

Quality Assurance Assignment 1

Group 42

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Testing plan

The tests will be organized in one folder per feature with all the test for a feature being in one python file. This file structure is shown in the GitHub repository. The frontend tests will share a common valid accounts list file to minimize the number of files that will have to be written. They will also be writing to a common accounts summary file that will be cleared after each test has run.

The tests will be run and validated using the PyTest framework to compare the actual outputs of the tests (terminal and account summary file) with the expected terminal output and expected transaction summary file contents that are specified in the test description tables.

We will be using automation functions to eliminate some of the repetitive parts of the testing. For all transaction types other than login and logout tests we will be using a function that logs in as a machine or agent (depending on the test) does the inputs and then does a logout to generate the transaction summary file.

Every time a test is run the results of the test will be added to the results file with a time stamp. This results file can then be parsed to compare different test runs.

Problems with Constraints and Requirements

There is no requirement on how to specify the amount of money in a transaction for the withdraw and transfer transactions. The deposit value must be specified in cents so we are assuming that the withdraw and transfer values should also be specified in cents.

There is no requirement in the front end to check an account balance before any transaction, this will create problems during backend transaction processing. For example, checking an account balance to see if it is 0 before deleting or checking if a transaction will bring an account to a negative balance. We are assuming that the frontend should allow these types of transactions and that the backend will not process transactions that will break any constraints. This also will mean that we are assuming the withdraw transaction will take multiple days for the customer to actually get their money.

Test Cases

Delete Account Feature

Test Name	Intention	Terminal Input	Valid Accounts List File	Output	Transaction Summary File
delete_success_agent	Successful account delete as agent	delete 1234567 agentaccount	1234567 7654321 0000000	Please specify an account number Please specify an account name Account 1234567 deleted	DEL 1234567 000 0000000 agentaccount EOS
delete_denied_machine	Deletion of an account by a machine is denied	delete 1234567 agentaccount	1234567 7654321 0000000	Please specify an account number Please specify an account name Enter account number can't delete as machine	EOS
delete_wrong_account_number	Test delete with invalid account number	delete 1234577 agentaccount	1234567 7654321 0000000	Please specify an account number Account doesn't exist	EOS
delete_invalid_account_number_long	Test delete with account number too long	delete 12345678 agentaccount	1234567 7654321 0000000	Please specify an account number Invalid account number length	EOS
delete_invalid_account_number_short	Test delete with account number too short	delete 123456 agentaccount	1234567 7654321 0000000	Please specify an account number Invalid account number length	EOS
delete_invalid_account_number_0_lead	Test delete with account number leading with 0	delete 0123456 agentaccount	1234567 7654321 0000000	Please specify an account number Invalid account number length	EOS

delete_invalid_account_name_space_lead	Test deleting an account where the name has a space at the beginning	delete 0123456 agentaccount	1234567 7654321 0000000	Please specify an account number Invalid account name	EOS
delete_invalid_account_name_space_end	Test deleting an account where the name has a space at the end	delete 0123456 agentaccount	1234567 7654321 0000000	Please specify an account number Invalid account name	EOS
delete_invalid_account_name_short	Test delete with invalid account name	delete 1234567 thisisa31characteraccountname31	1234567 7654321 0000000	Please specify an account number Please specify an account name Invalid account name	EOS
delete_invalid_account_name_short	Test delete with invalid account name	delete 1234567 ag	1234567 7654321 0000000	Please specify an account number Please specify an account name Invalid account name	EOS
deleted_account_action	Test that no further actions accepted by the account	withdraw 1234566	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS

Deposit Feature

Test Name	Intention	Terminal Input	Valid Accounts List File	Output	Transaction Summary File
deposit_success_agent	Successful deposit as agent	deposit 1234567 10000	1234567 7654321 0000000	Please specify an account number Please specify a deposit amount Deposited \$100.00	DEP 1234567 10000 0000000 *** EOS
deposit_success_machine	Successful deposit as machine	deposit 1234567 10000	1234567 7654321 0000000	Please specify an account number Please specify a deposit amount Deposited \$100.00	DEP 1234567 10000 0000000 *** EOS
deposit_invalid_account_number	Test for wrong account number cases	deposit 1234566 10000	7654321 0000000	Please specify an account number Invalid account	EOS
deposit_account_number_too_long	Test for account number that's too long	deposit 12345678 10000	1234567 7654321 0000000	Please specify an account number Account number too long	EOS
deposit_account_number_too_short	Test for account number that's too short	deposit 123456 10000	1234567 7654321 0000000	Please specify an account number Account number too short	EOS
deposit_invalid_amount_agent	Test for valid deposit amount as agent	deposit 1234567 999999999	1234567 7654321 0000000	Please specify an account number Please specify a deposit amount Must deposit \$999999.99 or less	EOS

deposit_invalid_amount_machine	Test for valid deposit amount as machine	deposit 2345678 210000	1234567 7654321 0000000	Please specify an account number Please specify a deposit amount Must deposit \$2000.00 or less	EOS
deposit_limit_reached_machine	Test for daily deposit limit on machine	deposit 1234567 190000	1234567 7654321 0000000	Please specify an account number Please specify a deposit amount Daily deposit limit of 5000.00\$ reached	EOS

Login Feature

Test Name	Intention	Terminal Input	Valid Accounts List File	Output	Transaction Summary File
login_success_machine	Successful login as machine session type	login machine	1234567 7654321 0000000	Session type? Logged in	EOS
login_success_agent	Successful login as agent session type	login agent	1234567 7654321 0000000	Session type? Logged in	EOS
login_invliad_session_type	Test login with an invalid session type	login badsession	1234567 7654321 0000000	Session type? Invalid session type	
pre_login_transaction	Test all commands without being logged in	createacct deleteacct deposit withdraw transfer logout	1234567 7654321 0000000	Invalid command not logged in Invalid command not logged in Invalid command not logged in Invalid command not logged in Invalid command not logged in	
login_after_login	Test logging in while already logged in	login agent login	1234567 7654321 0000000	Session type? Logged in as agent Invalid command already logged in	EOS
logout_success	Test successfully logging out	login agent logout login machine logout	1234567 7654321 0000000	Session type? Logged in as agent Successfully logged out Session type? Logged in as machine Successfully logged out	EOS

Create Account Feature

Test Name	Intention	Terminal Input	Valid Accounts List File	Output	Transaction Summary File
create_account_agent_session	Test successfully creating an account	createacct 9999999 testaccountname	1234567 7654321 0000000	Please specify an account number. Please specify an account name Successfully created account	NEW 9999999 000 0000000 testcountname EOS
create_account_machine_session	Test createacct in a machine session	createacct	1234567 7654321 0000000	Invalid command currently in machine mode	EOS
create_account_6_digits	Test creating an account in agent mode with a 6 digit account number	createacct 123456	1234567 7654321 0000000	Please specify an account number. Invalid account number	EOS
create_account_8_digits	Test creating an account in agent mode with an 8 digit account number	createacct 12345678	1234567 7654321 0000000	Please specify an account number. Invalid account number	EOS
create_account_0_digits	Test creating an account in agent mode with a 0 digit account number	createacct	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS
create_account_non_digits	Test creating an account in agent mode with letters in the account number	createacct letters	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS
create_account_leading_0	Test creating an account with a 0 at the start of the account number	createacct 0123456	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS

create_account_existing_account_number	Test creating an account with the account number of a pre-existing account	createacct 1234567	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS
create_account_name_begin_with_space	Test creating an account that has an account name that begins with a space	createacct 9999999 testaccount	1234567 7654321 0000000	Please specify an account number Please specify an account name Invalid account name. Leading space	EOS
create_account_name_end_with_space	Test creating an account that has an account name that ends with a space	createacct 9999999 testaccount	1234567 7654321 0000000	Please specify an account number Please specify an account name Invalid account name. Trailing space	EOS
create_account_name_2_characters	Test creating an account with an account name that has 2 characters	createacct 9999999 te	1234567 7654321 0000000	Please specify an account number Please specify an account name Invalid account name.	EOS
create_account_name_31_characters	Test creating an account with an account name that has 31 characters	createacct 9999999 thisisa31characteraccountname31	1234567 7654321 0000000	Please specify an account number Please specify an account name Invalid account name.	EOS
create_account_name_0_characters	Test creating an account with an account name that has 0 characters	createacct	1234567 7654321 0000000	Please specify an account number Please specify an account name Invalid account name.	EOS

create_account_name_ existing_account_name	Test creating an account with the same account name but different account number as a pre-existing account.	createacct 9999999 testaccountna me createacct 9999998 testaccountna me	1234567 7654321 0000000	Please specify an account number Please specify an account name Successfully created account Please specify an account number Please specify an account name Successfully created account	NEW 9999999 000 0000000 testaccountname NEW 9999998 000 0000000 testaccountname EOS
create_account_name_ existing_account_num ber	Test creating an account with the same account number as an existing account.	createacct 9999999 testaccountna me createacct 9999999 testaccountna me	1234567 7654321 0000000	Please specify an account number Please specify an account name Successfully created account Please specify an account number Successfully created account	NEW 9999999 000 0000000 testaccountname NEW 9999999 000 0000000 testaccountname EOS

Withdraw Feature

Test Name	Intention	Terminal Input	Valid Accounts List File	Output	Transaction Summary File
withdraw_success	Valid account number and amount	withdraw 1234567	1234567 7654321	Please specify an account number	WDR 1234567 1000 000000 **** EOS

		1000	0000000	Please enter an amount \$10 withdrawn from account 1234567 \$10 withdrawn from 1234567	
withdraw_invalid_account_leading_0	Account number begins with 0	withdraw 0123456	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS
withdraw_invalid_account_8_digits	Account number is over 7 digits in length	withdraw 12345678	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS
withdraw_invalid_account_6_digits	Account number is under 7 digits in length	withdraw 123456	1234567 7654321 0000000	Please specify an account number Invalid account number	EOS
withdraw_invalid_amount_atm	Withdrawal above \$1000, atm mode	withdraw 1234567 100100	1234567 7654321 0000000	Session type? Logged in as machine Please specify an account number Please enter an amount Cannot withdraw above \$1000	EOS
withdraw_invalid_amount_agent	Withdrawal above \$999,999.99, agent mode	withdraw 1234567 1000000	1234567 7654321 0000000	Session type? Logged in as agent Please specify an account number Please enter an amount Cannot withdraw above \$999,999.99	EOS
withdraw_invalid_total_amount_atm	Over \$5000 total daily withdrawal, atm mode	withdraw 1234567 1000 withdraw 1234567	1234567 7654321 0000000	Please enter an amount Please specify an account number \$1000 withdrawn from account 1234567	WDR 1234567 1000 000000 **** WDR 1234567 1000 000000 **** WDR 1234567 1000 000000 **** WDR 1234567 1000 000000 **** WDR 1234567 1000 000000 **** EOS

		1000 withdraw 1234567 1000 withdraw 1234567 1000 withdraw 1234567 1000 withdraw 1234567 1000		Please enter an amount Please specify an account number \$1000 withdrawn from account 1234567 Please enter an amount Please specify an account number \$1000 withdrawn from account 1234567 Please enter an amount Please specify an account number \$1000 withdrawn from account 1234567 Please enter an amount Please specify an account number \$1000 withdrawn from account 1234567 Please enter an amount Please specify an account number You have reached your maximum daily withdrawal limit	
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Transfer Feature

Test Name	Intention	Terminal Input	Valid Accounts List File	Output	Transaction Summary File
transfer_success	Valid to-account, from-account and amount	transfer 1234567 7654321 10	1234567 7654321 0000000	Please specify the account number to transfer from Please specify the account number to transfer to Please specify an amount to transfer Transfer completed	XFR 1234567 10 7654321 **** EOS
transfer_invalid_to_account	To-account not in valid accounts list	transfer 1234567 87654321	1234567 7654321 0000000	Please specify the account number to transfer from Please specify the account number to transfer to Invalid account number	EOS
transfer_invalid_from_account	From-account not in valid accounts list	transfer 1234567	1234567 7654321 0000000	Please specify the account number to transfer from Invalid account number	EOS
transfer_invalid_amount_atm	Transfer above \$10,000, atm mode	transfer 1234567 7654321 10001	1234567 7654321 0000000	Please specify the account number to transfer from Please specify the account number to transfer to Please specify an amount to transfer Cannot transfer over \$10,000	EOS
transfer_invalid_amount_agent	Transfer above \$999,999.99, agent mode	transfer 1234567 7654321 1000000	1234567 7654321 0000000	Please specify the account number to transfer from Please specify the account number to transfer to Please specify an amount to transfer	EOS

				Cannot transfer over \$999,999.99 in agent mode	
transfer_invalid_total_amount_atm	Over \$10,000 total daily transfer, atm	transfer 1234567 7654321 10000 transfer 1234567 7654321 10000	1234567 7654321 0000000	Please specify the account number to transfer from Please specify the account number to transfer to Please specify an amount to transfer Transfer completed Please specify the account number to transfer from Please specify the account number to transfer to Please specify an amount to transfer Maximum daily transfer limit reached	EOS