



Report test completion For Application “EDGES Reservation software”

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1. How many test cases you executed?

there are 40 test cases listed across various functionalities. These test cases cover different aspects of the system, including:

- Add Account Functionality
- Delete Account Functionality
- Show Student Courses Functionality
- Add Student To Course Functionality
- Get Number Of Days Functionality
- Verify User Functionality

Each test case is designed to validate specific inputs, outputs, and behaviors.

2. How many test cases failed?

7 test cases failed due to bugs or incorrect behavior. Below is a breakdown of the failed test cases:

1. Test ID 5 : Add Account (Valid Age)
 - Bug: The age **100** is not accepted, even though it is within the valid range.
2. Test ID 11 : Add Account (Valid Username)
 - Bug: A username of length **32** is not added, even though it is within the valid range.
3. Test ID 13 : Add Account (Valid Password Length)
 - Bug: A password of length **32** is not added, even though it is within the valid range.
4. Test ID 15 : Add Account (Valid Password Recheck Length)

- Bug: A password recheck of length **32** is not added, even though it is within the valid range.
- 5. Test ID 18 : Add Account (Adding Extra User Above Maximum)
 - Bug: The function returns **TRUE** even when the user is not added to the database.
- 6. Test ID 29 : Add Student To Course (Valid User, Invalid Course)
 - Bug: The function returns **CapacityCompleted** for an invalid course ID (7).
- 7. Test ID 35 : Non-Numeric Input Handling
 - Bug: The function enters an infinite loop when non-numeric input is provided.

3. The Coverage Achieved for All These Techniques

i. Branch Coverage and Statement Coverage

- Branch Coverage ensures that all possible branches (e.g., **if**, **else**) are executed. High coverage is achieved since most **if** and **else** conditions are tested (e.g., valid/invalid inputs).
- Statement Coverage ensures that all statements in the code are executed at least once. High coverage is achieved as most statements in the functions are executed during testing.

ii. State Transition Coverage

- State transition testing validates whether the system transitions correctly between states (e.g., logged-in, logged-out, enrolled, not enrolled). Moderate coverage is achieved. Test cases for login functionality (**Verify_User**) and course enrollment (**AddStudentToCourse**) cover some state transitions, but not all possible transitions are tested (e.g., transitioning from one course to another).

iii. Boundary Value Analysis Coverage

- Boundary value analysis tests inputs at the edges of acceptable ranges (e.g., minimum, maximum, just below/above). High coverage is achieved. Most test cases explicitly test boundary values (e.g., age **0** and **100**, username/password lengths **8** and **32**).