# Lab 02: Black Box Test Plan

## Test Overview

There are 21 system-level black box tests.

To run the tests:

1. Right click on StudentDirectoryPanel class in the Package Explorer.
2. Select Run As > Java Application

The FileChooser for the student directory will load automatically.

All tests files are located in the test-files/ folder and the contents of the files used in testing are below:

invalid\_student\_records.txt

King,zking,orci.Donec@ametmassaQuisque.com,HNZ62IQV3XZ,15

Zahir,,zking,orci.Donec@ametmassaQuisque.com,HNZ62IQV3XZ,15

Zahir,King,orci.Donec@ametmassaQuisque.com,HNZ62IQV3XZ,15

Zahir,King,zking,orci.Donec@ametmassaQuisquecom,HNZ62IQV3XZ,15

Zahir,King,zking,orci.Donec@ametmassaQuisque.com,15

Zahir,King,zking,orci.Donec@ametmassaQuisque.com,HNZ62IQV3XZ,-1

expected\_student\_records.txt

Zahir,King,zking,orci.Donec@ametmassaQuisque.com,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,15

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| **Test ID** | **Description** | **Expected Results** | **Actual Results** |
| Test 1:  Open GUI | Preconditions: None  1. Run StudentDirectoryPanel  2. *Check Results*  3. Close GUI  4. *Check Results* | GUI opens with all Student Information input fields blank and no information inside Student Directory section.  GUI closes and program stops. | GUI opens and closes successfully. Actual results match expected results. |
| Test 2:  Invalid First Name | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: \_\_\_\_\_ (leave this blank) * Last Name: Doe * ID: 1 * Email: [JohnDoe@ncsu.edu](mailto:JohnDoe@ncsu.edu) * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid first name.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 3:  Invalid Last Name | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: \_\_\_\_\_ (leave this blank) * ID: 1 * Email: [JohnDoe@ncsu.edu](mailto:JohnDoe@ncsu.edu) * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid last name.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 4:  Invalid ID | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: \_\_\_\_\_ (leave this blank) * Email: [JohnDoe@ncsu.edu](mailto:JohnDoe@ncsu.edu) * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid id.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 5:  Blank Email | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: \_\_\_\_\_ (leave this blank) * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid email.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 6:  Email with no ‘@’ | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoencsu.edu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid email.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 7:  Email with no ‘.’ | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsuedu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid email.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 8:  Email with last ‘.’ before first ‘@’ | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: John.Doe@ncsuedu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid email.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 9:  Blank Password | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsu.edu * Password: \_\_\_\_\_ (leave this blank) * Repeat Password: \_\_\_\_\_ (leave this blank) * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid password.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 10:  Differing Pass-words | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsu.edu * Password: NCSU#1 * Repeat Password: HEELS#1 * Max Credits: 4   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Passwords do not match.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 11:  Too few credits | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsu.edu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 1   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid max credits.” is displayed. | Student is able to be successfully created despite having too few credits. The student is given the default max credits (18) instead of the specified 1 max credit. |
| Test 12:  Too many credits | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsu.edu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 19   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Invalid max credits.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 13:  Valid Student | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsu.edu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 18   3. Click  **Add Student**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  The information given below is added to Student Directory section:  First Name: John  Last Name: Doe  Student ID: 1 | Student is created successfully. Actual results match expected results. |
| Test 14:  Add  Duplicate Student | Preconditions: Test 13 Success  1. Run StudentDirectoryPanel  2. Add the student specified in Test 13  3. In the **Student Information** section, create a student with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsu.edu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 18   4. Click  **Add Student**  5. *Check Results*  6. Close GUI | StudentDirectoryPanel loads  A pop-up dialog stating “Student already in system.” is displayed. | Student cannot be created successfully. Actual results match expected results. |
| Test 15:  Remove Student | Preconditions: Test 13 Success  1. Run StudentDirectoryPanel  2. Add the student specified in Test 13  3. In the **Student Information** section, select the lone student.  4. Click  **Remove Student**  5. *Check Results*  6. Close GUI | StudentDirectoryPanel loads  Student is removed from Student Directory section, leaving it blank. | Student is removed successfully. Actual results match expected results. |
| Test 16:  Add multiple students  (Modified) | Preconditions: Test 13 Success  1. Run StudentDirectoryPanel  2. In the **Student Information** section, create and add students with the given information:   * First Name: John * Last Name: Doe * ID: 1 * Email: JohnDoe@ncsu.edu * Password: NCSU#1 * Repeat Password: NCSU#1 * Max Credits: 18 * First Name: Jane * Last Name: Doe * ID: 2 * Email: JaneDoe@ncsu.edu * Password: GOPACK * Repeat Password: GOPACK * Max Credits: 16 * First Name: Jernau * Last Name: Gurgeh * ID: 12965 * Email: JGurgeh@ncsu.edu * Password: Chiark * Repeat Password: Chiark * Max Credits: 6   3. *Check Results*  4. Close GUI | StudentDirectoryPanel loads  The information given below is added to Student Directory section in this order:  Jane Doe   * First Name: Jane * Last Name: Doe * Student ID: 2   John Doe   * First Name: John * Last Name: Doe * Student ID: 1   Jernau Gurgeh   * First Name: Jernau * Last Name: Gurgeh * Student ID: 12965 | All students are added successfully. Actual results match expected results. |
| Test 17:  Remove multiple students | Preconditions: Tests 15 and 16 Success  1. Run StudentDirectoryPanel  2. Add the students specified in Test 16  3. In the **Student Information** section, select and remove all students  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  All students are removed from Student Directory section, leaving it blank. | All students are removed successfully. Actual results match expected results. |
| Test 18:  New Student Directory | Preconditions: Test 13 Success  1. Run StudentDirectoryPanel  2. Add the student specified in Test 13  3. In the **Directory Buttons** section, select **New Student Directory**  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  All students are removed from Student Directory section, leaving it blank. | New student directory created successfully. Actual results match expected results. |
| Test 19:  Save Student Directory | Preconditions: Test 16 Success  1. Run StudentDirectoryPanel  2. Add the students specified in Test 16  3. In the **Directory Buttons** section, select **Save Student Directory**  4. Save the directory in test\_files as my\_student\_records.txt  5. Open my\_student\_records.txt in IDE  6. *Check Results*  7. Close GUI | StudentDirectoryPanel loads  my\_student\_records.txt file is successfully saved and the information within matches the information provided  (keep in mind hashed passwords will appear different) | my\_student\_record.txt file is successfully saved and contains correct information. Actual results match expected results. |
| Test 20:  Load Invalid Student Directory | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Directory Buttons** section, select **Load Student Directory**  3. Open test\_files and load the file invalid\_student\_records.txt  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  Invalid file does not load, no information is added to GUI | invalid\_student\_records.txt does not load successfully. Actual results match expected results. |
| Test 21:  Load Valid Student Directory | Preconditions: Test 1 Success  1. Run StudentDirectoryPanel  2. In the **Directory Buttons** section, select **Load Student Directory**  3. Open test\_files and load the file expected\_student\_records.txt  4. *Check Results*  5. Close GUI | StudentDirectoryPanel loads  The information given below is added to Student Directory section:  First Name: Zahir  Last Name: King  Student ID: zking | my\_student\_record.txt file is successfully loaded. Actual results match expected results. |