Goal:

The purpose of this project is to install a MIPS simulator, write and assembly language program, and to simulate the results of the software.

Steps:

1) Install the qtSPIM simulator
2) Locate the project framework
3) Write the assembly language program to solve the problem.
4) Simulate the program to ensure it works properly.
5) Upload the results to Canvas

Step 1: Install the qtSPIM simulator

1) Go to the site: http://spimsimulator.sourceforge.net/
2) Select “Download SPIM”
3) Choose the installation package the corresponds to your operating system
4) Install the software package. This step depends on your particular setup, but it should install similar to other software packages you’ve installed.

Step 2: Locate the project framework

1) On Canvas, near this project description, you should see a document named framework.s
2) Download the framework and rename it lastnamefirstinitial.s. So for example, my program would be named FitzmorisC.s
3) The framework includes some assembler directives telling the assembler to place your data and program at the appropriate locations in memory. You can find more information about SPIM assembler directives in Section 7.10 in the Zybook.

Step 3: Write the assembly program to solve the problem

1) The initial data for your program is your OU ID# as shown in the project framework.
2) Calculate the average of the first four digits of your ID#. Store the result in the memory location that is twelve words higher than the first digit of your ID#. For example, if your ID# starts at address 0x40000000, then you would store the average of your first four digits at 0x40000030.
3) Calculate the average of the second through fifth digits of your ID#. Store the result in a location twelve words higher than the second digit of your ID#.
4) Keep going until you get to the average of digits six through nine.

Step 4: Simulate your program

1) Simulate your program using qtSPIM and verify that it works properly.

Step 5: Upload your results to Canvas

1) Upload your program (.s extension) to the Canvas assignment labeled Project 1.
2) Upload a screenshot of your qtSPIM showing the data memory containing both your original data and the averages.