SRS Final Form

Functional Requirements

1. The system will detect overflow of +9999 and -9999 and cut off the highest digit
2. The system will display the memory in a distinct section in the GUI as addresses and values
3. The system will take in a 4 digit number and interpret by separating by opcode and operand
4. The system shall validate each line of the text file for any syntax errors
5. The system will handle and display the write operation (11)
6. The system will handle and prompt the user with the read operation (10)
7. The system shall load program instructions from text files into memory. (20)
8. The system shall store strings 4 digits long with a + or - in front into memory ex: +0000 (21)
9. The system shall ADD a word from memory with the word in the accumulator and leave it in the accumulator when the opcode is 30
10. The system shall SUBTRACT a word from memory with the word in the accumulator and leave it in the accumulator when the opcode is 31
11. The system shall DIVIDE a word from the accumulator with a word in memory and leave it in the accumulator when the opcode is 32
12. The system shall MULTIPLY a word from the accumulator with a word in memory and leave it in the accumulator when the opcode is 33.
13. The system will store the memory in a 100 length array
14. The system will handle dividing by zero exceptions by halting the system
15. The system shall have an accumulator register to temporarily hold a number string

Nonfunctional Requirements

1. The system shall run on a machine with JDK 24 installed
2. The system shall complete operations within 1 second
3. The system will label all GUI widgets