1. The system shall load text files from storage
2. The system shall validate each line of the text file for any syntax errors
3. The system shall display malformed lines in the text file in the console area
4. The system shall display the accumulator before and after execution
5. The system shall display the simulated memory with addresses and values
6. The system shall run through the loaded program when the play button is pressed
7. The system shall provide a visual indicator of the program executing
8. The system shall display the location in memory where the program has executed last
9. The system shall display the output of assembly code in a console section
10. The system shall take in input of integers in a console section
11. The system shall provide a prompt when input is required
12. The system shall allow the accumulator to be reset
13. The system shall allow the location in memory to be reset to zero
14. The system shall be able to load new files into the memory registers to overwrite a different file
15. The system shall display error messages describing how the program has failed to the user in the console area.
16. The system shall have a help menu with all possible assembly instructions
17. The system shall run on a machine with JDK 24 installed
18. The system shall execute a program with less than 100 instructions within 2 seconds.