**Test Specification**

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| Class: ClinicManagerController.java  Functionality: Load Provider to List | | | |
| Test case # | Requirement | Test description and input data | Expected Result |
| 1 | Load Providers from File | Validate provider loading from a .txt file  **Input:**  .txt containing valid provider data | All providers from the files are loaded and displayed in ta\_output |

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| Class: ClinicManagerController.java  Functionality: Schedule | | | |
| Test case # | Requirement | Test description and input data | Expected result |
| 1 | Valid Scheduling | Verify that an office appointment or imaging appointment can be scheduled.  **Input:**   * valid appointment date, timeslot, first name, last name. * if office appointment is selected, select provider in cmb\_providers * if imaging appointment is select, select room type in cmb\_roomType | Appointment is added, success message show in  text field area ta\_output |
| 2 | Invalid Date Scheduling | Attempt to schedule an appointment with invalid date  **Input:**   * Appointment date : a past date, today, weekend or a date not within six months * Date of birth: today or future day | Alert message shown instantly on invalid date selection and again if submit is pressed without fixing. |
| 3 | Invalid Office Scheduling on Missing Provider | Attempt to schedule office visit without selecting a provider  **Input:**   * All valid data except no provider selected. | Alert message "Select a provider for the office visit." |
| 4 | Invalid Imaging Scheduling on Missing Room Type | Attempt to schedule office visit without selecting a provider  **Input:**   * All valid data except no room type selected. | Alert message "Select a room type for the imaging visit." |
| 5 | Invalid Scheduling on Missing Fields | Attempt to schedule with missing required fields  **Input:**   * Missing one or more fields | Alert "Missing data tokens." |
| 6 | Invalid Scheduling of Duplicate Appointment | Attempt to schedule appointment that already exist  **Input:**   * Information of required fields matching an existing appointment | Message in ta\_output indicating duplicate appointment. |
| 7 | No Available Technician | Attempt scheduling when no technicians are available.  **Input:**   * Imaging appointment where no technician is free. | Message in ta\_output indicating no available technician. |
| 8 | Room Unavailability | Attempt scheduling when the desired room is unavailable.  Input:  Imaging appointment where the requested room is in use | Message in ta\_output indicating room unavailability. |

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| Class: ClinicManagerController.java  Functionality: Reschedule | | | |
| Test case # | Requirement | Test description and input data | Expected result |
| 1 | Valid Rescheduling | Reschedule an appointment to a new timeslot.  **Input:**   * All valid input data | Original appointment is removed, and new one is added, success message show in  text field area ta\_output |
| 2 | Invalid Rescheduling on Duplicate Appointment | Attempt to reschedule to a new timeslot that conflicts with an existing appointment.  **Input:**   * conflicted timeslot | Error message displayed in ta\_output |
| 3 | Invalid Rescheduling on Non-existent Appointment | Attempt to reschedule an appointment that doesn’t exist.  **Input:**   * appointment date, patient, or timeslot does not exists | Alert indicating appointment does not exist. |
| 4 | Invalid Rescheduling on Invalid Date of Date Picker Fields | Reschedule with invalid date values  **Input:**   * Invalid appointment date or date of birth | Alert message for invalid date instantly upon selecting date on Date Picker |
| 5 | Invalid Rescheduling on Missing Required Input Fields | Reschedule with missing required fields  **Input:**   * Missing one or more fields | Alert "Missing data tokens." |

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| Class: ClinicManagerController.java  Functionality: Cancellation | | | |
| Test case # | Requirement | Test description and input data | Expected result |
| 1 | Valid Cancellation | Verify that an existing appointment can be successfully canceled.  Input:  Required fields are valid | The selected appointment is removed from allAppointments. A confirmation message appears in text area: "Appointment has been canceled." |
| 2 | Invalid Cancellation on a non-existent appointment | Verify that attempting to cancel a non-existent appointment result in an error message.  **Input:**   * Enter details for an appointment that does not exist | Alert message indicates appointment does not exist. |

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| Class: ClinicManagerController.java  Functionality : Displaying appointments on TableView | | | |
| Test case # | Requirement | Test description and input data | Expected result |
| 1 | Valid displaying all appointment | Showing all appointment sort by the value selected in ChoiceBox as soon as sort by cmb\_sortBy is selected   * **Input:**  select rb\_all * select a sort value of cb\_sortBy | All appointments are displayed in TableView, sorted according to the selected value in cb\_sortBy. |
| 2 | Valid displaying different types of appointments | Showing different types of appointment based on value of Radio Button  **Input**:   * Select one of the specific radio buttons: rb\_allAppt, rb\_officeAppt, or rb\_imagingAppt. | Only the appointments corresponding to the selected type are shown in TableView |
| 3 | Empty Appointment List | Attempt to show appointments in List View with no appointments  **Input:**   * Date selected as sortOption | Alert message display: “Schedule calendar is empty.” |

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| Class: ClinicManagerController.java  Functionality: Displaying patient billing and provider credits | | | |
| Test case # | Requirement | Test description and input data | Expected result |
| 1 | Generate Patient Billing | Verify that patient billing statements are generated when appointments exist.  **Input:**   * Select "Patients" in the billing cb\_statement ChoiceBox. | The billing statements for each patient are displayed in ta\_billingOutput, listing each patient along with the total amount due. |
| 2 | Generate Patient Billing on empty Patient Billing | Verify that an appropriate message is displayed when there are no patients with appointments.  **Input**:   * Select "Patients" in the billing cb\_statement ChoiceBox. | Alert message “ No patient billing statements available.” |
| 3 | Generate Provider Credits | Verify that provider credit statements are generated when providers have appointments.  **Input**:   * Select "Providers" in the billing cb\_statement ChoiceBox. | The credit statements for each provider are displayed in ta\_billingOutput, listing each provider along with the total credit amount. |
| 4 | Generate Provider Credits on empty Provider Credit | Verify that provider credit statements are generated when providers have no appointments.  **Input**:   * Select "Providers" in the billing cb\_statement ChoiceBox. | Alert message “ No provider credit statements available.” |