The date counter works by setting a global variable t\_start which marks the ticks where the clock begins. Afterwards, we can call clock() and subtract by t\_start to find the number of ticks that have elapsed, and by dividing it by the ticks per second, we can find the number of seconds that passed, and then the number of days that passed.

The way file operation works for the student and books is that the insertion operator is used to write the information of each student or book in a formatted manner. The extraction operator is meant to read this format and put the data back into the system. We use a function to read the files and one to output the files in the library header. In these functions, the files which store all the data, student.txt and book.txt, are read or written depending on whether we want to input to the system or output to the files.

The library works by storing a vector of books and a vector of students. These vectors store the information on books and students in the database, which we read from the files. From here, we can add or remove books or students.

Recommend books takes in a book and selects a random book from within the library and checks if the category is the same as the category of the input. In addition, we check if the book has the same isbn as our current book, to make sure we’re not recommending the same book.