15 Functional Requirements

* The system will detect overflow of +9999 and -9999 and handle it accordingly
* The system will allow for .txt files to be handled containing a valid 4 digit number
* The system will take in a 4 digit number and interpret by separating by opcode and operand
* The system will store into memory first at 00 and move in order
* The system will store 100 4 digit numbers
* The system will handle arithmetic operations (30,31,32,33) with the accumulator
* The system will handle the halt operation (43)
* The system will handle and display the write operation (11)
* The system will handle and prompt the user with the read operation (10)
* The system will handle branching operations (40, 41, 42)
* The system will check that the file is a valid .txt file
* The system will validate that the numbers in the file are 4 digit numbers
* The system will display the screen though a GUI
* The system will separate logic and design in the code
* The system will handle dividing by zero exceptions by halting the system

3 Non-Functional Requirements

* The system will output the results within 2 seconds of the user running the program
* The system shall handle all errors in a clean manner
* The system will use clean labeling and design for all GUI parts