**Functional Requirements**

1. The user shall be able to select a file from his or her local machine to be processed by the simulator
2. The system shall load the input files contents into its memory after a properly formatted file is provided
3. The system shall be able to iterate through its memory contents
4. The system shall display the value in the memory slot specified by the operand when an opcode of “11” is reached in memory
5. The system shall load the value in the memory slot specified by the operand into the accumulator when an opcode of “20” is reached
6. The system shall add to the accumulator the value in the memory slot specified by the operand when an opcode of “30” is reached in memory
7. The system shall subtract from the accumulator the value in the memory slot specified by the operand when an opcode of “31” is reached in memory
8. The system shall divide the accumulator by the value in the memory slot specified by the operand when an opcode of “32” is reached in memory
9. The system shall multiply the accumulator by the value in the memory slot specified by the operand when an opcode of “33” is reached in memory
10. The system shall branch to the memory slot specified by the operand when an opcode of “40” is reached in memory
11. The system shall branch to the memory slot specified by the operand if the accumulator is negative when a opcode of “41” is reached in memory
12. The system shall branch to the memory slot specified by the operand if the accumulator is zero when an opcode of “42” is reached in memory
13. The system shall halt the program when an opcode of “43” is reached in memory
14. The system shall adjust the accumulator to be equivalent to the last 4 digits of the current value if the simulator’s accumulator reaches a number greater than 9999
15. The system shall adjust the accumulator to be equivalent to -1 multiplied by the last 4 digits of the current value if the simulator’s accumulator drops to a number less than -9999

**Non-Functional Requirements**

1. The system shall detect all errors due to improperly formatted input files
2. The system shall run on Windows, Mac, and Linux computers
3. The system shall not crash more than 1 out of every 20 times it is ran