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| **Requirement** | **Test #** | **Test Name** | **Purpose** | **Input** | **Input Files** | **Output** | **Output Files** |
| No transaction other than login before a login | R1T1 | Idle Invalid | Can’t perform random action before logging in | Asdf123 | None | Please login first | None |
| R1T2 | Idle Login | Can login before logging in | login | None | Please select a mode: “machine” or “agent” | None |
| R1T3 | Idle logout | Can’t logout before logging in | Logout | None | Please login first | None |
| R1T4 | Idle createacct | Can’t create an account before logging in | Createacct | None | Please login first | None |
| R1T5 | Idle deleteacct | Can’t delete an account before logging in | Deleteacct | None | Please login first | None |
| R1T6 | Idle deposit | Can’t deposit before logging in | Deposit | None | Please login first | None |
| R1T7 | Idle withdraw | Can’t withdraw before logging in | Withdraw | None | Please login first | None |
| R1T8 | Idle transfer | Can’t transfer before logging in | transfer | None | Please login first | None |
| No subsequent login should be accepted after a login until after a logout | R2T1 | Mid-Login login | Can’t login before entering mode type | Login  login | None | Please select a mode: “machine” or “agent” | None |
| R2T2 | Mid-Login  logout | Can’t logout before entering mode type | Login  logout | None | Please select a mode: “machine” or “agent” | None |
| R2T3 | Post-Login login | Can’t login after already logging in | Login  Machine  Login | None | Please logout before login | None |
| After an ATM login, only ATM transactions and logouts are accepted | R3T1 | Post-login logout | Can log out after logging in | Login  Machine  Logout | None | Logged out successfully | transaction summary file with no transactions |
| R3T2 | Post-login createacct | Can’t create new account in non-agent mode | Login  machine  Createacct | None | Please use agent mode to access this command | None |
| R3T3 | Post-login deleteacct | Can’t delete account in non-agent mode | Login  machine  Deleteacct | None | Please use agent mode to access this command | None |
| R3T4 | Post-login deposit | Can deposit after logging in | Login  machine  deposit | None | Please enter account number and amount to deposit in cents | None |
| R3T5 | Post-login withdraw | Can withdraw after logging in | Login  machine  withdraw | None | Please enter account number and amount to withdraw in cents | None |
| R3T6 | Post-login transfer | Can transfer after logging in | Login  machine  transfer | None | Please enter account number and amount to transfer in cents | None |
| Should ask for the account number and amount to deposit in cents | R4T1 | Deposit Prompt | Ensure a prompt tells user to enter acc number and amount to deposit in cents | Login  Machine  deposit | None | Please enter account number and amount to deposit in cents | None |
| Should check that account number is valid | R5T1 | Account Number Exists | Ensure the entered account number exists in the database | Login  Machine  Deposit  1234567 | A valid accounts list file that contains 1234567 | None | None |
| R5T2 | Account Number Does Not Exist | Ensures that account numbers that are not in the database denied | Login  Machine  Deposit  7654321 | A valid accounts list file that contains 1234567 | Please enter a valid account number | None |
| Deposits above $2000 should be rejected in ATM mode | R6T1 | Deposit minimum boundary pass ATM | Ensures you cannot deposit value <$0.0 in machine mode | Login  Machine  Deposit  1234567  -1 | None | Please enter a valid account number | None |
| R6T2 | Deposit minimum boundary fail ATM | Ensures you can deposit value $0.0 in machine mode | Login  Machine  Deposit  1234567  0 | None | Deposit success | None |
| R6T3 | Deposit maximum boundary pass ATM | Ensures you cannot deposit >$2000 in machine mode | Login  Machine  Deposit  1234567  200001 | None | Please enter a valid value | None |
| R6T4 | Deposit maximum boundary fail ATM | Ensures you can deposit $2000 in machine mode | Login  Machine  Deposit  200000 | None | deposit success | None |
| Deposit above $999,999.99 maximum in agent mode | R7T1 | Deposit minimum boundary fail agent | Ensures you cannot deposit <$0.0 in agent mode | Login  Agent  Deposit  1234567  -1 | None | Please enter a valid value | None |
| R7T2 | Deposit minimum  Boundary pass agent | Ensures you can deposit $0.0 in agent mode | Login  Agent  Deposit  1234567  0 | None | deposit success | None |
| R7T3 | Deposit Maximum boundary pass agent | Ensures you can deposit $999,999.99 in agent mode | Login  Agent  Deposit  1234567  99999999 | None | deposit success | None |
| R7T4 | Deposit maximum boundary fail agent | Ensures you can’t deposit >$999,999.99 | Login  Agent  Deposit  1234567  100000000 | None | Please enter a valid value | None |
| Daily deposit limit is $5,000 for ATM | R8T1 | Deposit maximum daily boundary fail ATM | Ensures you cannot deposit above $5,000 in machine mode | Login  Machine  Deposit  1234567  250000  Deposit  1234567  250001 | None | Cannot deposit more than $5000 in a day in ATM mode | None |
| No transactions (except login) after logout | R9T1 | Login after logout | successfully login | Login  Machine  Logout  Login  Machine | valid accounts file with no accounts | Login successful | transaction summary file with no transactions |
| R9T2 | Logout after logout | Can’t logout twice | Login  Machine  Logout  Logout | valid accounts file with no accounts | Please login first | transaction summary file with no transactions |
| R9T3 | Createacct after logout | Can’t createacct after logout | Login  Machine  Logout  Createacct | valid accounts file with no accounts | Please login first | transaction summary file with no transactions |
| R9T4 | Deleteacct after logout | Can’t deleteacct after logout | Login  Machine  Logout  deleteacct | valid accounts file with no accounts | Please login first | transaction summary file with no transactions |
| R9T5 | Deposit after logout | Can’t deposit after logout | Login  Machine  Logout  deposit | valid accounts file with no accounts | Please login first | transaction summary file with no transactions |
| R9T6 | Withdraw after logout | Can’t withdraw after logout | Login  Machine  Logout  withdraw | valid accounts file with no accounts | Please login first | transaction summary file with no transactions |
| R9T7 | Transfer after logout | Can’t transfer after logout | Login  Machine  Logout  transfer | valid accounts file with no accounts | Please login first | transaction summary file with no transactions |
| createacct needs to be privileged | R10T1 | createacct non-privileged | can’t createacct if not a privileged user | Login  machine  createacct  1234567  abc | valid accounts list file with no numbers | Please use agent mode to access this command | None |
| R10T2 | createacct privileged | successfully create account | Login  agent  createacct  1234567  abc | valid accounts list file with no numbers | Account successfully created | None |
| no transactions accepted on new account | R11T1 | deposit on new account | can’t deposit to new account | login  agent  createacct  1234567 abc deposit | valid accounts list file with no numbers | No transactions allowed for newly created accounts | None |
| R11T2 | withdraw on new account | can’t withdraw from new account | login  agent  createacct  1234567 abc  withdraw | valid accounts list file with no numbers | No transactions allowed for newly created accounts | None |
| R11T3 | transfer on new account | can’t transfer to/from new account | login  agent  createacct  1234567 abc  transfer | valid accounts list file with no numbers | No transactions allowed for newly created accounts | None |
| 7 digit account number | R12T1 | createacct number too short | can’t create an account with less than 7 digits | login  agent  createacct 123456  abc | valid accounts list file with no numbers | Account number must have 7 digits | None |
| R12T2 | createacct number too long | can’t create an account with more than 7 digits | login  agent  createacct  12345678  abc | valid accounts list file with no numbers | Account number must have 7 digits | None |
| account number doesn’t start with 0 | R13T1 | createacct number doesn’t start with 0 | accept the account number | login  agent  createacct  1234567  abc | valid accounts list file with no numbers | Account successfully created | None |
| R13T2 | createacct number starts with 0 | can’t create an account that starts with 0 | login  agent  createacct  0123456  abc | valid accounts list file with no numbers | Account number cannot start with a 0 | None |
| account number must be unique | R14T1 | createacct non-unique number | can’t create an account with a number already registered to an account | login  agent  createacct 1234567  abc | valid accounts list file that contains 1234567 | Account number already exists | None |
| R14T2 | createacct unique number | accept the unique number for the account | login  agent  createacct  1234567  abc | empty valid accounts list file | Account successfully created | None |
| account name between 3 and 30, doesn’t begin or end with space | R15T1 | createacct name is too short | can’t create account with less than 3 characters | login  agent  createacct  1234567  abc | None | Account name is too short | None |
| R15T2 | createacct name is too long | can’t create account with more than 30 characters | login  agent  createacct  1234567  abcdef  ghijklmn  opqrstuv  wxyzabc  defghijk | None | Account name is too long | None |
| R15T3 | createacct name begins with space | can’t create account that starts with space | login  agent  createacct  1234567  abc | None | Names cannot start with space | None |
| R15T4 | createacct  name ends with space | can’t create account with name that ends with sapce | login  agent  createacct  1234567  abc | None | Names cannot end with space | None |
| R15T5 | createacct name correct | create account with account name | login  agent  createacct  1234567  abc | None | Account successfully created | None |
| should ask for the account number and amount to withdraw | R16T1 | User prompt | Prompts user to enter their withdrawal info | None | None | Please enter account number and amount to withdraw in cents | None |
| should check that the account number is valid, and that the  amount is valid in withdrawal | R17T1 | Invalid account number (not in accounts list file) | Can’t accept an invalid account number | Login  machine  Withdraw  1234567 100 | Valid accounts list file that is empty | Error: Please enter a valid account number | None |
| R17T2 | Valid account number and amount (in accounts list file) | Successful withdrawal | Login  machine  Withdraw  1234567 100 | Valid accounts list file with account #1234567 | Withdrawal successful | None |
| R17T3 | Invalid amount | Can’t accept amount with invalid characters | Login  machine  Withdraw  1234567 abc | None | Error: Please enter a valid value | None |
| R17T4 | Invalid amount #2 | Can’t accept negative amount | Login  machine  Withdraw  1234567  -100 | None | Please enter a valid value | None |
| R17T5 | Invalid Withdrawal limit ATM | Withdrawals > $1000 should be rejected in ATM mode | Login  machine  Withdraw  1234567 100100 | Valid accounts list file with account #1234567 | Cannot withdraw more than $1000 in ATM mode | None |
| R17T6 | Valid withdrawal limit ATM | Withdrawals < $1000 should be accepted in ATM mode | Login machine  Withdraw  1234567  99900 | Valid accounts list file with account #1234567 | Withdraw successful | None |
| R17T7 | Invalid Withdrawal daily limit ATM | Can’t withdraw >$5000 in one day in ATM mode | Login  Machine  Withdraw  1234567 450000  Withdraw  1234567 70000 | Valid accounts list file with account # 1234567 | Can’t withdraw more than $5000 in one day in ATM mode | None |
| R17T8 | Valid withdrawal daily limit ATM | Can withdraw <$5000 in one day in ATM mode | Login  Machine  Withdraw  1234567 450000  Withdraw  1234567 20000 | Valid accounts list file with account # 1234567 | Withdraw successful | None |
| R17T9 | Invalid Withdrawal limit agent mode | Can’t withdraw more than $999,999.99 in agent mode | Login  agent  Withdraw  1234567 100000000 | Valid accounts list file with account # 1234567 | Please enter a valid value | None |
| R17T10 | Valid Withdrawal limit agent mode | Can withdraw less than $999,999.99 in agent mode | Login  agent  Withdraw  1234567 50000000 | Valid accounts list file with account # 1234567 | Withdraw successful | None |
| should ask for the from account number, the to account number  and the amount to transfer | R18T1 | User prompt | Gives user a prompt to enter their transfer info | None | None | Please enter account number and amount to transfer in cents | None |
| should check that the account numbers are valid, and that the amount is valid on transfer | R19T1 | Invalid account number (not in accounts list file) | Can’t accept an invalid account number | Login  machine  Transfer  1234567 1234568 100 | Valid accounts list file that is empty | Please enter a valid account number | None |
| R19T2 | Valid account numbers and amount (in accounts list file) | Successful Transfer | Login  machine  Transfer  1234567 1234568 100 | Valid accounts list file with account #1234567  #1234568 | Transfer success | None |
| R19T3 | Invalid amount | Can’t accept amount with invalid characters | Login  machine  Transfer  1234567 1234568 abc | None | Please enter a valid value | None |
| R19T4 | Invalid amount #2 | Can’t accept negative amount | Login  machine  Transfer  1234567 1234568 -100 | None | Please enter a valid value | None |
| R19T5 | Invalid Transfer limit ATM | Can’t transfer amounts larger than $10,000 in ATM mode | Login  machine  Transfer  1234567 1234566 1000100 | Valid accounts list file with account #1234567  #1234566 | Cannot transfer more than $10000 in ATM mode | None |
| R19T6 | Valid Transfer limit ATM | Can transfer amounts smaller than $10,000 in ATM mode | Login  machine  Transfer  1234567 1234566 900000 | Valid accounts list file with account #1234567  #1234566 | Transfer success | None |
| R19T7 | Invalid Daily transfer limit ATM | Can’t transfer more than $10,000 in one day in ATM mode | Login  machine  Transfer  1234567 1234566 500000  Transfer  1234567 1234566 600000 | Valid accounts list file with account #1234567  #1234566 | Can’t transfer more than $10,000 in one day in ATM mode | None |
| R19T8 | Valid Daily transfer limit ATM | Can transfer less than $10,000 in one day in ATM mode | Login  machine  Transfer  1234567 1234566 500000  Transfer  1234567 1234566 400000 | Valid accounts list file with account #1234567  #1234566 | Transfer success | None |
| R19T9 | Invalid Withdrawal limit agent mode | Can’t transfer more than $999,999.99 in agent mode | Login  machine  Transfer  1234567 1234566 100000000 | Valid accounts list file with account #1234567  #1234566 | Please enter a valid value | None |
| R19T10 | Valid Withdrawal limit agent mode | Can transfer less than $999,999.99 in agent mode | Login  machine  Transfer  1234567 1234566 90000000 | Valid accounts list file with account #1234567  #1234566 | Please enter a valid value | None |
| Should ask for the account number and account name | R20T1 | Delete prompt | Ensures prompt asking user for account number and name is shown | Login  Agent  Deleteacct | None | Please enter account number and value | None |
| Only accepted when logged in agent mode | R21T1 | Atm deleteacct | Can’t delete account in atm mode | Login  Machine  Deleteacct | None | Please use agent mode to access this command | None |
| R21T2 | Agent deleteacct | Able to delete account in agent mode | Login  Agent  Deleteacct  1234567  abc | None | Account deletion successful | None |
| No further transactions accepted on deleted account | R22T1 | Forbidden transactions deposit | Can’t process transactions on deleted account | Login  Agent  Deleteacct  1234567  abc  Deposit  1234567  111111 | None | Cannot process transactions on deleted accounts | None |
| R22T2 | Forbidden transactions withdraw | Can’t process transactions on deleted account | Login  Agent  Deleteacct 1234567  abc  Withdraw  1234567  111111 | None | Cannot process transactions on deleted accounts | None |
| R22T3 | Forbidden transactions  transfer | Can’t process transactions on deleted account | Login  Agent  Deleteacct 1234567  abc  Transfer  1234567  7664321  111111 | None | Cannot process transactions on deleted accounts | None |
| List ends with the special account number 0000000 | R23T1 | Correct ending | Ensures valid accounts list ends correctly | None | A valid accounts list file that ends with 0000000 | None | A valid accounts list file that ends with 0000000 |
| R23T2 | Incorrect ending | Ensures valid accounts list ends correctly | None | A valid accounts list file that does not end with 0000000 | None | A valid accounts list file that ends with 0000000 |
| Account numbers must be decimal digits | R24T1 | Not all numbers | Ensures that entering letters or other characters when asking for numbers gives error | Login  Machine  createacc  aaaaaaa  abc | None | Please enter decimal digits for the account number | None |
| R24T2 | All numbers | Ensures entering numbers when asking for numbers works | Login  Machine  createacc  1234567  111111 | None | Account successfully created | None |