CISC327 Course Project Assignment #1

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Test cases table:

login：

login:							
Requirement	**Test NO.**	**Test Name**	**Purpose**	**Input**	**Input Files**	**Output**	**Output Files**
No transaction before login	R1T1	Idle machine	can't choose "ATM" mode before login	machine	None	Error prompt for user have to login	None
	R1T2	Idle agent	can't choose "Privileged" mode before login	agent	None	Error prompt for user have to login	None
	R1T3	Idle logout	can't logout before login	logout	None	Error prompt for user have to login	None
	R1T4	Idle createacct	can't create account before login	createacct	None	Error prompt for user have to login	None
	R1T5	Idle deleteacct	can't delete account before login	deleteacct	None	Error prompt for user have to login	None
	R1T6	Idle deposit	can't deposit before login	deposit	None	Error prompt for user have to login	None
	R1T7	Idle withdraw	can't withdraw before login	withdraw	None	Error prompt for user have to login	None
	R1T8	Idle transfer	can't transfer before login	transfer	None	Error prompt for user have to login	None
	R1T9	Idle unrecognized	can't do uncognized transactions before login	unrecognized	None	Error prompt for unrecognized transactions. Error prompt for user have to login	None
should ask for a type of session, which can be either: machine, which	R2T1	login type test 1	check out that login type accepted	login machine logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file with EOS

means ATM mode, or agent, which means privileged mode	R2T2	login type test 2	check out that login type accepted	login agent logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file with EOS
	R2T3	login type test 3	check out that login type accepted	login unrecognized	None	Error prompt for unrecognized type of login	None
no subsequent login should be accepted after a login until after a logout.	R3T1	subsequent login test 1	check out the subsequent login after login	login login	None	Error prompt for a subsequent login after login	None
	R3T2	subsequent login test 2	check out the subsequent login after ATM login	login machine login	Valid_Accounts_lists_2accts.txt	Error prompt for a subsequent login after login	None
	R3T3	subsequent login test 3	check out the subsequent login after privileged login	login agent login	Valid_Accounts_lists_2accts.txt	Error prompt for a subsequent login after login	None
	R3T4	subsequent login test 4	check out login after logout	login logout login	None	mode choosing interface	None
after an ATM login, only ATM transactions and logout are accepted	R4T1	ATM login transactions test 1	check out that can't delete account after ATM login	login machine deleteacct	Valid Accounts List File with 2 valid accounts	Error prompt for unprivileged transactions	None
	R4T2	ATM login transactions test 2	check out that can't created account after ATM login	login machine createacct	Valid Accounts List File with 2 valid accounts	Error prompt for unprivileged transactions	None
	R4T3	ATM login transactions test 3	check out the deposit function after ATM login	login machine deposit	Valid Accounts List File with 2 valid accounts	no output	None
	R4T4	ATM login transactions test 4	check out the withdraw function after ATM login	login machine withdraw	Valid Accounts List File with 2 valid accounts	no output	None
	R4T5	ATM login transactions test 5	check out the transfer function after ATM login	login machine transfer	Valid Accounts List File with 2 valid accounts	no output	None
	R4T6	ATM login transactions test 6	check out that unrecognized are not supported after ATM login	login machine unrecognized	Valid Accounts List File with 2 valid accounts	no output	None

after a privileged login, all transactions are accepted	R5T1	Agent login transactions test1	check out the create account is accepted after privileged login	login agent createacct	Valid Accounts List File with 2 valid accounts	no output	None
	R5T2	Agent login transactions test 2	check out the delete account is accepted after privileged login	login agent deleteacct	Valid Accounts List File with 2 valid accounts	no output	None
	R5T3	Agent login transactions test 3	check out that the deposit after privileged login	login agent deposit	Valid Accounts List File with 2 valid accounts	no output	None
	R5T4	Agent login transactions test 4	check out that the withdraw after privileged login	login agent withdraw	Valid Accounts List File with 2 valid accounts	no output	None
	R5T5	Agent login transactions test 5	check out that the transfer after privileged login	login agent transfer	Valid Accounts List File with 2 valid accounts	no output	None
	R5T6	Agent login transactions test6	check out that unrecognized are not supported after privileged login	login agent unrecognized	Valid Accounts List File with 2 valid accounts	Error prompt for unrecognized transactions.	None

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logout:

		logout					
Requirement	**Test NO.**	**Test Name**	**Purpose**	**Input**	**Input Files**	**Output**	**Output Files**
should write out the transaction summary file	R1T1	Logout write file test 1	check out the transactions were written into transaction summary file	login machine deposit 1234567 500 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file
	R1T2	Logout write file test 2	check out the transactions were written into transaction summary file	login machine withdraw 1234567 500 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file
	R1T3	Logout write file test 3	check out the transactions were written into transaction summary file	login machine transfer 1234567 7654321 500 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file
	R1T4	Logout write file test 4	check out the transactions were written into transaction summary file	login agent createacct 1111111 valid3 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file
	R1T5	Logout write file test 5	check out the transactions were written into transaction summary file	login agent deleteacct 1234567 valid1 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file
	R1T6	Logout write file test 6	check out the transactions were written into transaction summary file	login agent deposit 1234567 500 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file

	R1T7	Logout write file test 7	check out the transactions were written into transaction summary file	login agent withdraw 1234567 500 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file
	R1T8	Logout write file test 8	check out the transactions were written into transaction summary file	login agent transfer 1234567 7654321 500 logout	Valid Accounts List File with 2 valid accounts	no output	Transactions summary file
should only be accepted when logged in	R2T1	Logout Idle	check logout are only accepted after login	logout	None	Error prompt for user have to login	None
	R2T2	Login Logout test	check logout are only accepted after login	login logout	None	no output	Transactions summary file with EOS
no transaction other than login should be accepted after a logout	R3T1	agent login after logout	check only login is accepted after logout	login logout agent	None	Error prompt for user have to login	None
	R3T2	atm login after logout	check only login is accepted after logout	login logout machine	None	Error prompt for user have to login	None
	R3T3	deposit after logout	check only login is accepted after logout	login logout deposit	None	Error prompt for user have to login	None
	R3T4	withdraw after logout	check only login is accepted after logout	login logout withdraw	None	Error prompt for user have to login	None
	R3T5	transfer after logout	check only login is accepted after logout	login logout transfer	None	Error prompt for user have to login	None
	R3T6	createacct after logout	check only login is accepted after logout	login logout createacct	None	Error prompt for user have to login	None
	R3T7	deleteacct after logout	check only login is accepted after logout	login logout deleteacct	None	Error prompt for user have to login	None
	R3T8	login after logout	check only login is accepted after logout	login logout login	None	no output	None

createacct

★ **In this case, space at the beginning and the end of the name will not be shown because of the alignment of the table, we put (space) to represent a real space.**

createacct							
Requirement	**Test NO.**	**Test Name**	**Purpose**	**Input**	**Input Files**	**Output**	**Output Files**
privileged transaction, only accepted when logged in to agent mode	R1T1	createacct acceptability test 1	Cannot create account in ATM mode	login machine creatacct	valid accounts file with 2 valid accounts	Account can only be created in agent mode	None
	R1T2	createacct acceptability test 2	Check that the create account command is accepted in agant mode	login agent creatacct	valid accounts file with 2 valid accounts	createacct transaction is valid in agent mode	None
new account number is exactly seven decimal digits not beginning with 0	R2T1	account number length validity test 1	The account number should be seven decimal	login agent creatacct 12345678	valid accounts file with 2 valid accounts	The account number is invalid	None
	R2T2	account number length validity test 2	The account number should be seven decimal	login agent creatacct 123456	valid accounts file with 2 valid accounts	The account number is invalid	None
	R2T3	account number length validity test 3	The account number cannot begin with 0	login agent creatacct 0123456	valid accounts file with 2 valid accounts	The account number is invalid	None
	R2T4	account number length validity test 4	The account number should be digits	login agent creatacct abcdefg	valid accounts file with 2 valid accounts	The account number is invalid	None
new account number must be different from all other current account numbers	R3T1	account number validity test 1	The account number cannot be same as any other current account numbers	login agent creatacct 1234567	valid accounts file with 2 valid accounts	The account number is already exist in the system	None
	R3T2	account number validity test 2	Check if the valid account number is accepted	login agent creatacct 2345678	valid accounts file with 2 valid accounts	The account number is valid	None

new account name is between 3 and 30 length	R4T1	account name length validity test 1	The account name cannot have length that less than 3	login agent creatacct 2345678 ab	valid accounts file with 2 valid accounts	The account name is invalid	None
	R4T2	account name length validity test 2	The account name cannot have length that more than 30	login agent creatacct 2345678 abbdefghijk lmnopqrstuv wxyzabcde	valid accounts file with 2 valid accounts	The account name is invalid	None
new account name can contain alphanumeric characters, possibly including spaces	R5T1	account name character validity test 1	The account name cannot contain characters other than alphanumeric characters	login agent creatacct 2345678 !!!???	valid accounts file with 2 valid accounts	The account name is invalid	None
	R5T2	account name character validity test 2	Check if the account name with alphanumeric characters is accepted	login agent creatacct 2345678 123valid123	valid accounts file with 2 valid accounts	The account name is valid	None
	R5T3	account name character validity test 3	Check if the account name with only numeric characters is accepted	login agent creatacct 2345678 1234	valid accounts file with 2 valid accounts	The account name is valid	None
	R5T4	account name character validity test 4	Check if the account name with only letters is accepted	login agent creatacct 2345678 valid name	valid accounts file with 2 valid accounts	The account name is valid	None
	R5T5	account name character validity test 5	Check if the account name with capital letter is accepted	login agent creatacct 2345678 VALID NAME	valid accounts file with 2 valid accounts	The account name is valid	None
new account name cannot begin or ending with a space	R6T1	account name space validity test 1	The account name cannot begin with space	login agent creatacct 2345678 (space)name	valid accounts file with 2 valid accounts	The account name is invalid	None
	R6T2	account name space validity test 2	The account name cannot end with space	login agent creatacct 2345678 name(space)	valid accounts file with 2 valid accounts	The account name is invalid	None

no transactions on the new account should be accepted in this session	R7T1	other transaction acceptability test 1	Cannot deposit money to the new account in this session	login agent creatacct 2345678 valid name deposit 2345678	valid accounts file with 2 valid accounts	Cannot accept the transaction for the new account in this session	None
	R7T2	other transaction acceptability test 2	Cannot withdraw money to the new account in this session	login agent creatacct 2345678 valid name withdraw 2345678	valid accounts file with 2 valid accounts	Cannot accept the transaction for the new account in this session	None
	R7T3	other transaction acceptability test 3	Cannot transfer money to the new account in this session	login agent creatacct 2345678 valid name transfer 2345678	valid accounts file with 2 valid accounts	Cannot accept the transaction for the new account in this session	None
should save these for the transaction summary file	R8T1	functionality test	Check if the transaction is accepted	login agent creatacct 2345678 valid name logout	valid accounts file with 2 valid accounts	transaction complete	transaction summary file

deleteacct

				deleteacct			
Requirement	Test NO.	Test Name	Purpose	Input	Input Files	Output	Output Files
only accept agent mode for deleting	R1T1	login ATM	check for only accept agent mode for deleting	login machine deleteacct	None	Can not delete account when not agent mode	None
should ask account number and account name	R2T1	acount number1	check for correctly acount number	login agent deleteacct 1234 valid1	valid accounts file with 2 valid accounts	You should enter correct account number	None
	R2T2	idle account name2	check for correctly account name	login agent deleteacct 1234567 invalid1	valid accounts file with 2 valid accounts	You should enter correct account name	None
	R2T3	Checkdelete	check if the valid input is accepted	login agent deleteacct 1234567 valid1	valid accounts file with 2 valid accounts	Delete successful	None
should save the account number and name in the transaction summary file	R3T1	delete save file	check if the deleted account information is saved into transaction summary file	login agent deleteacct 1234567 valid1 logout	valid accounts file with 2 valid accounts	Delete successful	transaction summary file
no further transactions should be accepted on a deleted account	R4T1	deleted accouont transactions	check if the deleted account can still process transactions	login machine deposit 1234567 500	valid accounts file with 2 valid accounts	Account not exist	None

deposit

			deposit				
Requirement	**Test NO.**	**Test Name**	**Purpose**	**Input**	**Input Files**	**Output**	**Output Files**
Must have logged in before deposit	R1T1	loginDeposit	Ask to see if user will be stopped for deposit before login	deposit	None	Must login before deposit	None
should ask user for account number and amount	R2T1	machineRun	Ask to see if the user have entered the number and amount make sure deposit on machine mode is working	login machine deposit 1234567 500 logout	valid accounts file with 2 valid accounts	Deposit successful	transaction summary file
	R2T2	agentRun	Ask to see if the user have entered the number and amount make sure deposit on agent mode is working	login agent deposit 1234567 500 logout	valid accounts file with 2 valid accounts	Deposit successful	transaction summary file
check that the account number is valid and amount is valid	R3T1	checkNumberATM1	Ask the user to see if they entered valid 7 digit account number	login machine deposit 0123456	valid accounts file with 2 valid accounts	Account number is not valid	None
	R3T2	checkNumberATM2	Ask the user to see if they entered 7 digit account	login machine deposit 012345	valid accounts file with 2 valid accounts	Account number digit is not 7	None
	R3T3	checkNumberATM3	Ask the user to see if they entered 7 digit account	login machine deposit 01234567	valid accounts file with 2 valid accounts	Account number digit is not 7	None

R3T4	checkNumber ATM4	Ask the user to see if they entered all digit account	login machine deposit 123456a	valid accounts file with 2 valid accounts	Account number is not pure digit	None
R3T5	checkNumber Agent1	Ask the user to see if they entered valid 7 digit account number	login agent deposit 0123456	valid accounts file with 2 valid accounts	Account number is not valid	None
R3T6	checkNumber Agent2	Ask the user to see if they entered 7 digit account	login agent deposit 012345	valid accounts file with 2 valid accounts	Account number is not 7	None
R3T7	checkNumber Agent3	Ask the user to see if they entered 7 digit account	login agent deposit 01234567	valid accounts file with 2 valid accounts	Account number is not 7	None
R3T8	checkNumber Agent4	Ask the user to see if they entered all digit account	login agent deposit 123456a	valid accounts file with 2 valid accounts	Account number is not pure digit	None
R3T9	checkExist ATM	Ask the user to check if they entered account is exist	login machine deposit 2345678	valid accounts file with 2 valid accounts	Account number is not exist	None
R3T10	checkExist agent	Ask the user to check if they entered account is exist	login agent deposit 2345678	valid accounts file with 2 valid accounts	Account number is not exist	None
R3T11	checkAmount ATM1	Ask the user to check if they entered amount is valid	login ATM deposit 1234567 500a	valid accounts file with 2 valid accounts	Amount is not pure digit	None

	R3T12	checkAmount agent1	Ask the user to check if they entered amount is valid	login agent deposit 1234567 500a	valid accounts file with 2 valid accounts	Amount is not pure digit	None
	R3T13	checkAmount agent2	Ask the user to check if they entered amount is positive	login agent deposit 1234567 -1000	valid accounts file with 2 valid accounts	Amount should not be negative	None
	R3T14	checkAmount ATM2	Ask the user to check if they entered amount is positive	login machine deposit 1234567 -1000	valid accounts file with 2 valid accounts	Amount should not be negative	None
	R3T15	checkAmount agent3	Ask the user to check if they entered amount is not in decimal	login agent deposit 1234567 123.05	valid accounts file with 2 valid accounts	Amount should not be in decimal	None
	R3T16	checkAmount ATM3	Ask the user to check if they entered amount is not in decimal	login machine deposit 1234567 123.05	valid accounts file with 2 valid accounts	Amount should not be in decimal	None
above $2,000 should be rejected in ATM mode (daily deposit limit is $5,000)	R4T1	depositATM1	check if deposit of $2000 is accepted	login machine deposit 1234567 200000 logout	valid accounts file with 2 valid accounts	transaction complete	transaction summary file
	R4T2	depositATM2	check if deposit over $2000 is accepted	login machine deposit 1234567 200001	valid accounts file with 2 valid accounts	You are excced the limit	None

	R4T3	depositATM3	check deposit daily limit within $5000	login machine deposit 1234567 100000 deposit 1234567 100000 deposit 1234567 100000 deposit 1234567 100000 deposit 1234567 100000 deposit 1234567 100000	valid accounts file with 2 valid accounts	transaction complete transaction complete transaction complete transaction complete transaction complete transaction complete your deposit over daily limit!	
	R4T4	depositAgent1	check deposit with $999999.99 is acceptable for agent	login agent deposit 1234567 99999999 logout	valid accounts file with 2 valid accounts	transaction complete	transaction summary file
	R4T5	depositAgent2	check deposit with $1000000.00 is acceptable for agent	login agent deposit 1234567 100000000	valid accounts file with 2 valid accounts	you are excced the limit	None

withdraw

withdraw							
Requirement	**TestNO.**	**TestName**	**Purpose**	**Input**	**InputFiles**	**Output**	**OutputFiles**
Must have logged in before withdrawal	R1T1	idle withdraw	Cannot withdraw before logging in	withdraw	None	Must login before transactions	None
Checking withdraw is acceptable	R2T1	withdraw acceptability test 1	Check withdrawing in atm mode	login machine withdraw	Valid Accounts List File with 2 valid accounts	Account number and amount to withdraw are needed	None
	R2T2	withdraw acceptability test 2	Check withdrawing in agent mode	login agent withdraw	Valid Accounts List File with 2 valid accounts	Account number and amount to withdraw are needed	None
account number must be valid	R3T1	account number validity test 1	The account number should not be more than 7 decimals--atm	login machine withdraw 12345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T2	account number validity test 2	The account number should not be less than 7 decimals--atm	login machine withdraw 123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T3	account number validity test 3	The account number cannot begin with 0--atm	login machine withdraw 0123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T4	account number validity test 4	The account number should be all digits--atm	login machine withdraw 123defg	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T5	account number validity test 5	The account number should not be more than 7 decimals--agent	login agent withdraw 12345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T6	account number validity test 6	The account number should not be less than 7 decimals--agent	login agent withdraw 123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T7	account number validity test 7	The account number cannot begin with 0	login agent withdraw 0123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None

	R3T8	account number validity test 8	The account number should be all digits	login agent withdraw 123defg	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T9	account number validity test 9	The account must have already existed---atm	login machine withdraw 2345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T10	account number validity test 10	The account must have already existed---agent	login agent withdraw 2345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T11	account number validity test 11	The amount should be supplied when account number is valid--atm	login machine withdraw 1234567	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T12	account number validity test 12	The amount should be supplied when account number is valid--agent	login agent withdraw 1234567	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
amount to withdraw must be valid	R4T1	amount validity test 1	amount to withdraw should not contain .(dot)--atm	login machine withdraw 1234567 0.1	Valid Accounts List File with 2 valid accounts	Withdraw amount invalid	None
	R4T2	amount validity test 2	amount to withdraw should not contain .(dot)--agent	login agent withdraw 1234567 0.1	Valid Accounts List File with 2 valid accounts	Withdraw amount invalid	None
	R4T3	amount validity test 3	amount to withdraw should not be negative--atm	login machine withdraw 1234567 -1	Valid Accounts List File with 2 valid accounts	Withdraw amount invalid	None
	R4T4	amount validity test 4	amount to withdraw should not be negative--agent	login agent withdraw 1234567 -1	Valid Accounts List File with 2 valid accounts	Withdraw amount invalid	None
	R4T5	amount validity test 5	amount should not exceed balance--atm	login machine withdraw 1234567 100000	Valid Accounts List File with 2 valid accounts	Withdraw amount invalid	None

	R4T6	amount validity test 6	amount should not exceed balance--agent	login agent withdraw 1234567 100000	Valid Accounts List File with 2 valid accounts	Withdraw amount invalid	None
	R4T7	amount validity test 7	amount should be less than $1000 for 1 transaction--atm	login machine withdraw 1234567 200000	Valid Accounts List File with 2 valid accounts	Exceed single-transaction limit	None
	R4T8	amount validity test 8	amount should be less than $999999.99 for 1 transaction--agent	login agent withdraw 1234567 100000000	Valid Accounts List File with 2 valid accounts	Exceed single-transaction limit	None
	R4T9	amount validity test 9	daily total withdraw should be less than $5000 for atm	login machine withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000	Valid Accounts List File with 2 valid accounts	transaction complete transaction complete transaction complete transaction complete transaction complete Exceed daily withdraw limit	None
Check withdraws within requirement is acceptable	R5T1	functionality test 1	check withdraw within $1000 for atm is acceptable	login machine withdraw 1234567 100000 logout	Valid Accounts List File with 2 valid accounts	transaction complete	transaction summary file

	R5T2	functionality test 2	check total withdraw within $5000 is acceptable	login machine withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000 withdraw 1234567 100000 logout	Valid Accounts List File with 2 valid accounts	transaction complete transaction complete transaction complete transaction complete transaction complete	transaction summary file
	R5T3	functionality test 3	check withdraw with in$999999.99 is acceptable for agent	login agent withdraw 1234567 99999999 logout	Valid Accounts List File with 2 valid accounts	transaction complete	transaction summary file

transfer

transfer							
Requirement	**TestNO.**	**TestName**	**Purpose**	**Input**	**InputFiles**	**Output**	**OutputFiles**
Must have logged in before transferring	R1T1	idle transfer	Cannot transfer before logging in	transfer	None	Must login before transactions	None
Checking transfer is acceptable	R2T1	transfer acceptability 1	Check transfer in atm mode	login machine transfer	Valid Accounts List File with 2 valid accounts	Two account numbers and amount are needed	None
	R2T2	transfer acceptability 2	Check transfer in agent mode	login agent transfer	Valid Accounts List File with 2 valid accounts	Two account numbers and amount are needed	None
first account number must be valid	R3T1	account number 1 validity test 1	The account number should not be more than 7 decimal--atm	login machine transfer 12345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T2	account number 1 validity test 2	The account number should not be less than 7 decimal--atm	login machine transfer 123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T3	account number 1 validity test 3	The account number cannot begin with 0--atm	login machine transfer 0123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T4	account number 1 validity test 4	The account number should be all digits--atm	login machine transfer 123defg	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T5	account number 1 validity test 5	The account number should not be more than 7 decimal--agent	login agent transfer 12345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T6	account number 1 validity test 6	The account number should not be less than 7 decimal--agent	login agent transfer 123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T7	account number 1 validity test 7	The account number cannot begin with 0--agent	login agent transfer 0123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None

	R3T8	account number 1 validity test 8	The account number should be all digits--agent	login agent transfer 123defg	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T9	account number 1 validity test 9	The account must have already existed---atm	login machine transfer 2345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T10	account number 1 validity test 10	The account must have already existed---agent	login agent transfer 2345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T11	account number 1 validity test 11	There should be 2 account numbers--atm	login machine transfer 1234567	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R3T12	account number 1 validity test 12	There should be 2 account numbers--agent	login agent transfer 1234567	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
second account number must be valid	R4T1	account number 2 validity test 1	The account number should not be more than 7 decimal--atm	login machine transfer 1234567 12345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T2	account number 2 validity test 2	The account number should not be less than 7 decimal--atm	login machine transfer 1234567 123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T3	account number 2 validity test 3	The account number cannot begin with 0--atm	login machine transfer 1234567 0123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T4	account number 2 validity test 4	The account number should be all digits--atm	login machine transfer 1234567 123defg	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T5	account number 2 validity test 5	The account number should not be more than 7 decimal--agent	login agent transfer 1234567 12345678	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T6	account number 2 validity test 6	The account number should not be less than 7 decimal--agent	login agent transfer 1234567 123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None

	R4T7	account number 2 validity test 7	The account number cannot begin with 0--agent	login agent transfer 1234567 0123456	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T8	account number 2 validity test 8	The account number should be all digits--agent	login agent transfer 1234567 123defg	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T9	account number 2 validity test 9	The account must have already existed---atm	login machine transfer 1234567 8765432	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
	R4T10	account number 2 validity test 10	The account must have already existed---agent	login agent transfer 1234567 8765432	Valid Accounts List File with 2 valid accounts	The account number is invalid	None
amount to transfer must be valid	R5T1	amount validity test 1	amount should not contain .(dot)-atm	login machine transfer 1234567 7654321 0.1	Valid Accounts List File with 2 valid accounts	Transfer amount invalid	None
	R5T2	amount validity test 2	amount should not contain .(dot)-agent	login agent transfer 1234567 7654321 0.1	Valid Accounts List File with 2 valid accounts	Transfer amount invalid	None
	R5T3	amount validity test 3	amount should not be negative-atm	login machine transfer 1234567 7654321 -1	Valid Accounts List File with 2 valid accounts	Transfer amount invalid	None
	R5T4	amount validity test 4	amount should not be negative-agent	login agent transfer 1234567 7654321 -1	Valid Accounts List File with 2 valid accounts	Transfer amount invalid	None
	R5T5	amount validity test 5	amount should not exceed balance--atm	login machine transfer 1234567 7654321 100000	Valid Accounts List File with 2 valid accounts	Transfer amount invalid	None

	R5T6	amount validity test 6	amount should not exceed balance--agent	login agent transfer 1234567 7654321 100000	Valid Accounts List File with 2 valid accounts	Transfer amount invalid	None
	R5T7	amount validity test7	amount should be less than $10000 for 1 transaction--atm	login machine transfer 1234567 7654321 1000001	Valid Accounts List File with 2 valid accounts	Exceed single-transaction limit	None
	R5T8	amount validity test 8	amount should be less than $999999.99 for 1 transaction--agent	login agent transfer 1234567 7654321 100000000	Valid Accounts List File with 2 valid accounts	Exceed single-transaction limit	None
	R5T9	amount validity test 9	daily total transfer should be less than $10000 for atm	login machine transfer 1234567 7654321 1000000 transfer 1234567 7654321 1000000	Valid Accounts List File with 2 valid accounts	transaction complete Exceed daily transfer limit	None
Check transferring within requirement is acceptable	R6T1	functionality test 1	check transfer within $10000 for atm is acceptable	login machine transfer 1234567 7654321 1000000 logout	Valid Accounts List File with 2 valid accounts	transaction complete	transaction summary file
	R6T2	functionality test 2	check total transfer within $10000 is acceptable	login machine transfer 1234567 7654321 500000 transfer 1234567 7654321 500000 logout	Valid Accounts List File with 2 valid accounts	transaction complete transaction complete	transaction summary file

	R6T3	functionality test 3	check transfer with in$999999.99 is acceptable for agent	login agent transfer 1234567 7654321 99999999 logout	Valid Accounts List File with 2 valid accounts	transaction complete	transaction summary file

Requirement Problems:

Problems and missing information in the requirements and constraints.

-   Missing the requirement for the password which leads to the lack of security of the system. Without constraints like passwords, a user can easily perform transactions on another's account, since all that's required for a transaction to happen is the account number and the amount. Features regarding security should be added.

-   The Transaction Summary File is written at the end of the day, thus the account information after each transaction is not updated immediately.

-   When doing the transactions(withdraw, deposit, transfer), the system should also use the master account file as input in order to get the balance corresponding to the account number entered.

-   Without the presence of the master file a user could deposit, transfer, withdraw more money than he/she own as long as he/she does it a little bit at a time.

-   Transactions of amount 0 is also accepted, which should not happen in real life. Such transactions also have no meaning except for testing functionality of the program.

Test Plan:

<u>Test file:</u>

1. The test command files, input files and expected output files are provided in the submitted folder.

2. one is terminal input file of different test files for each different features and specifications, one is summary transaction file based on different successful test cases running result

<u>Test Input and Output Organization:</u>

    <u>How our test files are organized</u>

- In the Front End of the system, there are seven transaction codes we need to test. We came up with the test cases corresponding to the transactions as the table shown above. For each case, we stored the input commands into a file called "transaction_R*T*_input.txt" where 'transaction' is the specific transaction code (createacct, withdraw, etc.), 'R*' 'is the number of requirements, and 'T*' is the number of test cases. In order to organize the test cases and results, we classified them into seven folders based on the transaction command that they test under the user-input folder.

- To make sure that all the cases are tested correctly, we also planned to create the folders containing the Valid Account Files('Valid_Accounts_lists_2accts.txt') and the Transaction Summary Files('transaction_R*T*_output.txt') which match different requirements and test cases.

    <u>How our test cases are derived</u>

- For the login, test cases have 5 parts according to the requirements and constraints. The first part is based on the requirement: "No transaction before login" which means all the transactions have to be happened after login. In this part , we test all the transactions and an undefined transactions without login command and find all the result of the test. The second part is to check the user to login with a type which can be either ATM mode and Agent mode. It includes the tests for the login with both types we mentioned and an undefined type which could result in an error. The third part is to check out that there is no subsequent login should be accepted after a login until after a logout. Subsequent is not only a simple circumstance that login after login but also login with different types and login again. This part of test includes all the subsequent that could happen when the users use the system. The fourth part of the login test is to check all the transactions with ATM login, it contains the ATM transactions and the privileged

transactions to make sure that the only ATM transactions are accepted and privileged transactions are not allowed with ATM login. Finally, the fifth part is similar to the four part. It is about testing all transactions with Agent login and to find out if all transactions are accepted with Agent login.

- For the logout, tests have 3 parts according to the requirements and constraints. The first part is to test that the transaction summary file have to be written out after when the system logged out. This part of the test contains the logging in with ATM mode and Agent mode, within these login modes test all the circumstances that includes all the transactions and write them to Transactions Summary File. Check through the Transactions Summary File and find out if the file were written in a correct way. The second part of logout test cases is to check that logout is only allowed after logging in. This part includes a logout without login first and a logout after login. The third part is to check that there are no transactions other than login are accepted after a logout. This part of the test contains all the test of all possible transactions circumstances after a successful logout.

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- For the createacct transaction, test cases can be divided into 8 parts according to the requirements and constraints. The create account transaction should only be accepted in agent mode, therefore the acceptability of create acct in both machine and agent mode should be tested first. The second part tests the length of the input account number or whether it begins with 0. The third part of the case is to make sure the new account number is different from all other current account numbers reads from the Valid Account File. When the account number is valid, the fourth part checks the length of the new name, which should be between 3 and 30 characters. The fifth part tests the validity of the characters in the new name. The sixth part checks the acceptability of other transactions after the new account is created. As the last part of the test, a valid create acct transaction is created and writes out the transaction summary file.

- For the deleteacct specifications, first is"should ask for the account number and account name (as text lines) " which0 "deleteacct" command requires correct account number and account name, in this case, we should test valid account number and account name and this should give us a good summary transaction file after logout for the delete account specification 2: " should check that the account number is valid, and save the account number and name in the transaction summary file " which we have to check both of account number(which we have to check if the account number is higher than 7, or if the account number is lower than 7, or if the account if even a pure number, or if the account number starts at 0, which it is not valid, and also we have to check if the account number is an existed account number from the bank, which drive us we need the input file of valid account lists) and check for the account name based on the back office to check if the account number matches the account name.
For the specification 3: "only accepted when logged in agent mode ", we should check if the delete acct mode will be block for machine(atm) mode, test to see if there is an error. For the specification 4: "no further transactions should be

accepted on a deleted account" we should test if the deleted account can still process such as deposit deletedAccountNumber 5000, this will occur error after this account is deleted.

for the deposit specifications, we have to ask for "the account number and amount to deposit in cents", which drive us the first part of the test, we will need to test if we entered correct terminal input such as (login, deposit, valid account number, validAmountNumber) which satisfy the requirement and after logout this test should give us a good transaction summary file(check both for machine mode and agent mode), which is the first part of the test.

For the second specification, which we have to "check that the account number is valid and that the amount is valid"(for example, check if the account number is higher than 7, or if the account number is lower than 7 and etc) and we have to check the amount to deposit(which amount has to be pure integer, because it is in cents, no decimal are allowed, and we also have to check if the amount is negative, or if the amount contains letter or alphabet) This is for the second part of specification. And also. "deposits above $2,000 should be rejected in ATM mode (max $999,999.99 in agent mode)." which we have to test if the amount of deposit over 200000 cents will give us an error message, we have to check if agent mode of higher amount than 99999999 will also give us the error message. furthermore, "For ATM, the daily deposit limit is $5,000 per account. " which requires us to check if the total deposit of the day is higher than 500,000 cents, and any amount below this should give us good output.

- For test cases with withdraw, it was separated into 5 main parts. First part being the idle withdraw, denying withdraw when not yet logged in. Second part checks availability of the withdraw command on both agent and machine. The third part asks the account number and checks it's validity, whether it's too long, too short, contains letters, begins with a 0, for both machine and agent. It also checks whether that account exists or not for agent and machine. The fourth part checks the amount to withdraw, whether it exceeds daily limit or account balance, or is the amount invalid being negative or containing any dots. The daily limit will vary for agent or machine. The fifth part checks how will be transaction behave in a situation with no errors happening, and will log out when the transaction is complete. The expected output in this case is a transaction summary file.

- For transfer, the test cases can be divided into 6 parts. First part is idle transfer, benying transfer before any login. Second part checks availability of the command transfer for both machine and agent. The third party checks validity of first account number, whether it's too long, too short, contains letters, begins with 0, and checks if there are 2 account numbers when the first one is correct.. The fourth part checks the validity of the second account number. The fifth part will check the validity of the amount to transfer. The amount can't be negative, can't contain dots,

can't exceed balance ot daily transaction limit. That limit will vary for machine or agent. The last part checks behaviour of the command when no error is present, and will logout after transaction is done. Every test in last part produces a transaction summary file.

Test Run Plan:

How you intend that they will be run (as shell scripts, Windows batch files or whatever)

- We could implement a JUnit testing on Windows by using IDLE of eclipse. We will write out all of the test code we created and write out all of the expected output of the test cases, and run the JUnit to check if our program would run as intended.

- In order to make the JUnit work, we have to build our Class Path of Java Development Kit, and make sure the Java running Engine is runnable. We will implement the JUnit on eclipse since it is one of the best IDLE for JUnit and it is easy to organize the different types of specifications based on different types of features and functionality requirements.

How you intend that the output will be validated (by comparison, by hand, etc.)

- Output files will be compared with expected output files using testing programs. Console outputs will be compared with expected outputs by a person.

How results will be stored and organized for reporting and comparison with future runs.

- Results will be collected and titled with names corresponding to the test cases. All results on a run will be in a folder indicating the time of testing.

- By using JUnit, we can easily see the differences between the expected and the actual terminal output. Those that didn't go as expected will be recorded and sorted by different transaction features. For each error test case, we will find out the specific requirement that it tests, and then trace the error causes (logic errors, any missing specifications, etc.)

- We will rewrite our code and rebuild our system based on the error report for future runs. This step may be repeated times until all test cases are worked as expected.