EET 247 – Programming for Electronic Devices NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

EXAM #2 - programming portion

FOLLOW THE INSTRUCTIONS CAREFULLY. NO INTERNET OR HELP FILES. If I catch you using the internet, other help files or other forms of academic dishonesty your grade for this portion of the exam will be a zero. Only allowed help is your 8.5” x 11” sheet of notes. This is 60% of your grade.

Your program will be graded on the following criteria:

1. Runtime performance
2. Simplicity and efficiency of code
3. Timeliness
4. Readability
5. Documentation

**PROBLEM STATEMENT**

You are to write a program that will prompt the user to enter 7 numbers. The program will read in the numbers. The program will then prompt the user to enter an offset and to enter a rate. After the program has scanned in the offset and rate, the program will then print off a matrix of 2 columns and 7 rows. The first column should contain the user inputted numbers. The second column should contain the new scaled values (as shown in Equation 1). At the end of the matrix, the program should print to the screen the following message “I AM GLAD THAT IS OVER”.

Further instructions:

1. Create a project named: Exam2Question
2. Create a source file named: Exam2
3. Write a function prototype and definition named: scaler
   1. The inputs to scaler should be named value, offset, rate
   2. The inputs to scaler should be all float types
   3. The function should return the value \* rate + offset

**Equation 1:** (returned answer) = value\*rate + offset

1. In main(void){} write a program to read in the 7 values and the offset and rate values as described in the above paragraph.
2. In the main(void){} function add code that will utilize your “scaler” function to calculate the new scaled values
3. In the main(void){} function add code that will print off the matrix and message as described in the above paragraph.
4. After you have working code, demonstrate your working code to the professor
5. Email that code to [cshaver@pittstate.edu](mailto:cshaver@pittstate.edu)
6. The time stamp on your email will tell me the finish time of your project. Make sure it is within the allotted time.