

We went with the second template option, where all the information needed for testing is stored in the code (all the input content (terminal & file) and all the output content (terminal & file)). We made a few changes to the helper function code: We called the app with two system arguments (valid accounts list file and transaction summary file). We also changed to terminal input to be `'\n'.join` instead of `os.linesep.join`. The latter wasn't trimming off `'\r's`, which are added to all inputs on Windows systems. This way, we can run our program with correctly formatted inputs regardless of the operating system. Finally, we changed the command line arguments (`sys.argv`) to contain `frontend.py` instead of `app.py`, which is what we used as the name for our frontend application, so as to emulate the program being called from a command like “python frontend.py valid_accounts.txt transaction.txt”. In order to run our tests, we needed a way to quit the program, so we added a ‘quit’ command to our frontend as a way to solve this problem.

Test Name	Test Target	Nature of failure (problem with output)	Error in code	Solution
R1_T2	Test idle logout	Nothing output, should be a message saying "In idle state, please login before use"	Couldn't quit the program before being logged in, so the test didn't execute properly.	Add the ability to quit the program before being logged in.
R1_T2	Test idle logout	Expecting a message saying "In idle state, please login before use",	Wrong test input. Expected tail terminal output should be: 'In idle state, please login before use', 'Command: "	Add 'Command: ' to the expected tail terminal output
R2_T1	Test atm login session	Output different than expected.	Wrong test input. Expected tail terminal output should be: 'Successfully logged in as " machine ", 'Command: "	Add 'Command: ' to the expected tail terminal output
R4_T1	Logout should only be accepted when logged in – machine	Test case failed as it was missing expected_output_transactions	Forgot to add the expected output transactions	Change expected_output_transaction to correct EOS transaction
R5_T1	Test that createacct can't be used in machine mode	Expecting failure message 'Error: agent session required for createacct command', but a few spaces were different : 'Error: agentsession required for createacct command '	Spacing in failure message or input in test should be changed to match.	Change spacing in failure message.
R6_T1	Account number < 7 digits is not valid	Output different than expected. After the error message for invalid account number is output, the user is prompted to enter another account number.	Error in test case expected_tail_of_terminal_output. Need to add 'Account Number: '	Add 'Account Number: ' to expected output.
R7_T1	Test createacct with existing number	Existing accounts weren't being detected	The reading of files wasn't removing the \n. Furthermore the testing file used os.linsep which is \r\n on windows. Changed to just \n	Change helper to combine commands with '\n'. Change reading code to do read(). splitlines() instead of readlines()
R8	Testing invalid new account names	Error message was wrong, said account number not name	Output string was wrong	Fixed output string in app
R10_T1	Test deleteacct for account not in valid accounts	Would not send error message when deleting accounts not found in the valid accounts list	The delete account function was using get valid account number instead of get account number in valid accounts list	Change the delete function to use the get account number in list instead of get valid account number
R11_T1	deposit verifies account number	Error parsing the cancel command	The cancel command isn't accepted in the cents amount	Check for cancel command in get amount of cents and accept if it's entered
N/A	All account number related interactions that check account numbers in the valid accounts list	0000000 accepted as account number	0000000 accepted as account number	Remove 0000000 from valid accounts list when accounts list is loaded
R16_T1	Prevent transfers from invalid accounts	Cancel command does not properly cancel the operation, but goes from the "From: " prompt to the "To: " prompt	When get_account_number_in_list() returns nothing for "From: " code continues to get_account_number_in_list() for "To: "	Check if get_account_number_in_list() returns something before continuing
R17_T1	ATM transfers can't be greater than \$10000	Error parsing the cancel command	The cancel command isn't accepted in the cents amount	Added code to frontend to accept cancel command
R17_T2	Test successful transfer	Test case was set incorrectly	Test case asserted EOS transaction would be "EOS 1234567 000 0000000 ****" instead of "EOS 0000000 000 0000000 ****"	Change expected_output_transaction to correct EOS transaction