EC413 Computer Organization
Lab 3 – MIPS Assembly Language Programming

Overview:
The purpose of Lab 3 is for you to gain experience programming and debugging Assembly Language. The lab consists of a series of tasks, most of which involve programming loops. The last tasks involve processing within the loop body and nested loops.

Tasks:
1. Enter the program outline (lab3.asm). Run the program to confirm that everything is working correctly: you should see the message "Hello World!"

2. Count the number of occurrences of the letter "l" in the string Hello and print it to the console. Be sure to use the appropriate I/O sequence. See pages 8-9 of *SPIM S20: A MIPS R2000 Simulator* for details.

3. Write code to print all the integer values starting from 0 and less than **AnInt**.

4. Write code to print the integer values of each byte of the array **Input1** while inserting a space between each pair of integers. *Hint*: you may want to use the "string" labeled **space**.

5. Write code to copy the contents of **Input2** to **Copy**.

6. Write code to compute and print the minimum, maximum and integer average of the contents of array **Input1**.

7. Write code to display the first 30 integers (starting from 0) that are divisible by either 7 or 13. Print a comma between all of the integers.

8. Repeat step 7, but this time print only 5 integers per line. This should give you a 6 x 5 matrix of all the numbers. Note: For this part you need to use a nested loop. You may also want to take advantage of the "string" labeled lf.

Deliverables:
- Your code, with comments in the style of the tutorial .asm file.
- Be sure your program works for any value of **InLenW**. In particular, during the demo you should be able to change the inputs and the program should still work correctly.
- There is no need for an additional write-up beyond the code (with comments).