**EX015 – EXAMPLE In-Class Assignment**

**Derive a Student Class from the SimplePerson class**

**Due Date:**

11:59 PM the day after this assignment is presented in class

Anything after that receives a zero (no partial credit for late submissions)

**Grading:**

N/A

**Topics:**

Create C++ classes from UML

Explore relationship of UML hierarchy to C++ inheritance

**Task 1**

Implement the two classes: SimplePerson and Instructor as described in the below UML diagrams

|  |
| --- |
| **SimplePerson** |
| **- m\_nameStr: string**  **- m\_idStr string** |
| **+ SimplePerson(const string& nameStr, const string& idStr);**  **+ ~SimplePerson()**  **+ print() : void**  **+ getName() : string** |

|  |
| --- |
| **Student** |
| **- m\_major: string**  **- m\_gradYear: int** |
| **+ Student(const string& sname, const string& sid, const string& smajor, int year);**  **+ ~ Student ()**  **+ print(): void**  **+ changeMajor(const string& newMajor): void** |

**Task 2**

Create a file named PersonTest.cpp to test your classes.

In this file:

Using cout print your first and last name to the screen

Create a simple person. Name the variable sp1

Call the print() function of that person

Use sp1.getName() in conjunction with a “cout <<”

Create a student majoring in Physics. Name the variable stud1

Call the print() function of that student

Store the name of that student in a variable named studName that is local to main()

Use cout to output studName to the screen

Change the student’s major to Math

Call the print() function of that student

Create a second Student majoring in Engineering. Name the variable stud2

Call the print() function of this student

Set stud2 = stud1

If it compiles

call the print() function of stud2

If not delete that line (i.e. delete the line: stud2 = stud1)

**Hint**

There is starter code for this on D2L

Suggest using EX015\_StudentBlanks.tar.gz

Move the source code files to a directory (folder) such as:

…/Documents/Programs/InClass/EX015

The starter code does come with a makefile usable in Geany

**Turn-In**

In Linux, using the folder browser

Go to the folder containing your source code files

Such as

…/Documents/Programs/InClass/EX015

Make sure ONLY your source code files are in that directory (including the makefile)

Right click on the folder (e.g. EX015)

Select Compress

Change the filename to include your last name

Example: EX015\_LastName.tar.gz

Click create

Drop the compressed file (EX015\_LastName.tar.gz) into the appropriate In-Class drop box on D2L