# **Software Quality Engineering**

## **Report: White Box testing**

**Course Instructor** 

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### Table for WBT

| Test<br>ID | Testcase<br>Name                             | Testcase<br>Description  | Class          | Function<br>Being Tested    | <b>Test Inputs</b>   | Expected<br>Output  | Actual<br>Output  | Pass/Fail<br>Status |
|------------|--|--|----------------|-----------------------------|--|---|---|---------------------|
| 1          | testBackB<br>uttonActio<br>n                 | Test the<br>Back button<br>action to<br>verify that<br>the frame is<br>hidden.                         | AddDriver<br>s | Clicking the "Back" button. | Simulate an ActionEvent for the Back button (i.e., b2) to check if the AddDrivers frame becomes hidden.  | AddDrive<br>rs frame<br>should be<br>hidden<br>after the<br>Back<br>button is<br>clicked. | AddDrive<br>rs frame<br>is hidden<br>after the<br>Back<br>button is<br>clicked. | Pass                |
| 2          | testBackB<br>uttonCreat<br>esNewInst<br>ance | Test the Back button to verify it creates a new instance of the AddDrivers frame and makes it visible. | AddDriver<br>s | Clicking the "Back" button. | Simulate an ActionEvent for the Back button (i.e., b2). Then create a new instance of AddDrivers, set it visible, and verify if it is visible.   | A new AddDrive rs frame should be visible after the Back button is clicked.               | A new AddDrive rs frame is visible after the Back button is clicked.            | Pass                |
| 3          | testAddBu<br>ttonAction                      | Test the Add button action to verify that the driver details are added successfully.                   | AddDriver      | Clicking the "Add" button.  | Set the following values in the respective fields: t1 = "John Doe", t2 = "35", comboBox = "Male", t3 = "Toyota", t4 = "Corolla", comboBox_1 = "Yes", t5 = "New York". Then simulate an ActionEvent for the Add button. | AddDrive rs frame should be hidden after the Add button is clicked.                       | AddDrive rs frame is hidden after the Add button is clicked.                    | Pass                |

| 1 | testInitial<br>Values                         | Test that all fields are initially empty and the first job is selected in the job dropdown (JComboBo x). | AddEmpl<br>oyee | Initial state<br>of fields and<br>dropdown | No inputs (validate initial state).  | All fields<br>are<br>empty,<br>and<br>"Front<br>Desk<br>Clerks" is<br>selected.     | All fields<br>are<br>empty,<br>and<br>"Front<br>Desk<br>Clerks" is<br>selected. | Pass |
|---|---|--|-----------------|--|--|---|---|------|
| 2 | testFormV<br>alidation_<br>AllFieldsE<br>mpty | Test the form validation when all fields are left empty.   | AddEmpl<br>oyee | Save button action                         | All fields empty: textField = "", textField_1 = "", textField_3 = "", textField_4 = "", textField_5 = "", textField_6 = "".  | Show a JOptionP ane with the message "All fields must be filled."                   | JOptionP<br>ane with<br>the<br>message<br>"All<br>fields<br>must be<br>filled." | Pass |
| 3 | testFormV<br>alidation_<br>MissingG<br>ender  | Test the form validation when all fields are filled except gender.                                       | AddEmpl         | Save button action                         | Fields: textField = "Noor," textField_1 = "25," textField_3 = "50000," textField_4 = "1234567890," textField_5 = "1234567890 12," textField_6 = "Noor@exam ple.com". Gender is not selected. | Show a<br>JOptionP<br>ane with<br>the<br>message<br>"Please<br>select a<br>gender." | JOptionP<br>ane with<br>the<br>message<br>"Please<br>select a<br>gender."       | Pass |
| 4 | testFormV<br>alidation_<br>ValidInput         | Test the form submission with all fields filled with valid data.   | AddEmpl<br>oyee | Save button action                         | Fields:<br>textField =<br>"Zain,"<br>textField_1 =<br>"30,"<br>textField_3 =<br>"60000,"   | The frame should be hidden after successfu l submissi on.                           | The frame is hidden after successful submissio n.                               | Pass |

|   |                                 |   |         |                                    | textField_4 = "9876543210,   |  |  |      |
|---|---------------------------------|---|---------|------------------------------------|--|--|--|------|
|   |                                 |   |         |                                    | textField_5 = "9876543210 98," textField_6 = "Zain@examp le.com". Gender = |  |  |      |
|   |                                 |   |         |                                    | Male, Job =  |  |  |      |
| 5 | testCombo<br>BoxJobs            | Verify that all job options are available in the JComboBox  | AddEmpl | JComboBox<br>content               | "Manager".  No inputs (check dropdown content).                            | All job options: "Front Desk Clerks," "Porters," "Houseke eping," "Kitchen Staff," "Room Service," "Waiter/ Waitress," "Manager," "Account ant," "Chef." | All job options are present in the JComboB ox. | Pass |
| 1 | testAddRo<br>omUICom<br>ponents | Verify that<br>all UI<br>components<br>of the<br>AddRoom<br>class are<br>properly<br>initialized. | AddRoom | UI<br>Components<br>Initialization | No input.  | All UI compone nts (text fields, combo boxes, buttons) should be initialized   | All UI compone nts are initialized correctly.  | Pass |
| 2 | testAddBu<br>ttonAction         | Test the Add button action to verify room details are added correctly.                            | AddRoom | Clicking the "Add" button.         | Room Number: "101", Availability: "Available", Cleaning Status: "Cleaned", | Room<br>Number<br>input<br>should<br>match<br>"101".   | Room<br>Number<br>matches<br>"101".            | Pass |

| 3 | testBackB<br>uttonActio<br>n | Test the Back button action to verify the frame is hidden after the button is clicked.                     | AddRoom  | Clicking the "Back" button.            | Price: "1500", Bed Type: "Single Bed". Simulate a Back button click.  | AddRoo<br>m frame<br>should no<br>longer be<br>visible<br>after<br>clicking<br>the Back<br>button. | AddRoo<br>m frame<br>is no<br>longer<br>visible<br>after<br>clicking<br>the Back<br>button. | Pass |
|---|------------------------------|--|----------|--|---|--|---|------|
| 4 | testEmpty<br>RoomNu<br>mber  | Verify validation when the Room Number field is left empty during the Add button action.                   | AddRoom  | Clicking the "Add" button.             | Room<br>Number: "",<br>Availability:<br>"Available",<br>Cleaning<br>Status:<br>"Cleaned",<br>Price: "1500",<br>Bed Type:<br>"Single Bed". | Room<br>Number<br>field<br>should<br>not be<br>empty.  | Room<br>Number<br>field<br>remains<br>empty.  | Pass |
| 5 | testInvalid<br>PriceInput    | Test the behavior when an invalid price is entered and the Add button is clicked.                          | AddRoom  | Clicking the "Add" button.             | Room Number: "102", Availability: "Occupied", Cleaning Status: "Dirty", Price: "Noor_Abdull ah_Zain", Bed Type: "Double Bed".             | Price input should not be processed if invalid (should remain as "Noor_A bdullah_ Zain").          | Price input remains unchange d as "Noor_A bdullah_Z ain".                                   | Pass |
| 1 | testFetchR<br>oomNumb<br>er  | Test the functionality of the Fetch Room button to ensure it is created correctly and behaves as expected. | CheckOut | Fetch Room<br>Button<br>functionality. | Customer names in dropdown: "Noor," "Zain," "Abdullah." Button should display text: "Fetch Room"  | Fetch Room button should exist, be a JButton, and display text: "Fetch Room".                      | Not As expected   | Fail |
| 2 | testCheck<br>OutSucces<br>s  | Test the success of the checkout   | CheckOut | Check Out<br>Button<br>functionality.  | Dropdown<br>selection:<br>"Noor" (first   | Check-ou<br>t process<br>should  | Check-ou<br>t process<br>complete   | Pass |

|   | 1          |                |           |                                       |                  |           |            |       |
|---|------------|----------------|-----------|---------------------------------------|------------------|-----------|------------|-------|
|   |            | process by     |           |                                       | customer).       | complete  | d          |       |
|   |            | simulating     |           |                                       | Room             | successfu | successful |       |
|   |            | valid          |           |                                       | number:          | lly.      | ly.        |       |
|   |            | customer       |           |                                       | "501".           |           |            |       |
|   |            | and room       |           |                                       | Simulate         |           |            |       |
|   |            | inputs.        |           |                                       | clicking the     |           |            |       |
|   |            | F              |           |                                       | Check Out        |           |            |       |
|   |            |                |           |                                       | button.          |           |            |       |
| 3 | testEmpty  | Test the       | CheckOut  | Choice                                | Populate         | Selecting | Selecting  | Pass  |
|   | ChoiceThr  | behavior of    | Checkout  | Dropdown                              | dropdown         | an item   | an item    | 1 433 |
|   |            |                |           | functionality.                        |                  | from an   | from an    |       |
|   | owsExcep   | the system     |           | functionanty.                         | with an empty    |           |            |       |
|   | tion       | when           |           |                                       | list (no         | empty     | empty      |       |
|   |            | attempting     |           |                                       | customers).      | dropdow   | dropdown   |       |
|   |            | to fetch a     |           |                                       | Attempt to       | n should  | threw an   |       |
|   |            | selection      |           |                                       | select the first | throw an  | IllegalArg |       |
|   |            | from an        |           |                                       | entry from the   | IllegalAr | umentExc   |       |
|   |            | empty          |           |                                       | dropdown.        | gumentE   | eption.    |       |
|   |            | customer       |           |                                       |                  | xception. |            |       |
|   |            | dropdown.      |           |                                       |                  |           |            |       |
| 4 | testBackB  | Test the       | CheckOut  | Back Button                           | Click the        | CheckOu   | CheckOut   | Pass  |
|   | utton      | Back button    |           | functionality.                        | Back button      | t frame   | frame is   |       |
|   |            | to ensure it   |           | j                                     | and simulate     | should    | not        |       |
|   |            | correctly      |           |                                       | the action.      | not be    | visible    |       |
|   |            | hides the      |           |                                       |                  | visible   | after      |       |
|   |            | CheckOut       |           |                                       |                  | after     | clicking   |       |
|   |            | frame when     |           |                                       |                  | clicking  | the Back   |       |
|   |            | clicked.       |           |                                       |                  | the Back  | button.    |       |
|   |            | CHCKCU.        |           |                                       |                  | button.   | button.    |       |
| 1 | testBackB  | Ensure that    | CustomerI | getBackButto                          | No input.        | The Back  | The Back   | Pass  |
| 1 | uttonPrese | the Back       | nfo       |                                       | ino input.       | button    | button is  | 1 ass |
|   |            | button is      | 1110      | n()                                   |                  | should    | not null.  |       |
|   | nce        |                |           |                                       |                  | 1         | not nuii.  |       |
|   |            | initialized    |           |                                       |                  | not be    |            |       |
|   |            | properly and   |           |                                       |                  | null.     |            |       |
|   |            | is not null.   | -         |                                       |                  |           |            | ~     |
| 2 | testLoadD  | Ensure that    | CustomerI | getLoadData                           | No input.        | The Load  | The Load   | Pass  |
|   | ataButton  | the Load       | nfo       | Button()                              |                  | Data      | Data       |       |
|   | Presence   | Data button    |           |                                       |                  | button    | button is  |       |
|   |            | is initialized |           |                                       |                  | should    | not null.  |       |
|   |            | properly and   |           |                                       |                  | not be    |            |       |
|   |            | is not null.   |           |                                       |                  | null.     |            |       |
| 3 | testTableP | Ensure that    | CustomerI | getTable()                            | No input.        | The table | The table  | Pass  |
|   | resence    | the table is   | nfo       | , , , , , , , , , , , , , , , , , , , | _                | should    | is not     |       |
|   |            | initialized    |           |                                       |                  | not be    | null.      |       |
|   |            | properly and   |           |                                       |                  | null.     |            |       |
|   |            | is not null.   |           |                                       |                  |           |            |       |
| 4 | testBackB  | Simulate a     | CustomerI | Clicking the                          | No input.        | Receptio  | Reception  | Pass  |
| ' | uttonActio | button click   | nfo       | Back button.                          | Tio input.       | n window  | window     | 1 435 |
|   |            | and test the   | 1110      | Dack Dutton.                          |                  | should be | is         |       |
|   | n          | action         |           |                                       |                  |           |            |       |
|   |            |                |           |                                       |                  | displayed | displayed  |       |
|   |            | performed      |           |                                       |                  | (or       | (or        |       |

| 5 | testLoadD                                 | for the Back button.  Simulate a  | CustomerI | Clicking the                                      | Customer                          | relevant<br>action<br>should be<br>performe<br>d).   | relevant action is performe d).   | Pass  |
|---|---|---|-----------|---|-----------------------------------|--|---|-------|
| J | ataButton<br>Action                       | button click<br>and test the<br>action<br>performed<br>for the Load<br>Data button. | nfo       | Load Data button.                                 | data: Noor,<br>Zain,<br>Abdullah. | should be<br>populated<br>with<br>customer<br>data (e.g.,<br>names<br>and<br>informati<br>on). | is populated with customer data (e.g., names and informati on).                                       | 1 455 |
| 1 | testDashb<br>oardVisibi<br>lity           | Verify that<br>the<br>Dashboard<br>frame is<br>visible after<br>initialization      | Dashboard | Dashboard frame visibility on initialization.     | No input required.                | Dashboar<br>d frame<br>should be<br>visible<br>after<br>initializat<br>ion.                    | Dashboar<br>d frame is<br>visible<br>after<br>initializati<br>on.                                     | Pass  |
| 2 | testMenu<br>BarNotNu<br>Il                | Verify that<br>the menu<br>bar in the<br>Dashboard<br>is initialized<br>correctly.  | Dashboard | Dashboard<br>menu bar<br>initialization.          | No input required.                | The menu bar should not be null after initializat ion.   | The menu bar is not null after initializati on.   | Pass  |
| 3 | testRecept<br>ionMenuIt<br>emAction       | Verify that clicking the "RECEPTI ON" menu item opens the Reception frame.          | Dashboard | ActionListen er of the "RECEPTIO N" menu item.    | Menu item: "RECEPTIO N".          | Receptio n frame should be opened after clicking the "RECEP TION" menu item.                   | after clicking the "RECEP TION" menu item.  | Pass  |
| 4 | testAddE<br>mployeeM<br>enuItemA<br>ction | Verify that clicking the "ADD EMPLOYE E" menu item opens the AddEmploy ee frame.    | Dashboard | ActionListen er of the "ADD EMPLOYEE " menu item. | Menu item: "ADD EMPLOYEE"         | AddEmpl<br>oyee<br>frame<br>should be<br>opened<br>after<br>clicking<br>the<br>"ADD<br>EMPLO   | AddEmpl<br>oyee<br>frame is<br>opened<br>after<br>clicking<br>the "ADD<br>EMPLOY<br>EE" menu<br>item. | Pass  |

| 5 | testAddRo<br>omMenuIt<br>emAction        | Verify that clicking the "ADD ROOMS" menu item opens the AddRoom frame.             | Dashboard      | ActionListen<br>er of the<br>"ADD<br>ROOMS"<br>menu item.   | Menu item: "ADD ROOMS".  | YEE" menu item.  AddRoo m frame should be opened after clicking the "ADD ROOMS"             | AddRoo<br>m frame<br>is opened<br>after<br>clicking<br>the "ADD<br>ROOMS"<br>menu<br>item.  | Pass |
|---|--|---|----------------|---|--|---|---|------|
| 6 | testAddDr<br>iversMenu<br>ItemActio<br>n | Verify that clicking the "ADD DRIVERS" menu item opens the AddDrivers frame.        | Dashboard      | ActionListen<br>er of the<br>"ADD<br>DRIVERS"<br>menu item. | Menu item: "ADD DRIVERS".  | menu item.  AddDrive rs frame should be opened after clicking the "ADD DRIVER S" menu item. | AddDrive rs frame is opened after clicking the "ADD DRIVER S" menu item.                    | Pass |
| 1 | testDepart<br>mentInitia<br>lization     | Test to verify the department window initializes correctly with appropriate labels. | Departme<br>nt | Department() Constructor                                    | No inputs provided.  | Departme<br>nt<br>window<br>initializes<br>with<br>labels:<br>Departme<br>nt and<br>Budget. | Departme<br>nt<br>window<br>initializes<br>with<br>labels:<br>Departme<br>nt and<br>Budget. | Pass |
| 2 | testLoadD<br>ataButton                   | Test the Load Data button action to verify data is loaded into the table.           | Departme<br>nt | Button Load<br>Data   | No manual<br>input, but<br>sample<br>database rows<br>include: Noor,<br>3000; Zain,<br>5000;<br>Abdullah,<br>4500. | Load Data button loads departme nt data into the table.                                     | Table data loaded into the table successful ly (simulate d).                                | Pass |
| 3 | testBackB<br>utton                       | Test the<br>Back button<br>action to<br>ensure the<br>frame is<br>closed and        | Departme<br>nt | Button Back   | Simulate clicking Back.  | Departme<br>nt<br>window<br>should<br>close<br>after<br>clicking                            | Departme<br>nt<br>window<br>closes<br>successful<br>ly.                                     | Pass |

|   |                                   | navigation is correct.   |                |  |   | the Back button.  |   |      |
|---|-----------------------------------|--|----------------|--|---|---|---|------|
| 4 | testClose<br>Method               | Test the close method to ensure the frame is disposed.   | Departme<br>nt | close()<br>Method                            | No input provided.  | Departme<br>nt frame<br>should be<br>disposed<br>and no<br>longer<br>visible.                 | Departme<br>nt frame<br>disposed<br>and is no<br>longer<br>visible.               | Pass |
| 5 | testDepart<br>mentTable           | Verify that<br>the table is<br>initialized<br>correctly in<br>the<br>department<br>window.                 | Departme<br>nt | Table initialization                         | No inputs, but<br>sample data<br>rows include:<br>Noor,<br>Marketing;<br>Zain, IT;<br>Abdullah, HR. | Table should initialize and have at least one column.   | Table is initialized correctly with the required columns.                         | Pass |
| 6 | testWindo<br>wClosing<br>Behavior | Test the window's behavior when the close operation is triggered.  | Departme<br>nt | JFrame<br>setDefaultCl<br>oseOperation<br>() | Simulate setting the close operation to EXIT_ON_C LOSE.   | Frame should exit the application upon closing.   | Frame is set to exit the application upon closing.                                | Pass |
| 7 | testBackB<br>uttonVisib<br>ility  | Simulate clicking the Back button and verify the department window becomes invisible and navigation works. | Departme<br>nt | Button Back                                  | Simulate clicking the Back button and transition to the previous frame.                             | Departme<br>nt<br>window<br>should be<br>hidden<br>after<br>clicking<br>the Back<br>button.   | Departme<br>nt<br>window<br>is hidden<br>after<br>clicking<br>the Back<br>button. | Pass |
| 1 | testInitial<br>UICompo<br>nents   | Test if all the UI components, like labels, are initialized correctly in the Employee frame.               | Employee       | Initialization of UI components              | No input.   | All label compone nts (lblNewL abel, lblJob, lblName, and lblDepart ment) should not be null. | All label compone nts are correctly initialized and not null.                     | Pass |

| 2 | testButton<br>Labels             | Test if the buttons have the correct labels: "Load Data" for loading and "Back" for returning.             | Employee | Getting<br>button labels                 | No input.  | Button loadData Button should have label "Load Data". Button backButt on should have label "Back". | Button loadData Button has label "Load Data". Button backButto n has label "Back". | Pass |
|---|----------------------------------|--|----------|--|--|--|--|------|
| 3 | testLoadD<br>ataButton<br>Action | Test the "Load Data" button to verify that it populates the employee table with database data.             | Employee | Load data into the table                 | Database mock data: id: 1 name: Noor age: 30 gender: Male job: Manager salary: 50000.0 phone: 1234567890 aadhar: 1111 gmail: Noor@gmail. com.: | Table should contain data with one row matching the mock database data.                            | Not as<br>Expected   | Fail |
| 4 | testBackB<br>uttonActio<br>n     | Test the "Back" button action to ensure it hides the Employee window and navigates to the Reception frame. | Employee | Back button navigation                   | Simulate clicking the "Back" button.   | Employe e frame should no longer be visible after clicking the "Back" button.                      | Employee frame is hidden after clicking the "Back" button.                         | Pass |
| 1 | testFrameI<br>nitializatio<br>n  | Test the initialization of the Login frame to verify the frame properties like size, background            | Login    | Frame initialization (Login constructor) | No input values (tests properties of the frame).   | Frame width = 600, height = 300, backgrou nd color = white,  | Frame width = 600, height = 300, backgrou nd color = white,                        | Pass |

|   |   | color, and title.  |       |  |  | title = "Login".   | title = "Login".  |      |
|---|---|--|-------|--|--|--|---|------|
| 2 | testLabelI<br>nitializatio<br>n             | Test the initialization of labels for username and password fields to verify their properties. | Login | Label initialization (Login constructor)           | No input values (tests label properties).          | Usernam e label text = "Userna me", position (40, 20). Password label text = "Passwor d", position (40, 70). | Username label text = "Usernam e", position (40, 20). Password label text = "Passwor d", position (40, 70). | pass |
| 3 | testTextFi<br>eldInitializ<br>ation         | Test the initialization of text fields for username and password to verify their properties.   | Login | Text field initialization (Login constructor)      | No input values (tests text field properties).     | Usernam e field position = (150, 20). Password field position = (150, 70).                                   | Username field position = (150, 20). Password field position = (150, 70).                                   | Pass |
| 4 | testButton<br>Initializati<br>on            | Test the initialization of buttons (Login and Cancel) to verify their properties.              | Login | Button<br>initialization<br>(Login<br>constructor) | No input<br>values (tests<br>button<br>properties) | Login button text = "Login", position (40, 140). Cancel button text = "Cancel", position (180, 140).         | Login button text = "Login", position (40, 140). Cancel button text = "Cancel", position (180, 140).        | Pass |
| 5 | testAction<br>Performed<br>_LoginBut<br>ton | Test the action performed when the Login button is clicked to verify login functionality.      | Login | Login button<br>action<br>(actionPerfor<br>med())  | Username = "Noor", Password = "Zain".              | No exception thrown when login button is clicked.  | No exception thrown when login button is clicked.   | Pass |

| 6 | testAction<br>Performed<br>_CancelB<br>utton | Test the action performed when the Cancel button is clicked to verify the cancellation functionality | Login           | Cancel<br>button action<br>(actionPerfor<br>med()) | No input values (tests cancel button action).   | No exception thrown when cancel button is clicked.                | Not as<br>Expected                                       | Fail |
|---|--|--|-----------------|--|---|---|--|------|
| 7 | testMain<br>Method                           | Test the execution of the main method to ensure it runs without any issues.                          | Login           | Main method execution (main())                     | No input values (tests the execution of the main method).   | Main<br>method<br>should<br>execute<br>without<br>exception<br>s. | Main<br>method<br>executes<br>without<br>exception<br>s. | Pass |
| 1 | testFrameI<br>nitializatio<br>n              | Test if the ManagerInf o frame is initialized with the correct dimensions (width and height).        | ManagerI<br>nfo | getWidth()<br>and<br>getHeight()                   | No inputs<br>(default<br>initialization<br>of the<br>ManagerInfo<br>frame).   | Frame width should be 1000 and height should be 600.              | Frame width is 1000 and height is 600.                   | Pass |
| 2 | testTableI<br>nitializatio<br>n              | Test if the table in the ManagerInf o frame is initialized correctly (0 rows initially).             | ManagerI<br>nfo | Table initialization                               | No inputs<br>(default table<br>setup in the<br>ManagerInfo<br>frame).   | Table should be initialized with 0 rows.                          | Table is initialized with 0 rows.                        | Pass |
| 3 | testLabels<br>Initializati<br>on             | Test if all labels in the ManagerInf o frame are initialized correctly.                              | ManagerI<br>nfo | Label initialization                               | No inputs<br>(default labels<br>for Name,<br>Age, Gender,<br>Job,<br>Department in<br>the<br>ManagerInfo<br>frame). | All labels should be initialized                                  | All labels<br>are<br>initialized<br>properly.            | Pass |
| 4 | testLoadD<br>ataButton<br>Action             | Test if clicking the Load Data button triggers the data loading                                      | ManagerI<br>nfo | btnLoadData.<br>doClick()                          | No direct inputs; simulate the click on the Load Data button in the   | No exception should occur during the                              | No exception occurred during the button click.           | Pass |

| 5 | testBackB<br>uttonActio<br>n       | process and does not throw exceptions.  Test if clicking the Back button in ManagerInf o properly opens the Reception window and | ManagerI<br>nfo | btnExit.doCli<br>ck()                 | ManagerInfo frame.  No direct inputs; simulate the click on the Back button (Exit button) in the ManagerInfo frame. | button click.  No exception should occur and the Reception window should open. | No<br>exception<br>occurred<br>and the<br>Reception<br>window<br>opened. | Pass |
|---|------------------------------------|--|-----------------|---------------------------------------|---|--|--|------|
| 6 | testMain                           | does not throw errors.  Test if the  | ManagerI        | main()                                | No direct   | No   | No   | Pass |
|   | Method                             | main method of the ManagerInf o class executes without throwing any exceptions.  | nfo             | V                                     | inputs (simulating the execution of the main method).   | exception<br>should<br>occur<br>when<br>executing<br>the main<br>method.       | exception<br>occurred<br>when<br>executing<br>the main<br>method.        |      |
| 1 | testFrameI<br>nitializatio<br>n    | Test the initialization of the frame's width and height.   | NewCusto<br>mer | Frame width and height initialization | No direct input (the frame is initialized with default width = 850 and height = 550).                               | Frame width should be 850 and height should be 550.                            | Frame width is 850 and height is 550.                                    | Pass |
| 2 | testLabels<br>Initializati<br>on   | Test the initialization of labels in the frame.  | NewCusto<br>mer | Label initialization                  | No direct<br>input (checks<br>label<br>properties).   | The label "NEW CUSTO MER FORM" should be initialized with font size 20.        | Label "NEW CUSTO MER FORM" is initialized with font size 20.             | Pass |
| 3 | testCombo<br>BoxInitiali<br>zation | Test the initialization of the ComboBox and its items.   | NewCusto<br>mer | ComboBox initialization               | ComboBox<br>items:<br>"Passport",<br>"National ID",<br>"Driver's  | ComboB<br>ox should<br>have 4<br>items:<br>"Passport                           | ComboBo x has 4 items and "Passport " is the first item.                 | Pass |

| 4 | testTextFi<br>eldsInitiali<br>zation  | Test the initialization and setting of values in text fields.                                    | NewCusto<br>mer | TextField initialization              | License", "Other".  TextField t1 = "Noor", t2 = "Zain".                 | "National ID", "Driver's License", "Other". TextField t1 should hold "Noor" and t2 should hold | t1 holds "Noor" and t2 holds "Zain".                                       | Pass |
|---|---------------------------------------|--|-----------------|---------------------------------------|---|--|--|------|
| 5 | testRadio<br>ButtonInit<br>ialization | Test the initialization and values of radio buttons.   | NewCusto<br>mer | RadioButton initialization            | RadioButton<br>r1 = "Male",<br>r2 =<br>"Female".                        | "Zain".  RadioBut ton r1 text should be "Male" and r2 text should be "Female"                  | RadioButt<br>on r1 text<br>is "Male"<br>and r2<br>text is<br>"Female".     | Pass |
| 6 | testChoice<br>Initializati<br>on      | Test the initialization of the Choice component.   | NewCusto<br>mer | Choice initialization                 | No direct<br>input (checks<br>if Choice<br>component<br>exists).        | The Choice compone nt c1 should be initialized   | Choice compone nt c1 is initialized  | Pass |
| 7 | testBackB<br>uttonFunct<br>ionality   | Test the functionality of the Back button to ensure it performs without exceptions when clicked. | NewCusto<br>mer | Back button functionality             | No direct<br>input (checks<br>if Back button<br>works when<br>clicked). | Clicking<br>the Back<br>button<br>should<br>not throw<br>any<br>exception<br>s.                | Clicking<br>the Back<br>button<br>does not<br>throw any<br>exception<br>s. | Pass |
| 8 | testBackgr<br>oundInitia<br>lization  | Test the background color initialization to ensure it's set correctly.                           | NewCusto<br>mer | Background<br>color<br>initialization | No direct input (checks the background color of the content pane).      | The backgrou nd color should be white.   | The backgrou nd color is white.  | Pass |
| 9 | testMain<br>Method                    | Test the execution of the main method to   | NewCusto<br>mer | Main method execution                 | No direct<br>input (checks<br>if main<br>method runs                    | The main method should execute   | The main method executes without   | Pass |

|   |                                  | ensure it<br>runs without<br>throwing<br>any<br>exceptions.                             |        |  | without exceptions). | without<br>throwing<br>exception<br>s.   | throwing<br>any<br>exception<br>s.                                     |      |
|---|----------------------------------|---|--------|--|----------------------|--|--|------|
| 1 | testFrameI<br>nitializatio<br>n  | Test the initialization of the PickUp frame to ensure correct size and close operation. | PickUp | Frame properties (width, height, close operation)  | No input             | Frame width should be 800, height should be 600, close operation should be EXIT_O N_CLOS E.  | Frame width is 800, height is 600, close operation is EXIT_O N_CLOS E. | Pass |
| 2 | testLabels<br>Initializati<br>on | Test that the correct labels are initialized in the PickUp frame.                       | PickUp | JLabel<br>initialization<br>and matching<br>labels | No input             | Labels should include: "Pick Up Service", "Type of Car", "Name", "Age", "Gender" , "Compan y", "Brand", "Availabl e", "Location ". | Not as<br>Expected   | Fail |
| 3 | testChoice<br>Initializati<br>on | Test that the Choice component (c1) is initialized and contains items.                  | PickUp | Choice component initialization                    | No input             | Choice compone nt should be initialized and contain items from the database.   | Choice compone nt is initialized and contains items.                   | Pass |
| 4 | testTableI<br>nitializatio<br>n  | Test that the table is initialized with the   | PickUp | JTable initialization                              | No input             | Table should be initialized with   | Table is initialized with width 800                                    | Pass |

|   |                                 | correct dimensions.   |           |                                   |   | width<br>800 and<br>height<br>250.  | and<br>height<br>250.   |      |
|---|---------------------------------|---|-----------|-----------------------------------|---|---|---|------|
| 5 | testDispla<br>yButtonA<br>ction | Test the action of the Display button to ensure the table updates properly when clicked.                | PickUp    | Display<br>button action          | Button click  | Table model should be updated after clicking the Display button.                                  | Table model is updated after clicking the Display button.                           | Pass |
| 6 | testBackB<br>uttonActio<br>n    | Test the action of the Back button to ensure the current frame becomes invisible when clicked.          | PickUp    | Back button action                | Button click  | PickUp<br>frame<br>should<br>become<br>invisible<br>after<br>clicking<br>the Back<br>button.      | PickUp<br>frame<br>becomes<br>invisible<br>after<br>clicking<br>the Back<br>button. | Pass |
| 7 | testDataba<br>seConnect<br>ion  | Test the database connection and query execution to ensure a connection to the database is established. | conn      | Database connection               | No input  | Database connection should be established, and a query on the driver table should return results. | Database connection is established, and the query on driver table returns results.  | Pass |
| 8 | testMain<br>MethodEx<br>ecution | Test that the main method of the PickUp class executes without throwing exceptions.                     | PickUp    | Main method execution             | No input  | Main<br>method<br>should<br>execute<br>without<br>throwing<br>any<br>exception<br>s.              | Main<br>method<br>executes<br>without<br>exception<br>s.                            | Pass |
| 1 | testFrameI<br>nitializatio<br>n | Test the initialization of the Reception frame,   | Reception | Frame initialization and UI setup | No inputs<br>(this is a UI<br>test verifying<br>default frame<br>properties). | Frame width should be 850, frame  | Frame width is 850, height is 570,  | Pass |

|   |                                       | ensuring<br>proper setup<br>of frame<br>properties<br>such as size,<br>content<br>pane, and<br>background<br>color.                  |           |                                    |   | height<br>should be<br>570,<br>content<br>pane<br>should be<br>initialized<br>, and<br>backgrou<br>nd color<br>should be<br>white. | content<br>pane is<br>initialized<br>, and<br>backgrou<br>nd color<br>is white.              |      |
|---|---------------------------------------|--|-----------|------------------------------------|---|--|--|------|
| 2 | testLogOu<br>tButtonFu<br>nctionality | Test the functionality of the Log Out button to ensure that it hides the reception frame and does not throw exceptions when clicked. | Reception | Log Out<br>button<br>functionality | Simulate clicking the Log Out button (btnLogOut).                                       | Reception frame should not be visible after clicking the Log Out button, and no exception s should be thrown.                      | Reception frame is hidden after clicking the Log Out button, and no exception s were thrown. | Pass |
| 1 | testFrameI<br>nitializatio<br>n       | Test the initialization of the frame's dimensions and layout.  | Room      | Frame initialization               | No inputs<br>(test checks<br>the width,<br>height, and<br>layout of the<br>frame).      | Frame width should be 1100, height should be 600, and layout should be null.   | Not As<br>Expected   | Fail |
| 2 | testTableI<br>nitializatio<br>n       | Test the initialization of the table within the frame.   | Room      | Table initialization               | No inputs<br>(test checks<br>the position<br>and size of the<br>table in the<br>frame). | Table should be initialized with correct position and size.  | Table is initialized with x=0, y=40, width=50 0, height=40 0.                                | Pass |
| 3 | testButton<br>Initializati<br>on      | Test the initialization of the "Load Data" and "Back"  | Room      | Button<br>initialization           | No inputs<br>(test checks<br>the position,<br>size, and text                            | Buttons<br>should be<br>initialized<br>with<br>correct   | Buttons "Load Data" and "Back" are   | Pass |

|   |                                     | buttons in the frame.   |                |   | of the buttons).   | text,<br>position,<br>and size.  | initialized<br>with<br>correct<br>properties   |      |
|---|-------------------------------------|---|----------------|---|--|--|--|------|
| 4 | testLabelI<br>nitializatio<br>n     | Test the initialization of labels in the frame such as "Availability ", "Clean Status", "Price", etc. | Room           | Label initialization                    | No inputs<br>(test checks<br>the labels for<br>availability,<br>clean status,<br>price, bed<br>type, and<br>room<br>number). | Labels<br>should be<br>initialized<br>with<br>correct<br>text.         | Labels initialized with correct text: "Availabil ity", "Clean Status", "Price", etc. | Pass |
| 5 | testAction<br>Performed<br>LoadData | Test the "Load Data" button action to verify that it does not throw an exception.                     | Room           | Load Data button action                 | Simulate click<br>on the "Load<br>Data" button<br>to test if any<br>exception<br>occurs when it<br>is clicked.               | No exception should be thrown when the button is clicked.              | Not As<br>Expected   | Fail |
| 6 | testAction<br>Performed<br>Back     | Test the "Back" button action to verify that it hides the room frame.                                 | Room           | Back button action                      | Simulate click<br>on the "Back"<br>button to test<br>if the room<br>frame is<br>hidden<br>afterward.                         | The room frame should not be visible after clicking the "Back" button. | Room<br>frame is<br>hidden<br>after<br>clicking<br>the<br>"Back"<br>button.          | Pass |
| 7 | testMain<br>Method                  | Test the execution of the main method to ensure it runs without exceptions.                           | Room           | Main method execution                   | No inputs<br>(test checks if<br>the main<br>method can be<br>executed<br>without<br>throwing an<br>exception).               | The main method should execute without exception s.                    | The main method executes without exception s.  | Pass |
| 1 | testFrameI<br>nitializatio<br>n     | Test the frame initialization to verify the size and content pane are set correctly.                  | SearchRo<br>om | Frame size<br>and content<br>pane check | No specific input. The test checks the initial size and content pane of the frame.   | Frame width should be 700, height should be 500, and content           | Frame width is 700, height is 500, and content pane is not null.                     | Pass |

|   |                                      |  |                |                                  |  | pane<br>should be<br>present.   |   |      |
|---|--------------------------------------|--|----------------|----------------------------------|--|---|---|------|
| 2 | testCompo<br>nentsInitia<br>lization | Test the initialization of components like labels, buttons, and choice components.                       | SearchRo<br>om | Component initialization check   | No specific input. The test checks if the components like labels, buttons, and checkboxes are initialized correctly in the UI. | Compone nts should be correctly initialized with appropria te text and items. | Not As<br>Expected  | Fail |
| 3 | testSearch<br>ButtonAct<br>ion       | Test the action of the Search button and verify if the table model is updated after clicking the button. | SearchRo<br>om | Search<br>button action<br>check | No specific input. The test simulates a click on the "Search" button to check if the table model is updated.                   | Table model should be updated after the Search button is clicked.             | Table model is updated after the Search button click.             | Pass |
| 4 | testCheck<br>BoxSelect<br>ion        | Test the behavior of the "Only display Available" checkbox when selected or deselected.                  | SearchRo<br>om | Checkbox<br>selection<br>check   | Input: Select<br>and deselect<br>the "Only<br>display<br>Available"<br>checkbox.   | Checkbo x should be selected and deselecte d correctly.                       | Checkbox<br>is<br>selected<br>and<br>deselecte<br>d<br>correctly. | Pass |
| 5 | testChoice<br>Selection              | Test the functionality of the Choice component to ensure it reflects the selected item.                  | SearchRo<br>om | Choice<br>selection<br>check     | Input: Select "Double Bed" and "Single Bed" from the Choice component.   | Selected item should match the chosen value ("Double Bed" or "Single Bed").   | The selected item matches the chosen value each time.             | Pass |
| 6 | testBackB<br>uttonActio<br>n         | Test the action of the Back button to verify that it doesn't throw any exception                         | SearchRo<br>om | Back button action check         | No specific input. The test simulates a click on the "Back" button to verify that no exception is thrown and                   | Back<br>button<br>click<br>should<br>not throw<br>exception<br>and<br>should  | No exception is thrown; Back button works correctly.              | Pass |

| 7 | testDataba<br>seQueryH<br>andling   | and correctly handles the action.  Test the handling of the SQL query for room search without throwing | SearchRo<br>om  | Database<br>query<br>handling<br>check   | the action is handled.  Input: SQL query: "select * from Room where bed_type = 'Single Bed'".                | hide the SearchRo om frame.  SQL query should execute without throwing exception | SQL<br>query<br>executed<br>successful<br>ly without<br>exception<br>s.     | Pass |
|---|-------------------------------------|--|-----------------|--|--|--|---|------|
| 1 | testFrameI<br>nitializatio<br>n     | rest the frame initialization to verify if the width and height of the frame are set correctly.        | UpdateCh<br>eck | Checking<br>frame<br>dimensions          | No specific inputs required for this test case.  | Frame width should be 950 and height should be 500.                              | Frame width is 950 and height is 500.                                       | Pass |
| 2 | testLabelI<br>nitializatio<br>n     | Test the initialization of the label in the frame.   | UpdateCh<br>eck | Checking if label is initialized and set | No specific inputs required for this test case.  | The label should be initialized and the text should be "Check-I n Details".      | The label is initialized with text "Check-I n Details".                     | Pass |
| 3 | testCombo<br>BoxInitiali<br>zation  | Test the initialization of the combo box to verify it is populated with items from the database.       | UpdateCh<br>eck | Checking combo box initialization        | Combo box items should be populated from the database (not tested directly with inputs, but database items). | Combo box c1 should be initialized and contain items loaded from the database.   | Not As<br>Expcted   | Fail |
| 4 | testTextFi<br>eldInitializ<br>ation | Test the initialization of text fields in the frame.   | UpdateCh<br>eck | Checking<br>text field<br>initialization | No specific inputs required for this test case.  | Text fields (txt_ID, txt_Statu s, txt_Date, txt_Time, txt_Paym ent) should be    | All text fields (txt_ID, txt_Status , txt_Date, txt_Time, txt_Paym ent) are | Pass |

|   |                                 |   |                 |                                       |  | initialized  | initialized   |      |
|---|---------------------------------|---|-----------------|---------------------------------------|--|--|---|------|
| 5 | testButton<br>UpdateAct<br>ion  | Test the action of the "Update" button to verify if it triggers the correct functionality without any exceptions.     | UpdateCh<br>eck | Clicking the "Update" button          | No specific inputs required for this test case.  | Button<br>click<br>should<br>not throw<br>an<br>exception  | Button<br>click does<br>not throw<br>any<br>exception                                       | Pass |
| 6 | testButton<br>BackActio<br>n    | Test the action of the "Back" button to verify if it hides the frame after being clicked.                             | UpdateCh<br>eck | Clicking the "Back" button            | No specific inputs required for this test case.  | Frame should not be visible after the "Back" button is clicked.  | Frame is hidden after the "Back" button is clicked.   | Pass |
| 7 | testButton<br>CheckActi<br>on   | Test the action of the "Check" button to verify if it correctly populates the text fields after being clicked.        | UpdateCh<br>eck | Clicking the "Check" button           | Simulate clicking the "Check" button. Ensure that the following text fields are populated: txt_ID, txt_Status, txt_Date, txt Time. | Text fields should be populated after clicking the "Check" button.   | Text fields (txt_ID, txt_Status , txt_Date, txt_Time) are populated after clicking "Check". | Pass |
| 8 | testDataba<br>seUpdate<br>Query | Test the database update functionality to verify if the SQL update query executes correctly and updates the database. | UpdateCh<br>eck | Database<br>update query<br>execution | Input: Customer number = "123" (Noor), Room number = "101" (Zain), Status = "Checked-in", Deposit = "1000" (Abdullah).             | The database should be updated with the new values, and the customer record should exist in the database with the updated details. | Not As<br>Expected  | Fail |

| 1 | testFrameI<br>nitializatio<br>n     | Verify that<br>the<br>UpdateRoo<br>m frame is<br>initialized<br>with correct<br>width,<br>height, and<br>non-null<br>content<br>pane. | UpdateRo<br>om | Initialization of frame dimensions. | No input required (initialization of the frame).   | Frame width should be 1000, height should be 450, content pane should not be null.                 | Frame width is 1000, height is 450, content pane is not null.                     | Pass |
|---|-------------------------------------|---|----------------|-------------------------------------|--|--|---|------|
| 2 | testLabelI<br>nitializatio<br>n     | Ensure that the "Update Room Status" label is initialized correctly with the proper text.   | UpdateRo<br>om | Initialization of label.            | No input required (initialization of the label).   | Label<br>text<br>should be<br>"Update<br>Room<br>Status".  | Label text<br>is<br>"Update<br>Room<br>Status".                                   | Pass |
| 3 | testTextFi<br>eldInitializ<br>ation | Check that<br>the text<br>fields for<br>room<br>number,<br>availability,<br>and clean<br>status are<br>initialized<br>properly.       | UpdateRo<br>om | Initialization of text fields.      | No input required (initialization of text fields for room, availability, and clean status).                    | Text<br>fields for<br>room,<br>availabilit<br>y, and<br>status<br>should be<br>initialized         | Text<br>fields for<br>room,<br>availabilit<br>y, and<br>status are<br>initialized | Pass |
| 4 | testChoice<br>Initializati<br>on    | Test that the Choice component (for selecting the Guest ID) is properly initialized.  | UpdateRo<br>om | Initialization of choice component. | No input required (initialization of the guest ID dropdown).   | Guest ID<br>dropdow<br>n should<br>be<br>initialized   | Guest ID<br>dropdown<br>is<br>initialized   | Pass |
| 5 | testButton<br>CheckActi<br>on       | Verify that<br>the "Check"<br>button<br>works<br>properly by<br>populating<br>room<br>details.  | UpdateRo<br>om | Clicking the "Check" button.        | Set mock inputs for the Check button action: Guest ID and room number (e.g., Guest ID: 101, Room number: 102). | Room<br>number<br>field<br>should be<br>populated<br>after the<br>"Check"<br>button is<br>clicked. | Not As<br>Expected  | Fail |
| 6 | testUpdate<br>ButtonAct<br>ion      | Ensure that the "Update"  | UpdateRo<br>om | Clicking the "Update" button.       | Inputs: Room number ("101"),   | The update message   | Not As<br>Expected  | Fail |

|   |   | button works by updating room details and showing a success message.                                    |                |   | Status<br>("Clean").   | should be<br>shown<br>after the<br>"Update"<br>button is<br>clicked.  |   |      |
|---|---|---|----------------|---|--|---|---|------|
| 7 | testBackB<br>uttonActio<br>n                  | Verify that clicking the "Back" button properly navigates the user back to the Reception screen.        | UpdateRo<br>om | Clicking the "Back" button.                     | No input required (simulate the "Back" button click).        | The Receptio n screen should appear after clicking the "Back" button. | Not As<br>Expected  | Fail |
| 8 | testRoom<br>NumberLa<br>belInitializ<br>ation | Ensure that<br>the "Room<br>Number"<br>label is<br>initialized<br>properly<br>with the<br>correct text. | UpdateRo<br>om | Initialization<br>of "Room<br>Number"<br>label. | No input required (initialization of the room number label). | Label<br>text<br>should be<br>"Room<br>Number:"                       | Label text<br>is "Room<br>Number:"                        | Pass |
| 9 | testWindo<br>wClose                           | Test that the window close method does not throw exceptions.  | UpdateRo<br>om | Window close functionality.                     | No input required (simulate closing the window).             | Close<br>method<br>should<br>not throw<br>any<br>exception<br>s.      | Close<br>method<br>executed<br>without<br>exception<br>s. | Pass |

## **Test Coverage Screenshot**

| > 🗾 Room.java                                       | 90.6 %   | 58  | 6  | 64  |
|---|----------|-----|----|-----|
| > 🛽 AddDrivers.java                                 | 96.3 %   | 105 | 4  | 109 |
| > 🛽 AddEmployee.java                                | 96.9 %   | 123 | 4  | 127 |
| > 🛭 ManagerInfo.java                                | 94.3 %   | 66  | 4  | 70  |
| > 🗾 PickUp.java                                     | 95.1 %   | 78  | 4  | 82  |
| > 🗾 Dashboard.java                                  | 96.1 %   | 49  | 2  | 51  |
| <ul> <li># hotel.management.system.tests</li> </ul> | 89.8 %   | 579 | 66 | 645 |
| > 🗾 DepartmentTest.java                             | 53.1 %   | 17  | 15 | 32  |
| > 🛭 SearchRoomTest.java                             | 78.6 %   | 44  | 12 | 56  |
| UpdateRoomTest.java                                 | 75.0 %   | 36  | 12 | 48  |
| UpdateCheckTest.java                                | 85.5 %   | 53  | 9  | 62  |
| >  CheckoutTest.java                                | 75.0 %   | 18  | 6  | 24  |
| > 🛭 RoomTest.java                                   | 92.5 %   | 62  | 5  | 67  |
| > 🛭 DashboardTest.java                              | 95.6 %   | 43  | 2  | 45  |
| > 🛭 EmployeeTest.java                               | 92.6 %   | 25  | 2  | 27  |
| > 🗾 PickUpTest.java                                 | 96.5 %   | 55  | 2  | 57  |
| > NewCustomerTest.java                              | 98.0 %   | 48  | 1  | 49  |
| > 🛭 AddDriversTest.java                             | 100.0 %  | 27  | 0  | 27  |
| AddEmployeeTest.java                                | 100.0 %  | 48  | 0  | 48  |
| > 🛭 AddRoomTest.java                                | 100.0 %  | 44  | 0  | 44  |
| > 🛭 CustomerInfoTest.java                           | 100.0 %  | 18  | 0  | 18  |
| > 🛭 ManagerInfoTest.java                            | 100.0 %  | 26  | 0  | 26  |
| > 🛭 ReceptionTest.java                              | 100.0 %  | 15  | 0  | 15  |
| <ul> <li>hotel.management.system.auto</li> </ul>    | n 90.7 % | 107 | 11 | 118 |
| > 🛽 AddEmployeeGUlTest.java                         | 80.0 %   | 28  | 7  | 35  |
| > 🗓 LoginGUITest.java                               | 89.2 %   | 33  | 4  | 37  |
| > 🛾 AddRoomGUITest.java                             | 100.0 %  | 46  | 0  | 46  |