**Part 1: Visual Studio introduction**

Complete the Visual Studio project creation and Hello World program.   
**See the CPR101\_Week1\_VS demo file for details.**

* Where is the helloWorld.c source file? Describe its full path. **(20 points)**

Hints at using File Explorer to find it are in the above demo file.

Answer: C:\Visual Studio\VS 2015\CPR101\_w1\CPR101\_w1

* What is the content of your helloWorld.c source file? Your source code, of course.  
  Copy & Paste the text from your Visual Studio editor into your answers document. **(20 points)**
* /\* Hello World program \*/
* #include<stdio.h> // Standard Input/Output header
* main()
* {
* printf("Hello World, ");
* printf("this is your\_name.\n"); // replace “your\_name” with your own name
* }

**Part 2: Proper naming convention and having correct file extensions**

In this activity, four files can be found in the “CPR101\_Week1\_Activity\_WorkFiles” folder.

Normally, when you right-click a file, a number of options are available to process that file. E.g. Preview, Open, Open with > [optional applications]. These options are based on the file’s extension which the system relates to an application. Double clicking a file name opens it using the default application. Try it with each activity work file.

File**.txt ⇨**  Notepad File**.html ⇨** Web Browser   
File**.jpg ⇨** Photo Viewer File**.bmp ⇨** Paint or graphics editor / viewer

* What happens when you double click each file? What is displayed? **(10 points)**
  + lunamoth.bmp **🡪 asks “How do you want to open this type of file (.bmp)?” and prompts me to select an appropriate application from the list of programs to open the file.**
  + lunamoth.html **🡪 asks “How do you want to open this type of file (.html)?” and prompts me to select a correct application from the list of programs as well.**
  + lunamoth.jpg **🡪 asks “How do you want to open this type of file (.jpg)?” and prompts me to select an appropriate application from the list to open the file.**
  + lunamoth.txt **🡪 asks “How do you want to open this type of file (.text)?” and prompts me to select an appropriate application from the list to open the file.**
  + Open these files with Notepad or Notepad++ to inspect their content:   
    Start Notepad ( + “Notepad”), then click and drag the file from File Explorer into Notepad. This will give a clue to the file’s contents.
  + The first 3 bytes of a JPEG (.jpg) photo file begin with “ÿØÿ”
  + The first 2 bytes of a bitmap (.bmp) graphics file begin with “BM”
  + Web pages are text files with HyperText Markup Language (.html, .htm). They begin with “<!DOCTYPE html>” and/or “<html … >”.
  + Text files (.txt) can contain any characters but usually contain human readable information.
    - Reference <https://en.wikipedia.org/wiki/List_of_file_signatures>
  + You can get the files to open by renaming their filename extensions. If the filename extensions are not being displayed, follow these steps:

1. Press Alt-F
2. Use menu keys to choose Tools menu
3. Choose Folder Options
4. Press tab key until you select the View tab
5. Press tab key until you are in the Advanced Settings list
6. Move to "Hide extensions for known file types" option
7. Press Space bar to select
8. Press Enter to save and close window

Now, rename each file adding the proper extension until all four files open correctly in their default applications when you double click the file name. You should be able to see text and photos. e.g. rename **lunamoth.bmp** to **lunamoth.bmp.???** in order to keep track of which extension was renamed to another extension. Only the last extension on a file’s name is used by the operating system.

* How did you rename the files? **(10 points)**
  + lunamoth.bmp.txt
  + lunamoth.html.bmp
  + lunamoth.jpg.html
  + lunamoth.txt.jpg
* What does this tell you about file names and extensions? **(10 points)**Consider renaming these files to a consistent method that reflects the following: your SenecaID + course code with section + week of the course + file contents. Ensure that each file will open in its applicable program when right-clicked (you don’t need to submit these files as part of your answers.) Would this process be useful to you in your coursework?
* Answer: I find that the file name has to be consistent and simple, so that other people who receive your file would conveniently navigate and open it on their pc. Just like grammar, our language alone can’t convey the message to others without a proper structured organization. In regards to the extension activity we did today, it’s definitely a worthwhile knowledge, especially if we were to share and work on a same file(s) amongst ourselves when we are going to be doing a group project. When the time comes, we will use this as one of the methods in the future if the file meets the same error and happens to be in-executable.

**Part 3: How to work with USB memory sticks and/or hard drive while doing common file/directory operations**

* Create a new directory in your USB memory stick or your hard drive. Navigate to the new folder and make copies of all the four files in the previous part to the new folder. Then, rename the copied files. Do they still open? Delete a file. Can you restore a deleted file…How? Do these operations have any effects on the original files? **(10 points)**
* Answer: The four files all open in a new folder in the HDD. The way to recover any deleted files is to navigate to the recycling bin, locate and right-click on the selected file and then click on the ‘Restore’. These operation do not have any effects on the original files because the recycling bin is like a special directory, an area where you can store and review the files prior to permanent deletion.

Which one is faster: Directly opening and/or working on a file on your USB drive or doing the same while the file is on the hard drive? Is it always worth the time to copy the files and directories from the USB to HDD, work on them and save them locally, and then transfer them back to USB? When would it be useful to do so? What about backup? What happens when the lab PC is restarted? **(20 points)**

Answer: On principle, doing your work on your USB drive is definitely less time-consuming and cost-effective; however, the only downside is its slow write speed. The only conventional way of using the USB is when you need to work on smaller files or need to transfer these programs to another HDD. (Now we have a portable external HDD, so it is possible to transfer bigger files). Therefore, if you are going to execute a big file and requires faster write speed, saving the file locally and working on the HDD is the better choice.

My answer to the question about backup is, I would say USB is the hardware to store your backups. Average users might not know the solutions to prevent their pc from crashing, and by the end of the day if their pc do become defective and needs to be freshly formatted by re-installing OS again, everything that was previously stored in their HDD would be permanently deleted and no ways to recover the deleted files whatsoever. Therefore, storing your backup files in the USB allows you to make your essential files accessible at anytime and anywhere.

If the PC is unintentionally restarted, the files that were previously saved would be safely stored in your HDD or USB; however, any work that you have done after the save points (stored in RAM) would be permanently deleted and wouldn’t be able to restore them as well.