**Using the Disassembler Spreadsheet**

The Excel spreadsheet Disassembler.xlsx is a handy tool for creating examples to test your skills at translating between assembly language and machine language. This can be handy to practice for the Midterm and/or Final exams, and to more easily translate when debugging the project. The tool works as follows:

1. Enter data ONLY in the yellow cells. Changing any of the formulas is likely to cause things to break. You can copy rows to provide more space for examples.
2. The 32 bits of the machine language instruction are entered in the cells of columns B to AG on any row where they are yellow.
3. The assembly instruction is shown in column A of the row. To translate Machine Language to Assembly Language, just enter the instruction.
4. To translate from Assembly to Machine code, you need to fill in your estimate of the Machine code, look at the Assembly instruction, and then modify the Machine code until the Assembly is what you want to translate.
5. Since conversion between hexadecimal and decimal is a very common function, especially for immediate fields, translation cells are also included. Enter a hex number in cell AH3 and the decimal equivalent is in cell AH4. Enter a decimal number in cell AH6 and the hex equivalent is in cell AH7.
6. The columns from AI to the end contain intermediate decodes that may be useful to understand. Note that I have defined an “L-type” instruction, which is an I-type for memory loads only. There is also a “JALR-type” which is also an I-type for JALR.
7. This worked for the questions in Homework #2, but has not had much Quality Assurance beyond that. Let me know if you find something that looks like an error.