**Run Simulation** – **Student Module**

To test Student module, on the landing page for JavaFX window, select Student and click submit button.

You will see 2 buttons, a Login, and a Register button. To Login as a student, you can register for a student first or peek into the students.json file in resources folder in the project files that contain the dummy data of the registered students.

**Register:**

If you choose to register a student, click on register and then on submit button which will take you to a page that shows the form to enter the SID, First name and Last name of the student. If for the SID field you enter alphabets, the length is not 9 digits, or the SID already exists in the system and if for the name fields you enter a number it will show an error respectively. Once you are done filling up the form, click on register and that will register the student in the system.

**Login:**

If you choose to login, you will be presented with a SID field where you can enter the SID of a student, if you enter alphabets or the length is not 9 digits, or the SID already exists in the system then an error will be shown, otherwise you can sign in, into the system.

Once you login, you will see 2 buttons, one being “View Books / Borrow Books” and another being “View Borrowed Books / Return Books”.

**View Books / Borrow Books:**

When you click on “View Books / Borrow Books” and click submit you will see the full catalogue of the library which contains all the books. Beside each item in the library, you can see a borrow button where you can borrow a book for the logged in student. If the book is successfully borrowed, or else if the student is put on a waiting list, it shows an appropriate message based on the condition right below that item. From here you can choose to go back.

**View Borrowed Books / Return Books:**

When you click on “View Borrowed Books / Return Books” you will see al the borrowed books for the logged in student. If a student has a borrowed book, it will simply print a message saying the student doesn’t have any borrowed books right now otherwise it will display all the books that are borrowed by the student. Besides each book you will see a return button which when clicked, will return the book and will also update the current view.

**Test Simulation – Student Module**

There are five nested testing classes and an individual test in the StudentTest.java file. One for each important functionality of the Student class.

**LoginTest:**

Run this testing class to test the login functionality for a student.

check\_If\_SID\_Exists :

Checks if SID exists in the system.

check\_If\_SID\_Not\_Exists:

Checks if SID doesn’t exist in the system.

check\_If\_SID\_Is\_Only\_Numbers

Checks whether SID is only numbers.

check\_If\_SID\_Is\_9\_Digits\_In\_Length

Checks whether SID is exactly 9 digits in length.

**RegisterTest:**

Run this testing class to test the register functionality for a student.

check\_If\_SID\_Is\_Only\_Numbers:

Checks whether SID is only numbers.

check\_If\_SID\_Is\_9\_Digits\_In\_Length

Checks whether SID is exactly 9 digits in length.

check\_If\_SID\_Exists

Checks if SID exists in the system.

check\_If\_SID\_Not\_Exists

Checks if SID doesn’t exist in the system.

check\_If\_Fname\_Is\_Only\_Letters

Checks whether first name only contains letters.

check\_If\_Lname\_Is\_Only\_Letters

Checks whether last name only contains letters.

**ViewBorrowedBooksTest:**

Run this testing class to test the books borrowed functionality by the student.

student\_Didnt\_Borrow\_Any\_Books

Asserts that the student doesn’t have any borrowed books.

student\_Borrows\_Books

Asserts that student has successfully borrowed a book.

student\_Has\_Borrowed\_Multiple\_Books

Asserts that student has successfully borrowed multiple books.

**ReturnBookTest:**

Run this testing class to test returning a book functionality on a student.

return\_Book

Asserts that the book was returned successfully by the student.

**BorrowBookTest:**

Run this testing class to test borrowing and waiting list functionality on a student.

borrow\_Already\_Borrowed\_Book

Asserts that the book is already borrowed by the student.

borrow\_Already\_On\_Waiting\_List\_Book

Asserts that a book is already on waiting list for this student.

borrow\_A\_Book

Asserts that the book is successfully borrowed by this student.

wait\_For\_A\_Book

Asserts that the book is put on waiting list for this student.

gets\_Assigned\_A\_Book\_That\_Was\_Being\_Waited\_On

Asserts that the book that was put on waiting list, once being available is assigned to this student as borrowed books.