CSC251.0001

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Project Description - Student Management System

For this project, our group decided to create a student management system designed to manage student rosters, grade reports, and other student records. Specifically, this is a pure in-memory, command-line project. There is no external database used. Instead, to store the necessary information, the ArrayList data structure is used. Another class called Student was created, and the ArrayLists used are ArrayList<Student> to be able to store Student objects. This information is then stored in a .csv file, named students.csv, by using BufferedReader and BufferedWriter objects.

As for the capabilities of the application, students can be added or deleted from the ArrayLists by ID, students can be searched for by name, and student’s grades can be updated. Within the search ability, we enabled the capability for “fuzzy” search: returning results that are partial matches by ID or name. In addition, student records can be displayed, and student data is automatically loaded and saved to the students.csv file. When records are displayed, these records of grades can be sorted from highest to lowest or vice versa, and can be displayed within a bar chart.