**CSC 232**

**Asn1: Building, Running, and Modifying a C++ Program in an IDE**

**Due date posted in BB.**

**Part A.** Review and run the provided C++ program **Asn1.cpp**. The program sorts the characters of a known string. *I have tested this code in VS/Windows, so please email me if it needs to be modified to run on your platform.*

1. Create a new, empty project in your IDE. See the *Tips For Installing C++ IDE’s* for platform-specific info. Add the Asn1.cpp file to your project.
2. Build and run the program.

Checklist of what you have learned and practiced so far:

* C++ variables must have a specific type and be declared prior to their use
* Example use of **cout** to print output, including some way to indicate that **cout** is part of the standard library. Example print output is hardcoded strings and variables for debug and showing progress.
* A **for** statement has three components separated by semicolons: initialization, boolean test for completion, and action to be done at the bottom of the loop
* Array elements are numbered 0..(size-1)
* Structure of a C++ program and use of arrays
* Use of editor, DOS shell, g++ compiler

**Part B.** The following is a “parlor trick” on numbers. Edit and adapt **Asn1.cpp** to perform this trick. Submit only the updated **Asn1.cpp**. Include the Comment Template for C++ at the top of your program (see below).

1. Choose an integer between 1 and 9. You do not need to prompt the user for that value, but simply create and initialize an integer variable with that value.
2. In the steps which follow, you will repeatedly change the value of that integer.
3. Multiply the number by 2
4. Add 5 to the number
5. Multiply the number by 50
6. Add 2014 (the value of the current year) to the number
7. If you have already had your [birthday](http://www.everything2.com/index.pl?node=birthday) this year, subtract 250 from the number. If you haven’t had your birthday yet this year, subtract 251. *Do not prompt for “birthday this year?” --- just use your own answer directly in the program.* The program should run without user input.
8. Subtract the four digit year of your birth. *Again, do not prompt -- just use your own answer.*
9. The result should now be a three-digit decimal number, in which the first digit is the original number you chose, and the remaining two digits are your age.
10. Enclose the operations above in a loop that will repeat every choice 1, 2, . . . 9. That is, instead of the choice of integer being hardcoded, the loop will use every option of a number. Put a print statement in the loop that shows the current value of the number and the value which results.

For example, suppose your age is 19. The nine lines of output of the program might be:

Current chosen value is 1, so the three-digit number is 119.

Current chosen value is 2, so the three-digit number is 219.

Current chosen value is 3, so the three-digit number is 319.

Current chosen value is 4, so the three-digit number is 419.

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Current chosen value is 9, so the three-digit number is 919.

Checklist of what you have learned and practiced so far

* Declaration of a variable.
* Assignment to a variable.
* Math operations on a variable.
* Print (**cout**) statement to show the value of a variable.
* Use of a **for** loop.

**Comment Template for C++**

This comment section should \*always\* be at the top of \*every\* assignment you submit for this course:

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Name:

Date:

Assignment:

Platform/IDE:

Description:

2-4 sentence summary of what the program does.

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Example of Platform/IDE: Windows/VS2013 or Mac/Xcode 5.5 or Linux/Eclipse Luna