Lab Notes Week 2

These are a summary of the topics and questions from the second lab. Please let me know of any further questions or any other issues that I can clear up.

I noticed some odd behavior such as Visual Studio not finding source files or complaining about unknown files. These problems went away after a new project was created, so be sure to always create a new project in the way described. Because this and other similar issues came up again this week I am repeating these first few sections.

1 How do I create a new project?

Open Visual Studio. Under the FILE menu select New and then Project. Choose Visual C++ from the Templates menu on the left and then choose Empty Project from the menu in the middle pane. Now, from the Solution Explorer pane right mouse click on "Source Files" and select Add and "New Item...". Choose C++ File. You now have a brand new Project with 1 empty file.

2 How do I build the project?

From the Build menu choose "Build Solution".

3 How do I run the project?

From the Debug menu choose "Start Without Debugging".

4 Wait! What just happened?

When you ran the program output was sent to a command window. After the program exited the window closed. This simple ran so quickly that you may have only just barely saw the command window flash open and then close before your eyes.

5 How do I get the command window to stick around?

Here are two ways.

1. Run the executable from the Command line to begin with. In Windows 8 search for cmd and then choose command prompt. you will need to issue the following commands in the command window

   ```
   cd "Documents/Visual Studio 2013/Projects/Project1/Debug"
   dir
   ```

   That last command (dir) will list all the files in that directory. One will have a name like Project1.exe. That is the executable created for your project! Type the name of that file (i.e. Project1.exe) and hit enter. Your program will run and the command window will stay open. **If using this method always remember to rebuild your project after you make any code changes! If you do not the executable you are running will be out of date.**

2. You may also adjust the Visual Studio settings to allow for the command window to stay open. Right mouse click on the project name and then select Properties. In the window that comes up select "Linker"and then select "System". Finally in the left hand side of the window click on the blank area to the left of SubSystem and then select "Console (/SUBSYSTEM:CONSOLE)". Click Apply and then OK. Now when you run with "Start Without Debugging" the command window will stay open until you dismiss it by hitting any key.

   The following video shows this. In the video they use an older version of Visual Studio but the steps are all the same in the one we are using for this class. `https://www.youtube.com/watch?v=F82W3pv87Hk`

6 How do I submit my assignment?

In BlackBoard you will see the link for Assignment 2 under the Documents link. Click on the Assignment 2 link and you see Assignment Submission form. You may upload the source files there. As we discussed the source file is located within

`C:\Users\YOURUSERNAME\Documents/Visual Studio 2013/Projects/PROJECTNAME/`

Please submit one source file for each problem and a separate text file for the optional bonus problem, if you choose to submit a solution for that.

7 How do I make the letters for Problem 1?

Here is some sample code that inputs a character and then makes the letter 'c'. This is the basic technique I expect to be used for Problem 1. This is just one way to do it and your solution may definitely look very different but the point here is that you are to use a variable to store the letter and then use it to make the letter.

```
#include<iostream>
using namespace std;
int main(){
    char c;
    cout << "Enter a letter\n";
    cin >> c;
    cout << c << c << c << c << c << c << c << c << c << c << c << "\n";
    cout << c << c << c << c << c << c << c << c << c << c << c << "\n";
    cout << c << c << c << "\n";
    cout << c << c << c << "\n";
    cout << c << c << c << "\n";
    cout << c << c << c << "\n";
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    cout << c << c << c << "\n";
    cout << c << c << c << "\n";
    cout << c << c << c << c << c << c << c << c << c << c << c << "\n";
    cout << c << c << c << c << c << c << c << c << c << c << c << "\n";
}
```

Here is an example of this code running.

```
Enter a letter
C
CCCCCCCCCC
CCCCCCCCCC
CC
CC
CC
CC
CC
CC
CC
CC
CCCCCCCCCC
CCCCCCCCCC
```

8 Testing Problem 2

Be sure to test your answer to problem 2. A great way to test would be to use a commonly known values such as the freezing and boiling temperatures of water. For example, start testing with 0° C, we know that should equal 32° F. Next try 100° C, we know that should equal 212° F. If you are not getting those answers then you need to debug! If you are getting those answers then you should be ready to submit!