

Failure Observed	Test failed	What was being tested	What was wrong about its output		Actions taken to address failure
Login					
login1	diff login1.bto & login1.out	Test that we can login as standard	Missing colon and missing newline at end of file login1.out		Remove the newline from the login1.bto and add a colon to "enter account holder name:" in the code
login2	diff login2.bto & login2.out	Test that we can login as admin	missing newline at end of file login2.out		Remove the newline from the login2.bto
login3	diff login3.bto & login3.out	Test that the account holder name is accepted/verified for standard session	After an invalid account holder name is entered the program would terminate, the test case would prompt welcome to banking session until a valid session is started resulting in login3.out missing 6 lines.		Added a do while loop in the main.cpp with a boolean variable to continue looping until a session has started
login4	diff login4.bto & login4.out	Test that no transactions other than login should be accepted before a login	login4.bto went straight to enter session type before login inputed		Removed the incorrect line from login4.bto expected file
login4	diff login4.bto & login4.out	Test that no transactions other than login should be accepted before a login	After one invalid input transaction login4.out ended, but login4.inp passed in 7 more invalid transactions		Session::login() method, removed an exit statement
login4	diff login4.bto & login4.out	Test that no transactions other than login should be accepted before a login	login4.bto expected test case was incorrect, continued to prompt 'enter session type' before input was 'login'		Change login4.bto test file so that all occurrences of 'enter session type:' was replaced with 'welcome to the banking system'
login5	diff login5.bto & login5.out	Test that once we login, no further logins are accepted until after a logout occurs	login5.out missing new line at end of file		Remove the new line from login5.bto test file
login6	diff login6.bto & login6.out	Test that after standard login, only unprivileged transactions are accepted	login6.bto printed 'invalid input' but the login6.out file printed 'privileged transaction'		Modified login6.bto test file to match the code
login1, login2, login3 login4, login5, login6	diff login(i).etf & login(i).atf	Comparing the expected session transaction file with the actual transaction file	Our etf files used " " as separator but code(atf) used " - " Our etf files used "PPPPPPPP" for account balance but code used "PPPPPPPP"		Modified the Transaction::logout() method to append the correct string to atf files
Logout					
logout1	diff logout1.bto & logout1.atf	Test that logout is only accepted when actually logged in	logout1 .bto test file printed 'enter session type:' before login passed as input, logout1.out had the correct output		Modified logout1.bto test file removing the 'enter session type' and replacing it with 'invalid input'
logout2	diff logout2.bto & logout2.atf	Test that logout will end the session in admin	logout2.bto test file printed newline at end of file but logout2.out did not		Remove the newline from logout2.bto
logout4	diff logout4.bto & logout4.atf	Test that logout will end the session in standard	logout4.bto test file printed newline at end of file but logout4.out did not		Remove the newline from logout4.bto
logout3	diff logout3.bto & logout3.atf	Test that after logout is invoked, stop accepting all transactions except login	logout3.bto would print 'welcome to banking system' after 'logout' is inputted, but the logout3.out file would just print 'session terminated' and the banking terminal would no longer take input		Removed the 'welcome to banking system' from logout3.bto test file, if the session continues to loop then the session will never end, a new session has to be started in order to get the 'welcome to bank system' prompt after logout has been called. Otherwise all of our test files will need to be updated.
logoutout1, logout2, logout3, logout4	diff logout(i).etf & logout(i).atf	Comparing the expected session transaction file with the actual transaction file	All test etf files had a new line and were 39 characters long, and all atf files didn't have a new line and were 41 characters long.		Added 2 characters to all of the logout.etf files and removed the new line at the end of the file
Deposit					
deposit1&deposit2	diff deposit1.bto & deposit1.out diff deposit2.bto & deposit2.out	d1:Test that the admin is able to access deposit transaction. d2:Test that the standard account is able to access deposit transaction.	Output missing colon at the end of each terminal line		Added colon to end of the line to ensure matching output.
deposit3	diff deposit3.bto & deposit3.out	Test that the admin is able to complete a valid deposit transaction.	Incorrect input in the .inp file: Input directs to paybill transaction as opposed to deposit transaction.		Corrected input file to match expected input: paybill --> deposit.
deposit5	diff deposit5.bto & deposit5.out	Test that the admin account cannot complete an invalid deposit transaction.	Incorrect terminal expected file: Erronous transaction confirmation that was removed during development of tests in p1 & no check in code to ensure that deposit doesn't hit bank max.		Removed erroneous line in expected file to conform to new guidelines around expected terminal output. Fixed code to include check to ensure max isn't violated. Also included check to ensure number input.
deposit1&deposit2&deposit3	diff deposit1.bto & deposit1.out diff deposit2.bto & deposit2.out diff deposit3.bto & deposit3.out	d1:Test that the admin is able to access deposit transaction. d2:Test that the standard account is able to access deposit transaction. d3:Test that the admin is able to complete a valid deposit transaction.	Fixing deposit5 raised errors around if input was an integer value or not and since we were originally inputting a value of type float e.g. 1.00 it caused incorrect output.		Fixed input file to correctly follow requirements -- e.g. that the decimal position is implied and with correct number of digits -- 1.00 to 00000100.
deposit6	diff deposit6.bto & deposit6.out	Test that the standard account cannot complete an invalid deposit transaction.	Incorrect terminal expected file: Erronous transaction confirmation that was removed during development of tests in p1		Removed erroneous line in expected file to conform to new guidelines around expected terminal output.
deposit7	diff deposit7.bto & deposit7.out	Test that funds deposited in this session are unavailable for use (withdrawal) in standard.	Output missing colon at the end of each terminal line for withdrawal		Added colon to end of withdrawal terminal output lines in code.
deposit8	diff deposit8.bto & deposit8.out	Test that funds deposited in this session are unavailable for use (paybill) in standard.	Check to ensure user cannot use funds just deposited not implemented		Added check to ensure user cannot use funds just deposited -- basically checks whether or not sufficient funds exist since the transaction is recorded after logout.
deposit8	diff deposit8.bto & deposit8.out	Test that funds deposited in this session are unavailable for use (paybill) in standard.	Type mismatch -- similar to above where we were inputting a value of type float e.g. 1.00.		Fixed input file to correctly follow requirements -- e.g. that the decimal position is implied and with correct number of digits -- 1.00 to 00000100.
deposit8	diff deposit8.bto & deposit8.out	Test that funds deposited in this session are unavailable for use (paybill) in standard.	Errornous output in code: extra word		Removed extra word to match expected out
deposit9	diff deposit9.bto & deposit9.out	Test that funds deposited in this session are unavailable for use (withdrawal) in admin.	Type mismatch -- similar to above where we were inputting a value of type float e.g. 1.00.		Fixed input file to correctly follow requirements -- e.g. that the decimal position is implied and with correct number of digits -- 1.00 to 00000100.
deposit9	diff deposit9.bto & deposit9.out	Test that funds deposited in this session are unavailable for use (withdrawal) in admin.	Error in expected terminal output: Different than what was expected as per how everyone else was asking for account holder name.		Fixed expected terminal output
deposit10	diff deposit10.bto & deposit10.out	Test that funds deposited in this session are unavailable for use (paybill) in admin.	Type mismatch -- similar to above where we were inputting a value of type float e.g. 1.00.		Fixed input file to correctly follow requirements -- e.g. that the decimal position is implied and with correct number of digits -- 1.00 to 00000100.
deposit1 et al.	diff deposit1.etf & deposit1.atf	As above for all	Error in code out: One extra space in the actual transaction file from reqs		Fixed by removing space in code.
deposit1 et al.	diff deposit1.etf & deposit1.atf et al.	As above for all	Error in expected file: One space too short from reqs		Fixed by adding space in expected.
			Error in code out: Type mismatch as above -- outputting value of type float		Swapped underscores for spaces.
					Fixed by changing code out to a string that has integer type by stoi.
Paybill					
paybill4	diff paybill4.bto & paybill4.out	Test that the admin is able to access paybill transaction and enter valid company CQ.	Error in expected terminal output: asked for "amount" instead of "the amount"		Added the word "the" to the expected terminal output.
paybill5	diff paybill5.bto & paybill5.out	Test that the admin is able to access paybill transaction and enter valid company FI.	Error in expected terminal output: asked for "amount" instead of "the amount"		Added the word "the" to the expected terminal output.
paybill9	diff paybill9.bto & paybill9.out	Test that the admin account is able to access paybill transaction but unable to enter invalid company "AQ".	Error in the expected terminal output: Output "invalid payee" instead of "invalid input"		Switched "invalid payee" with "invalid input" in the expected terminal out file.

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delete2	diff delete2.bto & delete2.out	Test privilege status on unprivileged user using delete()	delete2.out missing new line at end of the file delete2.out missing prompts in bto file because of new implementations	Removed extra line from delete2.bto Added extra prompt to delete2.bto
delete3	diff delete3.bto & delete3.out	Test that delete will request account holder name and that it is verified	delete3.inp was missing a call resulting in a infinite loop delete3.inp has a call where it will return true but in the bto file it expects a false Missing collen in prompt "enter account number"	Added line for the user to prompt the account number in delete3.inp Adjusted prompt from "account not found" to "account number not found" Removed extra prompt "delete specified"
delete4	diff delete4.bto & delete4.out	Test that delete will request account number and that it is verified	delete4.out missing new line at end of the file delete4.out missing prompts in bto file because of new implementations	Adjusted prompt so it correctly displays "." as well Removed extra line from delete4.bto Added extra prompt to delete4.bto
delete5	diff delete5.bto & delete5.out	Test that account name and number is verified Test that program prevents transactions on a deleted account	delete5.out missing new line at end of the file delete5.out missing prompts in bto file because of new implementations	Removed extra line from delete5.bto Removed extra prompt from delete5.bto Implemented method which would check status of account Removed extra line from delete6.bto Removed extra prompt from delete6.bto
delete6	diff delete6.bto & delete6.out		missing a method that would check if an account is deleted or not	
delete7	diff delete7.bto & delete7.out	Test that account balance is 0 in order to properly delete	delete7.inp was calling cancel at a point where it shouldn't	Adjusted lines in delete7.inp
delete1, delete2, delete3, delete4, delete5, delete6, delete7	diff with etf and atf	Comparing etf with atf	Looks like the same output but still giving an error	Added missing spaces at end of all etf files
Withdrawal				
withdrawal1	diff withdrawal1.bto & withdrawal1.out	Test that system ask for account holders name when logged in as admin	withdrawal1.bto didn't have line "transaction cancelled" but withdrawal1.out did	Added the "transaction cancelled" line to withdrawal1.bto since "cancel" passed in as input after enter account number prompt
withdrawal2	diff withdrawal2.bto & withdrawal2.out	Test that withdrawal transaction is accepted for standard session	withdrawal2.out file missing "withdrawal succesful" line	Transaction:withdrawal() method the if statements checking the withdrawal amount had an error with the comparison between integers
withdrawal4	diff withdrawal4.bto & withdrawal4.out	Test that the account holder currently logged in has a valid bank account	withdrawal4.bto printed "account holder does not exist" and withdrawal4.out printed "account not found" withdrawal4.bto printed "bank account number invalid" and withdrawal4.out printed "account number not found"	Made adjustment to the withdrawal.bto output to match with withdrawal4.out to be consistent with the rest of the code
withdrawal5	diff withdrawal5.bto & withdrawal5.out	Test that a standard session can only withdraw a maximum of \$500.00	withdrawal5.bto prints "maximum withdrawal for a standard session is \$500.00" and withdrawal5.out prints "invalid input"	Made adjustment to withdrawal5.bto to be consistent with withdrawal5.out. Just print "invalid input" for simplicity
withdrawal6	diff withdrawal6.bto & withdrawal6.out	Test that the account will have an available balance of at least \$0.00 after withdrawal	withdrawal6.bto prints "insufficient funds for withdrawal" and withdrawal6.out prints "invalid input"	Made adjustment to withdrawal6.bto to be consistent with withdrawal6.out. Just print "invalid input" for simplicity. Also, changed the input file so that this test was an admin session working with values over \$500.
withdrawal1, withdrawal2, withdrawal3, withdrawal4, withdrawal5, withdrawal6,	diff withdrawal(i).etf & withdrawal(i).atf	Comparing the expected session transaction file with the actual transaction file	All test etf files had a new line and were 39 characters long, and all atf files didn't have a new line and were 41 characters long. All test etf files used ' ' as separator but atf (code) using " "	Added 2 characters to all of the withdrawal.etf files and removed the new line at the end of the file Transaction:withdrawal() method change string to append to file to use ' ' as separator
Transfer				
transfer1	diff transfer1.bto & transfer1.out	Test that the system ask for the account holder name if logged in as admin	transfer1.out could not find the account number, even though the account number existed. transfer1.out resulted in a failed transfer but transfer1.bto resulted in a successful transfer	Transaction:validateAccountNumber() method modified. Added a conditional to check whether the currentTransaction is transfer and check current bank account file to see if the second account number exists.
transfer4	diff transfer4.bto & transfer4.out	Test that the account holder currently logged in has a valid account	transfer4.bto printed 'account holder name not found' but transfer4.out printed 'account not found'	Modified transfer4.bto test case to match with transfer4.out to stay consistent with the rest of the test cases and code.
transfer5	diff transfer5.bto & transfer5.out	Test that the bank account the funds are being transferred to is a valid account	transfer5.bto printed 'bank account number(to) invalid' but transfer5.out printed 'account number not found'	Modified transfer5.bto test case to match with transfer5.out to stay consistent with the rest of the test cases and code.
transfer6	diff transfer6.bto & transfer6.out	Test that the maximum transfer for a standard session is \$1000.00 Test that the account balance will be at least \$0.00 after transfer	transfer6.bto printed 'transfer limit for a standard session is \$1000' and transfer6.out 'invalid input' extra new line at the end of transfer6.bto	"Modified transfer6.bto test case to match with transfer6.out to stay consistent with the rest of the test cases and code." Remove new line from transfer6.bto
transfer1, transfer2, transfer3, transfer4, transfer5, transfer6, transfer7	diff transfer(i).etf & transfer(i).atf	"Comparing the expected session transaction file with the actual transaction file"	All test etf files had a new line and were 39 characters long, and all atf files didn't have a new line and were 41 characters long. All test etf files used ' ' as separator but atf (code) using " "	Added 2 characters to all of the transfer.etf files and removed the new line at the end of the file Transaction:transfer() method change string to append to file to use ' ' as separator