## **Testing Method**

Manual testing was used for front end testing. Each test case, as established in a previous report, is entered and tested for by hand. Pytest as not used: The amount of test cases were low, and developing Pytest would take more resources compared to manual testing.

### Login

Test Number	Test Name	Purpose	Failure	Changes
R3T1	Accept "machine"	Accept "machine" as input	"Machine" is not accepted, but "atm" is.	Changed the valid input
R3T3	Input error proof	Incorrect input is not accepted	No error message is shown, and no re-entry prompt is shown.	A while loop introduced to catch the errors, as well as added error message.
R4T1	No login	Login is not accepted after logging in	No error message is shown.	Error message added into the loop structure.

#### Logout

No errors found during the tests.

#### Createacct

Test Number	Test Name	Purpose	Failure	Changes
CA.1	Atm createacct	Can't create account while in atm mode	Successful test	(-)
CA.2	Agent mode check	Verifies that user is in agent mode when requesting to create account	Successful test	(-)

CA.3	Zero first digit account amount	Identifies when an account number starts with zero	Invalid account number is accepted by program and written to transaction summary	Created askForNewAcct helper function to perform account number validation checks
CA.4	Under seven digit account number	Identifies when an account number has less than seven digits	Account number under seven digits is accepted by program and written to transaction summary	
CA.5	Over seven digit account number	Identifies when an account number has over seven digits	Account number over seven digits is accepted by program and written to transaction summary	
CA.6	Letter in account number	Identifies when an account number contains an alphabetical character	Account number Consisting of an alphabetical character is accepted by program and written to transaction summary	
CA.7	Unique account number	Identifies when an account number matches an existing account number	Duplicated account number is accepted by program and written to transaction summary	
CA.8	Under three digit account name	Identifies when an account name account name has less than three digits	Account name with under three digits is accepted by program and written to	Created askForNamet helper function to perform account name

			transaction summary	validation checks
CA.9	Over thirty digit account name	Identifies when an account name has over than thirty digits	Account name with over thirty digits is accepted by program and written to transaction summary	
CA.10	Space first character in account name	Identifies when an account name starts with a space	Account name that begins with a space is accepted by program and written to transaction summary	
CA.11	Space last character in account name	Identifies when an account name end with a space	Account name that ends with a space is accepted by program and written to transaction summary	
CA.12	Deposit after createacct	Identifies when a deposit is executed after creating a new account	Successful test	(-)
CA.13	Withdraw after createacct	Identifies when a withdraw is executed after creating a new account	Successful test	(-)
CA.14	Transfer after createacct	Identifies when a transfer is executed after creating a new account	Successful test	(-)

CA.15	Delete after createacct	Identifies when a delete account transaction is executed after creating a new account	Successful test	(-)
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### Deleteacct

Test Number	Test Name	Purpose	Failure	Changes
DE.1	atm deleteacct	Can't delete account while in atm mode	Successful test	(-)
DE.2	Agent mode check	Verifies that user is in agent mode when requesting to delete account	Successful test	(-)
DE.3	Account number not valid	Identifies when an account number does not exist	Invalid account number is accepted by program and written to transaction summary	Created askForDelAcct helper function to perform account number validation checks
DE.6	Deposit after deleteacct	Identifies when a deposit is executed after deleting an account	Deleted account number was accepted by program and written to transaction summary	Added a list of deleted accounts and created functionality to askForAcct, askForNewAcct and
DE.7	Withdraw after deleteacct	Identifies when a withdraw is executed after deleting an account	Deleted account number was accepted by program and written to transaction	askForDelAcct to prevent transaction

			summary	
DE.8	Transfer after deleteacct	Identifies when a deposit is executed after deleting an account	Deleted account number was accepted by program and written to transaction summary	

### Withdraw

Test Number	Test Name	Purpose	Failure	Changes
WTH_1	Bad acct number	Can't withdraw from an invalid account	Invalid account number is accepted by program and written to transaction summary	Added checks for not a number, invalid account number, account not in accounts list to account input function
WTH_2	Withdrawal not a number	Can't withdraw what is not a number	Program crashes out on type errors	Added helper method to check money inputs for
WTH_3	Withdrawal too large (ATM)	Can't withdraw more than \$1000 in ATM mode	Program does not check for withdrawal limits	being numeric, and matching transaction limit
WTH_4	Withdrawal too large (agent)	Agents can withdraw more than \$1000 but less than \$999999.99	Program does not check for withdrawal limits	
WTH_5	Daily withdrawal limit (ATM)	ATM can only withdraw \$5000 total from one account in a session	No limit in place.	Added helper function to enable checking if a transaction will take an account over the daily limit

WTH_6	Withdraw from multiple accounts	ATM may withdraw more than \$5000 total from multiple different accounts	Successful test.	(-)
WTH_7	Daily withdrawal limit (agent)	Agents can withdraw any amount from the same account in one session	Successful test.	(-)

# Deposit

Test Number	Test Name	Purpose	Failure	Changes
DEP_1	Bad acct number	Can't deposit to invalid account	Invalid account number is accepted and written to summary	Added checks for account number in helper method
DEP_2	Deposit not a number	Can't enter badly-formatted deposits	Program crashes out on type errors	Added helper method to check money inputs for
DEP_3	Deposit too large (ATM)	Can't deposit more than \$2000 at once in ATM mode	Program does not check for deposit limits.	being numeric, and matching transaction limit
DEP_4	Deposit too large (agent)	Agents may deposit more than \$2000 but less than \$999,999.99 at once	Program does not check for deposit limits.	
DEP_5	Deposit in multiple accounts	Can deposit more than \$5000 in multiple accounts	Test successful.	(-)
DEP_6	Daily deposit limit (ATM)	Can't deposit more than \$5000	Program does not check daily limits.	Added helper function to enable

		to a single account in one session		checking if a transaction will take an account over the daily limit
DEP_7	Daily deposit limit (agent)	Agents may deposit any amount in one session	Test successful.	(-)

# Transfer

Test Number	Test Name	Purpose	Failure	Changes
TRA_1	Bad acct number - from	to/from an invalid account	Program accepts invalid accounts	Added helper method to atm to
TRA_2	Bad acct number - to		and prints to summary file	check account numbers for numericity, validity
TRA_3	Transfer not a number	Can't transfer something non-numeric	Program crashes out on type errors	Added helper method to check money inputs for
TRA_4	Transfer too large (ATM)	Can't transfer more than \$10,000 out of an account in ATM mode	Program does not limit transfer amounts	being numeric, and matching transaction limit
TRA_5	Transfer too large (agent)	Can transfer up to \$999,999.99 in agent mode	Program does not limit transfer amounts	
TRA_6	Daily transfer limit (ATM)	Can't transfer more than \$10,000 out of an account in ATM mode in total	Program does not limit transfer amounts for a session	Added helper function to enable checking if a transaction will take an account over the daily limit
TRA_7	Transfer from multiple accounts	Can transfer more than \$10,000 in total if from multiple	Test successful.	(-)

		accounts		
TRA_8	Daily transfer limit (agent)	Can transfer any amount in total during a session in agent mode	Test successful.	(-)