Test Cases

# Black-Box Test Cases

These test cases are defined based on the available documentation and execution of the program. The code was not inspected.

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| # | Test case  (very brief description) | Preconditions (any required setup) | Test steps (steps executed during testing) | Expectation | Observation  (“pass” or failure description) |
| 1 | User-Registration | None | Type the username and password | * Registration successful on user input * Avoiding blank user registration success | * Pass for user registration on user input * Fail for blank user registration success |
| 2 | Login | User has to register before | * Type Strings, Numbers or both * Enter blank input | * Success on strings and numbers * Avoiding blank user login | * Fail for blank user login * Pass for strings and numbers |
| 3 | Loading of password generator page | User has to log in | User register and login | * Closing of Login Page | Fail |
| 4 | Generate passwords with user-specified length. | User has entered a desired password length | * Login * Types of Characters in Password any option to be selected * user has entered a desired password length (eg: 16) | Generated password should have exactly 10 characters. | Pass |
| 5 | Include Options for Lowercase, Uppercase, Numbers, and Special Characters: | User has selected options for lowercase, uppercase, numbers, and special characters | * Select all character types. * Generate a password. | Generated password should contain at least one character from each selected type. | Pass |
| 6 | Copy to Clipboard Functionality | Password has been generated. | * Generate a password. * Copy password. | The password should be copied to clipboard. | Pass |
| 7 | Storage of Password | None | * Select the storage of password. | Store the current password to storage | Fail (the current password is not saved and the file loads the same password for every user) |
| 8 | Languages | None | Select any languages (English, German, Spanish) | The text inside should change to any of those languages | Pass |

# White-Box Test Cases

These additional test cases were defined during inspection of the code.

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| # | Test case  (very brief description) | Preconditions (any required setup) | Test steps (steps executed during testing) | Expectation | Observation  (“pass” or failure description) |
| 1 | testPasswordLength (Verify that the generated password has the correct length.) | None | Call generatePassword with a specified length (eg 10). | The generated password should have the expected length (10 characters). | Pass |
| 2 | testIncludeLowerCase (Confirm that the generated password includes at least one lowercase letter.) | None | Call generatePassword with the flag for lowercase letters set to true | The generated password should contain at least one lowercase letter. | Pass |
| 3 | testChangeLanguageToGerman (Change Language to German) | InfoGUI class is correctly initialized. | * Call loadLanguage("de") to load the German language. * Call updateTexts() to update the displayed texts. | Expected Passwort-Manager | Fail (Actual Tipps zur Benutzersicherheit) |
| 4 | testActionPerformedReturnButton (Verifies that clicking the “Return” button hides the InfoGUI) | InfoGUI is initiated | * Create an instance of InfoGUI. * Simulate an action event for the “Return” button. | The InfoGUI should no longer be visible. | Pass |
| 5 | testInitialColors (Ensures that the initial colors of various components match the expected values.) | The InfoGUI is instantiated with the “MiDeepBlue” color. | None | * Content pane background color: RGB(30, 30, 50) * Text area background color: RGB(50, 50, 80) * Text area foreground color: RGB(255, 255, 255) * Label “TitleTips” color: RGB(255, 255, 255) | Pass |
| 6 | testIncludeUpperCase (Verify that the generated password includes at least one uppercase letter.) | None | Call generatePassword with the flag for uppercase letters set to true. | The generated password should contain at least one uppercase letter. | Pass |
| 7 | Event Creation and Modification (Ensure that the Event class can be created and modified correctly.) | None | * Create an instance of the Event class with initial program name (“Initial Program”) and password (“InitialPassword123”). * Modify the program name to “Updated Program” and the password to “UpdatedPassword567”. | * The initial program name and password should match the provided values. * After modification, the program name should be “Updated Program” and the password should be “UpdatedPassword567”. * The toString() method should return the expected string: “Program: Updated Program, Password: UpdatedPassword567”. | Pass |
| 8 | testIncludeNumbers (Verify that the generated password includes at least one number.) | None | Call generatePassword with the flag for numbers set to true. | Generated password should contain at least one numeric digit. | Pass |
| 9 | testIncludeSpecialCharacters (Verify that the generated password includes at least one special character.) | None | Call generatePassword with the flag for special characters set to true. | Generated password should contain at least one special character | Pass |