**Assignment 1 – Review**

Submit to MUOnline as a compressed (.zip) file containing your code project.

Please complete the following in a single project:

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| 1. | Write a function called **Random()** that takes up to 2 int parameters. If no numbers are passed in when the function is called, it returns a random number between 0 and 99. If 1 number is passed in, it returns a random number between 0 and that number. If 2 numbers are passed in, it returns a random number between the two numbers. (Hint: There are 2 different ways you could make a function that can be called with 0, 1, or 2 parameters; 1 way technically means writing 3 different functions, but I’d accept it.) (Note: Remember you can use this as a convenient tool in future projects!) | 20% |
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| 2. | Write a function called **RandomFill()** that takes an array of ints, its size, and fills the array with random numbers. To generate the random numbers use the function you wrote in problem 1. Test the function by calling it and displaying the resulting array. | 20% |
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| 3. | Write a function called **IsFactor()** that takes 2 int parameters. The function returns true if the 1st of the 2 values can be evenly divided (aka have no remainder) by the 2nd of the 2 values.  Let the user type in 2 numbers to test **IsFactor()**. The program should not break if they enter invalid values like non-numeric characters. (Hint: use **cin.fail()** like we reviewed in class) and should let them try again until they type in valid values. | 25% |
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| 4. | Write a function called **FlipString()**. It should have 1 string parameter. It should replace each capital letter with its lowercase letter, and each lowercase letter with its capital letter. Use the functions **toupper()** and **tolower()** to help you. DO NOT do output (use a cout) inside the function; instead using the function should look like:  cout << str << endl; //Outputs John Doe  **FlipString(str);**  cout << str << endl; //Outputs jOHN dOE  That means you’ll have to do something extra with the function or str will still contain John Doe instead of being changed to jOHN dOE… | 25% |
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| 5. | Add comments to your code to *at least* include your name at the top, specify the purpose of each function and describe each section of code (for example, comments to distinguish between testing of the problems above). (Note: On future assignments this will just be a standard Penalty if you Don’t do it; on this one you get points For doing it.) | 10% |