

A. Validation test

Test Case 1: Validating Login Functions

No.	Input	Expected Result	Output
1	User ID: aADMIN Password: administrator	Login Successful	Login Successful
2	User ID: s11223654 Password: 45632211	Login Successful	Login Successful
3	User ID: t38459313 Password: 31395483	Login Successful	Login Successful

Test Steps:

1. Ensure that the user id, role, and the password are stored correctly in the database.
2. Enter the role, user id, and the password.
3. Verify if the system accepts the input without any error or warning.

Test Case 2: Validating Edit Teacher

No.	Input	Expected Result	Output
1	Teacher ID: 38465231 Teacher Name: Winny Lam Mobile Number: 54520001	Teacher added successfully	Teacher added successfully
2	Select Teacher: 38465231	Teacher deleted successfully	Teacher deleted successfully

Test Steps:

1. Add teacher by entering the teacher id, teacher name, and mobile number, then press 'Add Teacher' button.
2. Ensure that the teacher id, teacher name, and mobile number are stored correctly in the database.
3. Select the teacher id which wants to be deleted, then press the 'Delete Teacher' button.
4. Verify that the system has done the add and delete teacher functions.

Test Case 3: Validating Edit Student

No.	Input	Expected Result	Output
1	Student ID: 11259031 Student Name: Sam Lau Course code: BA202	Student added successfully	Student added successfully
2	Select Student: 11259031	Student deleted successfully	Student deleted successfully

Test Steps:

1. Add student by entering the student id, student name, and course code, then press 'Add Student' button.
2. Ensure that the student id, student name, and course code are stored correctly in the database.
3. Select the student id which wants to be deleted, then press the 'Delete Student' button.
4. Verify that the system has done the add and delete student functions.

Test Case 4: Validating Add Course

No.	Input	Expected Result	Output
1	Course ID: CS305 Course title: Networking Course credit: 5	Course added successfully	Course added successfully

Test Steps:

1. Add student by entering the course id, course title, and course credit, then press 'Add course' button.
2. Ensure that the course id, course title, and course credit are stored correctly in the database.
3. Verify that the system has done the add course function.

Test Case 5: Validating Academic Record Review

No.	Input	Expected Result	Output
1	Course: Business Administration	Course Name and course GPA	Course Name and Course GPA

Test Steps:

1. Select a course that wants to check academic results.
2. Verify that the system has shown the academic record of the student.

Test Case 6: Validating Academic Record Review and Update

No.	Input	Expected Result	Output
1	Course: Business Administration	Student ID, Assessment Name, and Total Score	Student ID, Assessment Name, and Total Score
2	Update Score: 35	Total Score: 35	Total Score: 35

Test Steps:

1. Select a course that wants to check academic results.
2. Update academic record through entering the update score, then press the 'Update' button.
3. Verify that the system has shown the academic record of the student and updated the score.

B. Defect testing

Test Case 1: Invalid Login

No.	Input	Expected Result	Output
1	User ID: 11223654 Password: 45632211	Invalid role	Invalid username or password!
2	User ID: t38459313 Password: 38459313	Invalid password	Invalid username or password!
3	User ID: ADMIN Password: admin	Invalid role	Invalid username or password!

Test Steps:

1. Check that the user id, role, and the password are stored correctly in the database.
2. Enter the role, user id, and the password which are not stored in the database.
3. Verify if the system rejects the input with error message.

Test Case 2: Duplicate User ID

No.	Input	Expected Result	Output
1	Teacher ID: 38465231 Teacher Name: Winny Lam Mobile Number: 54520001	Error adding teacher	Error adding teacher: Duplicate entry '38552632' for key 'userid'
2	Student ID: 11259031 Student Name: Sam Lau Course code: BA202	Error adding student	Error adding student: Duplicate entry '11259031' for key 'userid'

Test Steps:

1. Enter a duplicate user id that is already stored in the database.
2. Check if the system detects and rejects it with error message.
3. Verify that the system prevents the creation of a duplicate user record.

Test Case 3: Duplicate Course ID

No.	Input	Expected Result	Output
1	Course ID: CS305 Course title: Networking Course credit: 5	Error adding course	Error adding course: Duplicate entry 'CS305' for key 'PRIMARY'

Test Steps:

1. Enter a duplicate course id that is already stored in the database.
2. Check if the system detects and rejects it with error message.
3. Verify that the system prevents the creation of a duplicate course record.

Test Case 4: Invalid User ID

No.	Input	Expected Result	Output
1	Teacher ID: 384652310 Teacher Name: Winny Lam Mobile Number: 54520001	Error adding teacher	Error adding teacher: Data too long for column 'userid' at row 1
2	Teacher ID: -3846523 Teacher Name: Winny Lam Mobile Number: 54520001	Error adding teacher	Teacher added successfully
3	Student ID: 112590312 Student Name: Sam Lau Course code: BA202	Error adding student	Error adding student: Data too long for column 'userid' at row 1
4	Student ID: -1125903 Student Name: Sam Lau Course code: BA202	Error adding student	Student added successfully

Test Steps:

1. Enter an invalid user id to create a new user record
2. Check if the system detects and rejects it with error message.
3. Verify that the system prevents the creation of an invalid user record.

Test Case 5: Negative Course Credit

No.	Input	Expected Result	Output
1	Course ID: CS305 Course title: Networking Course credit: -5	Error adding course	Error adding course: course credit must be equal to or bigger than 3

Test Steps:

1. Enter a negative value for credit.
2. Check if the system detects and rejects it with error message.
3. Verify that the system rejects the negative credit.

Test Case 5: Negative Score Update

No.	Input	Expected Result	Output
1	Update Score: -35	Error updating total score	Error updating total score

Test Steps:

1. Enter a negative value for updated score.
2. Check if the system detects and rejects it with error message.
3. Verify that the system rejects the negative score.