Individual SRS Document

Functional Requirements

1. UVSim shall read a four-digit integer from the GUI read text input box into a specific index in the memory array.
2. UVSim shall write a four-digit integer from a memory array index to the GUI output text box.
3. UVSim shall load a four-digit integer from a memory array index into the accumulator integer variable.
4. UVSim shall store the value of the accumulator variable into a specific index in the memory array.
5. UVSim shall add the integer value from a specific memory index to the value of the accumulator variable.
6. UVSim shall leave the result of its add function in the accumulator variable.
7. UVSim shall subtract the integer value from a specific memory index from the value of the accumulator variable.
8. UVSim shall divide the value of the accumulator variable by the integer value from a specific memory index.
9. UVSim shall multiply the value of the accumulator variable by the integer value from a specific memory index.
10. UVSim shall increment the pc variable for each loop iteration in the execute\_program function until the loop stops.
11. UVSim shall change the value of the pc variable to the value of a specific operand if the op code 40 is encountered during the execute\_program while loop.
12. UVSim shall break out of the loop in the execute\_program function if the op code 43 is encountered during that loop.
13. UVSim shall read a program from the text file named by the user in the GUI read program text input box.
14. UVSim shall load the program array from the read\_ml\_program function into the memory array.
15. UVSim shall run the program loaded by the load\_program function.

Non-Functional Requirements

1. UVSim shall be capable of reading a program from a txt file that is up to 100 lines in size.
2. UVSim shall be implemented in the Python coding language.
3. UVSim shall use the [blank] GUI to obtain user input for the read method.