**Compile Instructions**

**Assignment Link List**

***Simulation of Airline Reservation System***

**Prerequisites:** *Visual Studio 2015* on Windows or *c++* for GNU\Linux

**Compile Instructions for *GNU\Linux with make*:**

**Compile Project:**

* Place the source files in any directory of choice.
* Place the makefile ascii file within the same directory as the source files.
* Using a preferred shell, such as Bash or C shell, execute the makefile.
  + NOTE: Besure that the execute permission is available for the user. If unable to obtain this permission, speak to your system administrator for assistance.
* Once compiled, execute the ‘**BSC**’ binary file.

**Compile Instructions for *Visual Studio 2015*:**

It might be possible to even use *Visual Studio 2005* and later as there is no special features nor .*NET* requirements.

**Create Project:**

As the solution file is not included, we are going to create a new project ourselves.

* In Visual Studio 2015, click on ‘File >> New >> Project”
* Within the ‘New Project’ window, navigate within the templates: Visual C++ >> Win32.
* Within this category of Win32, select ‘Win32 Console Application’.
* Before clicking ‘OK’, be sure to also fill out the ‘Name’ and ‘Location’. The rest of the values are not needed for this project.
* A new window will appear ‘Win32 Application Wizard’
* Within this window, click ‘Next >’
* Be sure that the ‘Application Type’ is set as ‘Console Application’
* Be sure to select ‘Empty Project’ and uncheck ‘Security Development Lifecycle (SDL) checks.
  + We are doing this so that our project is clean and contains no other files or code.

**Populating the Newly Created Project:**

* With the newly created project, our project should contain absolutely no existing code. As such, we have code of our own that will be used to populate this project.
* Open or go to the ‘*Solution Explorer*’, we will be interested in two categories: Header Files and Source Files.
  + Header Files
    - Right click on the ‘Header Files’ and select ‘Add >> Existing Item’
    - Navigate and select the following files within your filesystem:
      * LinkedList.h
  + Source Files
    - Right click on the ‘Source Files’ and select ‘Add >> Existing Item’
    - Navigate and select the following files within your filesystem:
      * LinkedList.cpp
      * Driver.cpp

**Modification to avoid Linker errors [LNK2005]: -- IMPORTANT TO AVOID LNK2005**

To provide as much convenience to the team as possible, there is ONE thing that must be altered for the code to be compiled in Visual Studio:

* Comment out the code on line 39 or “*#include "LinkedList.cpp"*” in Driver.cpp
  + Visual Studio will add this file for us automatically, reincluding it will cause linker complications. With that, all that programmer must do is comment that one line and the linker will have no issues after that point.

**Compiling Our Project (32bit):**

From the toolbar, our project is automatically set to ‘Debug’ mode. This is automatically set as we are allowed to – not only detect trouble spots but also to manipulate the code within the Visual Studio IDE. But, when we are ready to finalize our work and release it, Debug mode is not recommended because as the software will not run in such an optimized way in terms of runtime performance. Thus:

* Change the setting from ‘Debug’ mode to ‘Release’ mode within the toolbar.
* From the file menu, select ‘Build’ and then select ‘Build Solution’.
* Hopefully the project compiled successfully!

**Running the Software:**

After compiling the project into an executable file, Visual Studio will throw the file into the project directory. To know exactly where the file is, during the compiling phase Visual Studio will output the directory in which the newly created binary will reside. However, if not available, a general scope would be: {ParentProjectDirectory}\Release\{ProgramName}.exe