**UNIVERSITY OF MISSOURI - COLUMBIA**

ECE 4270: Computer Architecture

Lab 2: MIPS Assembler

Joy Adeyemo, Kaleb Ross, Joe Tierney

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Overview:

The objective of this project was to develop an assembler for the MIPS instruction set architecture. The input is an input of a program in MIPS Assembly and the output is turned into MIPS machine code. In order to solve this, we will start by reading in the data and finding the function through the opcode. Then we will assign hex values to specific registers according to the MIPS architecture. Once this is done, we’ll create a function to print the new hex values and from there we can begin to test the code.

Group Work:

1. As a group:
2. Joy
   1. Create bubble sort algorithm to sort in ascending order. Also creates a program to find Fibonacci numbers of 10.
3. Kaleb
   1. Created the logic of the string comparisons in the find\_mips function to be able to convert the mips instructions and registers in their respective hex values. Created R\_Type and I\_type functions to combine data for the resultant hex data.
4. Joe
   1. Created tokenized strings and made string comparisons.