The purpose of this assignment is to provide you the opportunity to gain “hands on” experience with assembly language programming by converting several pseudo code segments to the corresponding MIPS assembly language segments.

1. [6 points] Write a MIPS assembly language program version of the following pseudo code segment:

A[100], B[100], C[100] – three arrays that hold 100 integers each Declare an integer variable i = 99 to represent a loop index Repeat the following two instructions while i > 4

C[i] = A[i-2] + B[i-1];

i = i-2;

1. [10 points] Write a MIPS assembly language program that implements a “Fahrenheit to Celsius converter”. Upon program execution, the user is prompted to enter a temperature in Fahrenheit and the program will output the corresponding temperature in Celsius. **The formula to convert a temperature given in Fahrenheit (F) to a temperature in Celsius (C) is C = (F - 32)/1.8.** Your solution should make use of floating point (non-integer) values to obtain full marks. If you are not able to work with floating point numbers, then provide an implementation with integer values (in this case, you can use the following formula: **C = (F - 32)/2**. A solution that works only with integer values will result in a decrease of marks but part marks will be provided.

**What to Submit:** Each of the two functions above should be submitted in a separate assembly file (you can put them into a single zip/compressed file). Your name(s) and student ID(s) should be included in each file in the form of comments. Your submitted code will be assembled and executed to test for the correct implementation. Nothing else should be submitted (e.g., no report is required). You may have to provide a live working demo of your solution to your TA or instructor. This will involve downloading your submitted files from Canvas and assembling/running them in the presence of your TA or instructor. **Programs that cannot be assembled or executed may result in an automatic grade of 0**.