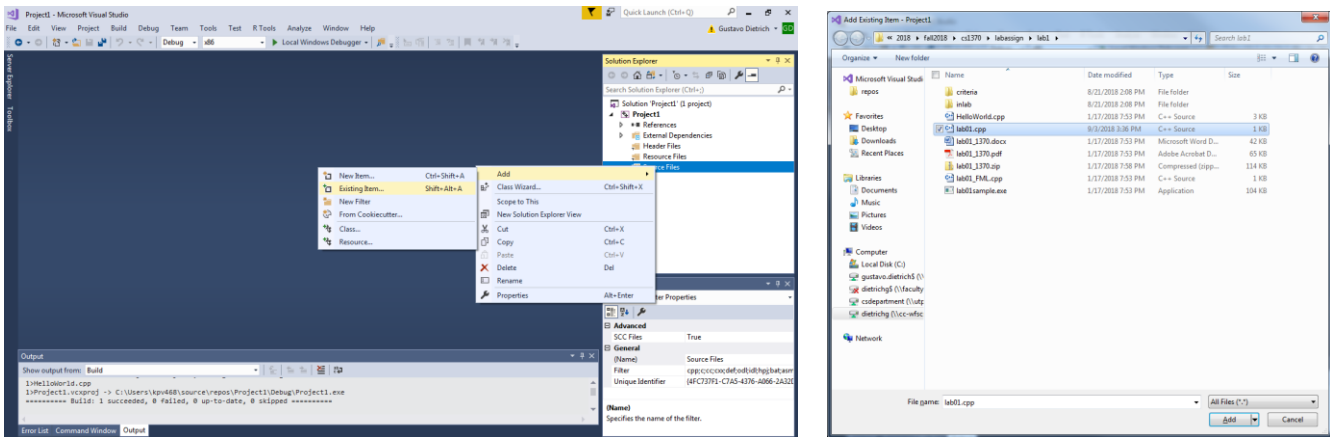
Visual Studio 2017 creates a subfolder called **Debug** under the folder where the source program was saved (it is the project folder) and puts many files inside it. One of those files is the executable file that corresponds to your program (it has the extension “.exe”). If you work on the **Academic Service Building (ACAS)** computers, **BEFORE** you log off, you **MUST** save the most important files on a flash drive or other external storage device. Your most important files are:

1. The source program file. It has the extension “.cpp” and should be found in the folder that you created.
2. The header files that you created (if any). They have the extension “.h” and should be found in the folder that you created.
3. The input files that you created to be used by your program (if any).
4. The output files produced by your program (if any).

Steps to work with Visual Studio 2017 with an existing .cpp file

1. Complete Steps 1) and 2).
2. Copy the existing file to the Project1 subfolder you created in Steps 1) and 2).
3. In the **Solution Explorer** pane, right click on Source Files, and select **Add**, click on **Existing Item**. Find and select your existing file and Click on the **Add** button. Your source code file should be listed in the Solution Explorer pane for Project1. Click on your source code file to open it for editing.

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Note for advanced projects using header files. If you are using .h files, right click on **Header Files**, select **Add Existing Item**, and select your .h files. If the implementation file is a separate .cpp file, Right click on **Source Files**, select **ADD Existing Item**, select the implementation .cpp file.

4. Make any changes to the source files if necessary and rebuild your project.

To work with files in your program

1. If your program reads from an input file, create the file and save it in the **Project1** folder before running the program. Visual Studio expects the input file and the output file to be in the same folder where the project files are. You can use a full path name (for example, **c:\myfiles\input.txt**) in your program to work with files from other folders.
2. If your program writes to an output file, it will be in the **Project1** folder (unless you use a full path name). You can open this folder by selecting **Open** and then **File** from the **File** menu. Select **"Text Files (*.txt)"** or **"All Files (*.*)"** from the **Object of type:** drag down menu to display the list of files.

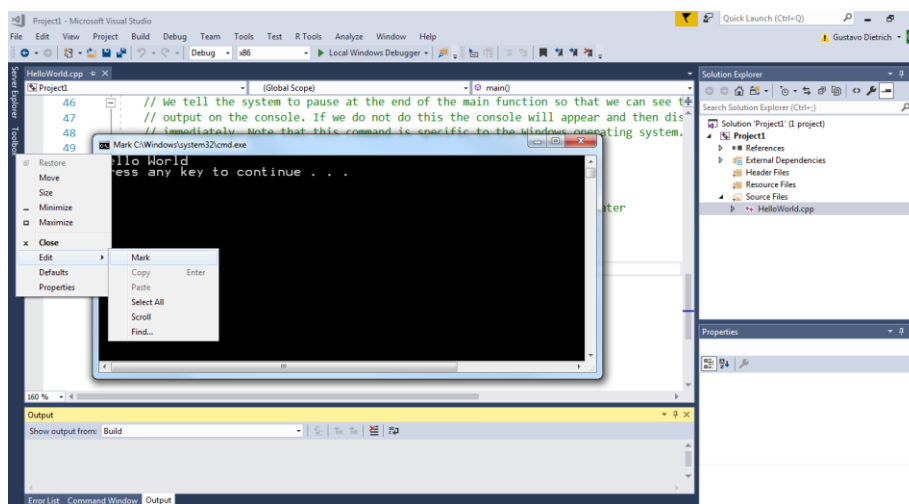
NOTE: If you run your program using the .exe file, the input file and output file must be in the same folder of the .exe file.

To get a printout of the program output sent to the screen

While the console window is open you can do a graphic screen captures [press the **Print Screen** key, then paste into word processor] **Note:** no message will be displayed after pressing Print Screen, but the graphic image will be saved to the clipboard, ready to be pasted into any software that will accept graphic images] Because the console window is black, this uses a lot of printer ink.

Better alternative is to capture the output as text:

While the console window is open pull down the DOS icon at the upper left of the output window, select **Edit > Mark**.



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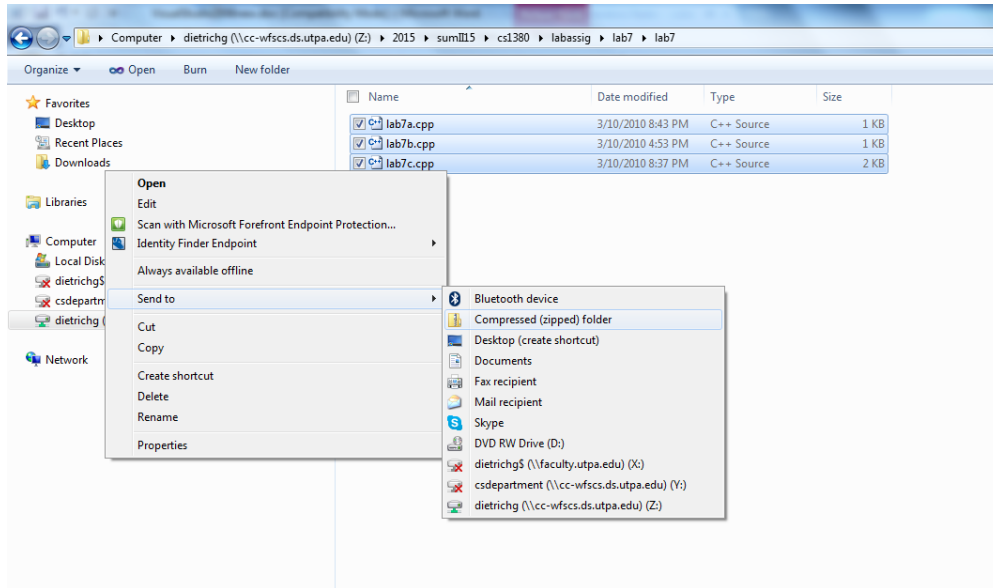
Select the text with the mouse and press Enter to copy. Open a plain text editor and paste it in a new file.

To put several files in a compressed folder

Open **Windows Explorer** (not Internet Explorer) by clicking on **Computer**.

Go to the folder where you have your files and then:

- Highlight them
- Right-click on the highlighted area (the name of the compressed folder will be the name of the file on which you clicked).
- Click on **SendTo->Compressed (Zipped) Folder**



This will create the compressed folder (the icon is a folder with a zipper) next to your files.

To work with files provided in a compressed folder

- Right-click on the compressed folder and select **Extract All**. This will launch a wizard.
- Click on **Extract**.
- Access the **real folder** that is created where you have your compressed folder and start working with your files.

