Machine Problem

As a summer job, you opted to work as an admin officer at Linux University. One of your tasks is to add the details of students in a folder file. Currently, this is being done manually and it was decided by the upper management to migrate this to a new workstation which is Linux-based. You decided to volunteer since you're familiar with Linux and this will add credibility in your work performance.

Here are the basic functionalities of the student record system:
1. Add Record
2. Edit Record
3. Delete Record
4. View Record with sort and search functionality
5. Load Record/s via batch file
6. Logs functionality (Save and View)

Notes:
1. The number of details for a record must be greater than or equal to five (5). Use student number as a unique field.
   Note: Student number must be exactly 10 numeric characters.
2. For the sort functionality, it is forbidden to use the built-in command. Instead, use and implement any sorting algorithm.
   a. Sort by student number.
   b. Sort by name.
3. For the search functionality:
   a. Search by name
   b. Search by student number
4. Make sure to implement a menu.
5. For the load record/s via batch file, ask the user the location of the said file and add it to the student record.

   Format of the batch file (semi colon separated):

   StudentNumber:Field2:Field3:FieldN

6. For the logs functionality, record all add/edit/delete and load contacts via batch file results and errors.
   Format: *Timestamp – Name of the user – Action Taken*
7. **Make sure that you handle all scenarios (duplicates, error, etc.).**
8. Modularization and optimization should be incorporated.