**Bank Management System Test Suites**

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**Test Suite # 1: User Sign Up Functionality:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-1:Verify that leaving some of the required credentials empty in the text-fields, checkboxes,and radio-boxes of Sign Up form Page 1 (Personal Details) will deny access to Sign Up form Page 2. |
| Requirement | R-1 (Signup User) |
| Preconditions | 1. The bank application has been executed, and the Login/Signup form is visible. 2. The user wants to create a new, unique account. |
| Steps | 1. Click the SIGN UP button. 2. Sign Up form Page 1 will appear. 3. Enter all the required credentials, but leave some text-fields and checks empty (eg; Gender, City, Date Of Birth). 4. Click the Next button located on the bottom right corner. |
| Expected Output | 1. A pop-up message “Fill All The Fields” will appear. |
| Postcondition | 1. Click on the Ok button of the pop-up message. 2. The system returns to the Sign Up Page 1. |

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| **Field** | **Description** |
| Name | TC-2: Verify that entering all of the required credentials in the text-fields, checkboxes,and radio-boxes of Sign Up form Page 1 (Personal Details) will allow access to Sign Up form Page 2. |
| Requirement | R-1 (Signup User) |
| Preconditions | 1. The bank application has been executed, and the Login/Signup form is visible. 2. The user wants to create a new, unique account. |
| Steps | 1. Click the SIGN UP button. 2. Sign Up form Page 1 will appear. 3. Enter all the required credentials 4. Click the entered button located on the bottom right corner. |
| Expected Output | 1. Sign Up form Page 2 will be accessed. |
| Postcondition | 1. Stay on the Sign Up form Page 2. |

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| **Field** | **Description** |
| Name | TC-3:Verify that leaving some of the required credentials empty in the text-fields, checkboxes,and radio-boxes of Sign Up form Page 2 (Additional Details) will deny access to Sign Up form Page 3. |
| Requirement | R-1 (Signup User) |
| Preconditions | 1. The bank application has been executed. 2. The user wants to create a new, unique account. 3. The user has entered all of the credentials required in Sign Up form Page 1, and has clicked the NEXT button afterwards. 4. The user is on the Sign Up form Page 2. |
| Steps | 1. Enter all the required credentials, but leave some text-fields and checks empty (eg; Id Number, Existing Account). 2. Click the Next button located on the bottom right corner. |
| Expected Output | 1. A pop-up message “Fill All The Fields” will appear. |
| Postcondition | 1. Click on the Ok button of the pop-up message. 2. The system returns to the Sign Up Page 2. |

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| **Field** | **Description** |
| Name | TC-4: Verify that entering all of the required credentials in the text-fields, checkboxes,and radio-boxes of Sign Up form Page 2 (Additional Details) will allow access to Sign Up form Page 3. |
| Requirement | R-1 (Signup User) |
| Preconditions | 1. The bank application has been executed. 2. The user wants to create a new, unique account. 3. The user has entered all of the credentials required in Sign Up form Page 1, and has clicked the NEXT button afterwards. 4. The user is at the Sign Up form Page 2. |
| Steps | 1. Enter all the required credentials 2. Click the Next button located on the bottom right corner. |
| Expected Output | 1. Sign Up form Page 3 will be accessed. |
| Postcondition | 1. Stay on the Sign Up form Page 3. |

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| **Field** | **Description** |
| Name | TC-5: Verify that leaving some of the required credentials empty in the checkboxes, and radio-boxes of Sign Up form Page 3 (Account Details) will not create a new user account. |
| Requirement | R-1 (Signup User) |
| Preconditions | 1. The bank application has been executed. 2. The user wants to create a new, unique account. 3. The user has entered all of the credentials required in Sign Up forms Pages 1 and 2, and has clicked the NEXT button afterwards on each of the said pages. 4. The user is at the Sign Up form Page 3. |
| Steps | 1. Enter all the required credentials, but leave some checks empty (eg; Services Required). 2. Click the Submit button located on the bottom middle. |
| Expected Output | 1. A pop-up message “Fill All The Fields” will appear. |
| Postcondition | 1. Click on the Ok button of the pop-up message. 2. The system returns to the Sign Up Page 3. |

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| **Field** | **Description** |
| Name | TC-6: Verify that entering all of the required credentials in the checkboxes, and radio-boxes of Sign Up form Page 3 (Account Details) and then clicking the cancel button will not create a new user account. |
| Requirement | R-1 (Signup User) |
| Preconditions | 1. The bank application has been executed. 2. The user wants to create a new, unique account. 3. The user has entered all of the credentials required in Sign Up forms Pages 1 and 2, and has clicked the NEXT button afterwards on each of the said pages. 4. The user is at the Sign Up form Page 3. |
| Steps | 1. Enter all the required credentials. 2. Click the Cancel button located on the bottom middle. |
| Expected Output | 1. The account creation process will be cancelled |
| Postcondition | 1. The system program execution will be terminated. |

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| **Field** | **Description** |
| Name | TC-7: Verify that entering all of the required credentials in the checkboxes, and radio-boxes of Sign Up form Page 3 (Account Details) will create a new user account. |
| Requirement | R-1 (Signup User) |
| Preconditions | 1. The bank application has been executed. 2. The user wants to create a new, unique account. 3. The user has entered all of the credentials required in Sign Up forms Pages 1 and 2, and has clicked the NEXT button afterwards on each of the said pages. 4. The user is at the Sign Up form Page 3. |
| Steps | 1. Enter all the required credentials. 2. Click the Submit button located on the bottom middle. |
| Expected Output | 1. A pop-up message will appear, specifying the Card Number, and the PIN of the newly created user account. |
| Postcondition | 1. Click on the Ok button of the pop-up message. 2. The system will navigate the user to the amount deposition form. |

**Test Suite # 2: Clear Button Functionality:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-8: Verify that clicking the CLEAR button located in Login/Signup form will clear the information entered in the Card No and PIN text-fields. |
| Requirement | R-2 (Click Clear Button) |
| Preconditions | 1. The bank application has been executed, and the Login/Signup form is visible. 2. Card No and/or PIN field(s) is/are filled. |
| Steps | 1. Click the CLEAR button. |
| Expected Output | 1. The Card No and PIN fields will reset, and become empty. |
| Postcondition | 1. Stay on Login/Signup form. |

**Test Suite # 3: User Login Functionality:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-9: Verify that entering invalid Card Number and valid PIN would deny access to the user’s bank account. |
| Requirement | R-3 (Login User) |
| Preconditions | 1. The bank application has been executed, and Login/Signup form is visible. 2. The user account exists in the system database (Card Number: 1409963036849727, PIN: 9876) |
| Steps | 1. Enter invalid Card Number (12345609876). 2. Enter valid PIN (9876). 3. Click the LOGIN button. |
| Expected Output | 1. Pop-up message “Incorrect Card Number or PIN” will appear. 2. User Account will not be accessed. |
| Postcondition | 1. Click on the OK button of the pop-up message. 2. The system returns to Login/Signup form. |

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| **Field** | **Description** |
| Name | TC-10: Verify that entering valid Card Number and invalid PIN would deny access to the user’s bank account. |
| Requirement | R-3 (Login User) |
| Preconditions | 1. The bank application has been executed, and Login/Signup form is visible. 2. The user account exists in the system database (Card Number: 1409963036849727, PIN: 9876) |
| Steps | 1. Enter valid Card Number (1409963036849727). 2. Enter invalid PIN (4567). 3. Click the LOGIN button. |
| Expected Output | 1. Pop-up message “Incorrect Card Number or PIN” will appear. 2. User Account will not be accessed. |
| Postcondition | 1. Click on the OK button of the pop-up message. 2. The system returns to Login/Signup form. |

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| **Field** | **Description** |
| Name | TC-11: Verify that entering invalid Card Number and invalid PIN would deny access to the user’s bank account. |
| Requirement | R-3 (Login User) |
| Preconditions | 1. The bank application has been executed, and Login/Signup form is visible. 2. The user account exists in the system database (Card Number: 1409963036849727, PIN: 9876) |
| Steps | 1. Enter invalid Card Number (12345609876). 2. Enter invalid PIN (4567). 3. Click the LOGIN button. |
| Expected Output | 1. Pop-up message “Incorrect Card Number or PIN” will appear. 2. User Account will not be accessed. |
| Postcondition | 1. Click on the OK button of the pop-up message. 2. The system returns to Login/Signup form. |

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| **Field** | **Description** |
| Name | TC-12: Verify that entering valid Card Number and valid PIN would allow access to the user’s bank account. |
| Requirement | R-3 (Login User) |
| Preconditions | 1. The bank application has been executed, and Login/Signup form is visible. 2. The user account exists in the system database (Card Number: 1409963036849727, PIN: 9876) |
| Steps | 1. Enter valid Card Number (1409963036849727). 2. Enter valid PIN (9876). 3. Click the LOGIN button. |
| Expected Output | 1. The user account will be accessed. 2. The user will be guided to Transaction Options form. |
| Postcondition | 1. Stay on Transaction Options form. |

**Test Suite # 4: Deposit Amount Functionality:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-13: Verify that entering a negative deposition amount will be rejected by the system, and not added to the account balance. |
| Requirement | R-4 (Deposit Amount) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the DEPOSIT button in Transaction Options form. 2. Enter a deposition amount less than 0 (eg; -1000). 3. Click the DEPOSIT button. |
| Expected Output | 1. A pop-up message “Please enter a valid non-negative amount.” will appear. |
| Postcondition | 1. Click the Ok button. 2. Stay on Deposit form. 3. The original account balance remains unchanged. |

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| **Field** | **Description** |
| Name | TC-14: Verify that entering a positive, valid deposition amount will be accepted by the system, and added to the account balance. |
| Requirement | R-4 (Deposit Amount) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the DEPOSIT button in Transaction Options form. 2. Enter a deposition amount greater than 0 (eg; 28000). 3. Click the DEPOSIT button. |
| Expected Output | 1. A pop-up message “Rs. 28000 Deposited Successfully” will appear. |
| Postcondition | 1. Click the Ok button. 2. Navigate back to the Transaction Options form. 3. Deposited amount correctly reflects in the user's account balance, in the BALANCE ENQUIRY. 4. A log entry is created for each deposit in the MINI STATEMENT. |

**Test Suite # 5: Withdraw Amount Functionality:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-15: Verify that entering a negative withdrawal amount will be rejected by the system, and not subtracted from the account balance. |
| Requirement | R-5 (Withdraw Amount) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the CASH WITHDRAWAL button in Transaction Options form. 2. Enter a withdrawal amount less than 0 (eg; -2000). 3. Click the WITHDRAW button. |
| Expected Output | 1. A pop-up message “Please enter a valid non-negative amount.” will appear. |
| Postcondition | 1. Click the Ok button. 2. Stay on Withdraw form. 3. The original account balance remains unchanged. |

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| **Field** | **Description** |
| Name | TC-16: Verify that entering a withdrawal amount more than the maximum withdrawal allowed will be rejected by the system, and not subtracted from the account balance. |
| Requirement | R-5 (Withdraw Amount) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the CASH WITHDRAWAL button in Transaction Options form. 2. Enter a withdrawal amount more than the maximum withdrawal (greater than Rs. 25000) allowed (eg; 26000). 3. Click the WITHDRAW button. |
| Expected Output | 1. A pop-up message “The maximum withdrawal amount is Rs. 25,000.” will appear. |
| Postcondition | 1. Click the Ok button. 2. Stay on Withdraw form. 3. The original account balance remains unchanged. |

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| **Field** | **Description** |
| Name | TC-17: Verify that entering a positive, valid withdrawal amount less than the maximum withdrawal allowed, and less than the available account balance will be accepted by the system, and subtracted from the account balance. |
| Requirement | R-5 (Withdraw Amount) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the CASH WITHDRAWAL button in Transaction Options form. 2. Enter a withdrawal amount greater than 0, and less than 25000 (eg; 9000). 3. Click the WITHDRAW button. |
| Expected Output | 1. A pop-up message “Rs. 9000 Debited Successfully” will appear. |
| Postcondition | 1. Click the Ok button. 2. Navigate back to the Transaction Options form. 3. The Withdrawal amount correctly reflects in the user's account balance. 4. A log entry is created for each withdrawal in the MINI STATEMENT. |

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| **Field** | **Description** |
| Name | TC-18: Verify that entering a positive, valid withdrawal amount less than the maximum withdrawal allowed, but more than the available account balance will be rejected by the system, and not subtracted from the account balance. |
| Requirement | R-5 (Withdraw Amount) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the CASH WITHDRAWAL button in Transaction Options form. 2. Enter a withdrawal amount less than the maximum withdrawal (greater than Rs. 25000) allowed, but more than the available account balance (24500). 3. Click the WITHDRAW button. |
| Expected Output | 1. A pop-up message “Insufficient Balance.” will appear. |
| Postcondition | 1. Click the Ok button. 2. Stay on Withdraw form. 3. The original account balance remains unchanged. |

**Test Suite # 6: Fast Cash Withdrawal Functionality:**

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| **Field** | **Description** |
| Name | TC-19: Verify that clicking any of the visible fast cash amount withdrawal buttons will allow withdrawal of amount from the account balance. |
| Requirement | R-6 (Withdraw Amount Via Fast Cash) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the FAST CASH button in Transaction Options form. 2. Click the desired amount to be withdrawn from the available amount buttons (eg; Rs. 10000). |
| Expected Output | 1. A pop-up message “Rs. 10000 Debited Successfully” will appear. |
| Postcondition | 1. Click the Ok button. 2. Navigate back to the Transaction Options form. 3. The Withdrawal amount correctly reflects in the user's account balance. 4. A log entry is created for each withdrawal in the MINI STATEMENT. |

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| **Field** | **Description** |
| Name | TC-20: Verify that clicking any of the visible fast cash amount withdrawal buttons will not allow withdrawal of amount from the account balance, if the selected amount is more than the available account balance. |
| Requirement | R-6 (Withdraw Amount Via Fast Cash) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the FAST CASH button in Transaction Options form. 2. Click the desired amount to be withdrawn from the available amount buttons (eg; Rs. 10000), which is greater than the account balance. |
| Expected Output | 1. A pop-up message “Insufficient Balance” will appear. |
| Postcondition | 1. Click the Ok button. 2. Stay on Fast Cash Withdrawal form. 3. The original account balance remains unchanged. |

**Test Suite # 7: User Account Transactions Activity Log:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-21: Verify that the account transactions performed by the user are recorded in their account transactions activity log. |
| Requirement | R-7 (Record Transactions Performed) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the MINI STATEMENT button in Transaction Options form. |
| Expected Output | 1. The system opens the bank mini statement form in which the account transactions performed by the user are visible, along with their date and time, and the current account balance available is also displayed. |
| Postcondition | 1. Click the Exit button. 2. The Mini Statement form closes. 3. The system navigates the user back to the Transactions Option form. |

**Test Suite # 8: User Account Balance Enquiry:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-22: Verify that the balance available in the user’s account can be viewed by the user. |
| Requirement | R-8 (View Account Balance) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the BALANCE ENQUIRY button in Transaction Options form. |
| Expected Output | 1. The available account balance is displayed. |
| Postcondition | 1. Click the BACK button. 2. The system navigates the user back to the Transactions Option form. |

**Test Suite # 9: Account PIN Change:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-23: Verify that the user is unable to change their account PIN if New PIN and Re-Enter New PIN text-fields do not match. |
| Requirement | R-9 (Change PIN) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the CHANGE PIN button in Transaction Options form. 2. Enter a new PIN in the New PIN text-field (eg; 1234); 3. Enter a different PIN in the Re-Enter New PIN text-field (eg; 0123). 4. Click the CHANGE button. |
| Expected Output | 1. The pop-up message “Entered PIN does not match” will appear. |
| Postcondition | 1. Click the OK button. 2. Stay on Change PIN form. |

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| **Field** | **Description** |
| Name | TC-24: Verify that the user is able to change their account PIN if New PIN and Re-Enter New PIN text-fields match. |
| Requirement | R-9 (Change PIN) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the CHANGE PIN button in Transaction Options form. 2. Enter a new PIN in the New PIN text-field (eg; 1234); 3. Re-enter the same PIN in the Re-Enter New PIN text-field (eg; 1234). 4. Click the CHANGE button. |
| Expected Output | 1. The pop-up message “PIN Changed Successfully” will appear. |
| Postcondition | 1. Click the OK button. 2. The system navigates back to the Transaction Options form. |

**Test Suite # 10: Exit Account:**

**Test Cases:**

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| **Field** | **Description** |
| Name | TC-25: Verify that clicking the EXIT button in the Transaction Options will logout the user account, and terminate system execution. |
| Requirement | R-10 (Exit Account) |
| Preconditions | 1. The bank application has been executed. 2. The user is logged in to their bank account. 3. Transaction Options form is visible. |
| Steps | 1. Click the EXIT button in Transaction Options form. |
| Expected Output | 1. The system exits the user account. |
| Postcondition | 1. The system execution is terminated. |