

[Personal Finance] Functional Test Run				
Objectives	Test Case ID	Expected Result	Observed Result	Passed? (Y/N)
Initialize Chart of Accounts	1	Accounts from the file are loaded into the system.	Enter the name of the file you want to use: Finance Template.csv Accounts from Finance Template.csv have been successfully loaded into the database.	Y
	2	System displays invalid file error message.	Enter the name of the file you want to use: template.txt Error: The file must be a CSV format.	Y
	3	System displays invalid file error message.	Enter the name of the file you want to use: Error: The file must be in CSV format.	Y
	4	System displays error for missing values in a row.	Enter the name of the file you want to use: Missing Account ID.csv Error: Account ID " is invalid for category 'Asset'. Errors in the file prevent loading the template.	Y
	5	System displays error for missing values in a row.	Enter the name of the file you want to use: Missing Name.csv Accounts from Missing Name.csv have been successfully loaded into the database.	Y
	6	System displays error for missing values in a row.	Enter the name of the file you want to use: Missing Category.csv Error: Account ID '4001' is invalid for category ". Errors in the file prevent loading the template.	Y
	7	System displays error for missing values in a row.	Enter the name of the file you want to use: Missing Balance.csv Error: Balance " must be a valid number. Errors in the file prevent loading the template.	Y
	8	System displays error for invalid account ID for column "Expense".	Enter the name of the file you want to use: Wrong Category.csv Error: Account ID '1001' is invalid for category 'Expense'. Errors in the file prevent loading the template.	Y
	9	System displays error for invalid account ID.	Enter the name of the file you want to use: Alphabet ID.csv Error: Account ID 'abc' is invalid for category 'Income'. Errors in the file prevent loading the template.	Y
	10	System displays error for duplicate account IDs.	Enter the name of the file you want to use: Duplicate Account ID.csv Error: Duplicate account ID '1001' detected. Errors in the file prevent loading the template.	Y
	11	System displays error for negative balance.	Enter the name of the file you want to use: Negative Balance.csv Accounts from Negative Balance.csv have been successfully loaded into the database.	N
	12	System displays error for invalid account balance.	Enter the name of the file you want to use: Alphabet Balance.csv Error: Balance 'abc' must be a valid number. Errors in the file prevent loading the template.	Y

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	13	System displays error for invalid column.	Enter the name of the file you want to use: Different Columns Name.csv Error: Column 1 must be 'Account_ID'. Errors in the file header prevent loading the template.	Y
	14	System displays error for invalid category.	Enter the name of the file you want to use: ID5001.csv Error: Account ID '5001' is invalid for category 'Testing'. Errors in the file prevent loading the template.	Y
	15	System displays error for missing columns.	Enter the name of the file you want to use: Missing Column.csv Error: Missing columns in the file header. Errors in the file header prevent loading the template. Error: Missing values in a row. Error: Missing values in a row. Error: Missing values in a row. Error: Missing values in a row. Errors in the file prevent loading the template.	Y
	16	System displays error for extra columns.	Enter the name of the file you want to use: Extra Column.csv Error: Expected 4 columns, but found 5 columns. Errors in the file header prevent loading the template.	Y
Add Transaction	17	system display success message	Transaction confirmed.	Y
	18	System warn "Please input a valid data" error message and ask again.	Transaction from Expense to Income is not allowed.	Y
	19	system warn source account id = destination id	Source account id and destination account id cannot be the same.	Y
	20	system warn to put in valid format	Invalid amount. Please enter a positive number.	Y
	21	system display error date format	Invalid date format. Please enter a valid date (YYYY-MM-DD).	Y
	22	system warn to put in valid account id format	Invalid account id. Please enter a 4-digit number.	Y
	23	system warn for invalid account format	Invalid account id. Please enter a 4-digit number.	Y

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	24	System display "ID not found, Please input existing ID" error message.	Enter source account id (4 digits): 1006 Enter destination account id (4 digits): 1001 Enter the transaction amount: 777 Enter a description for the transaction: jjj Enter transaction date (format: YYYY-MM-DD): 2024-11-7 Want to record the following transaction? : Source account id: 1006 Destination account id: 1001 Amount: 777.0 Description: jjj Date: 2024-11-7 Y for Yes, N for No: y Transaction confirmed. Transaction added successfully! {'source_account_id': '1006', 'account_id': '1001', 'amount': 777.0, 'description': 'jjj', 'date': '2024-11-7'}	Y
	25	System display "ID not found, Please input existing ID" error message.	Choose a option: 1 Enter source account id (4 digits): 1001 Enter destination account id (4 digits): 1006 Enter the transaction amount: 888 Enter a description for the transaction: test Enter transaction date (format: YYYY-MM-DD): 2024-11-7 Want to record the following transaction? : Source account id: 1001 Destination account id: 1006 Amount: 888.0 Description: test Date: 2024-11-7 Y for Yes, N for No: y Transaction confirmed. Transaction added successfully! {'source_account_id': '1001', 'account_id': '1006', 'amount': 888.0, 'description': 'test', 'date': '2024-11-7'}	Y
	26	exit add transaction	Transaction cancelled. ----User Dashboard---- 1. Initialize account chart 2. Account Management 3. Transaction Management 4. Budget Management 5. Exit Select an option:	Y
Delete Transaction	27	system confirm deletion of the transaction	Transaction with id {transaction_id} deleted successfully.	Y
	28	system says undetect account id	No transactions found for account number	Y
	29	system warn incorect format	Invalid transaction id. Please enter a numeric value.	Y

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	30	system don't detect transaction id	Invalid transaction id. Please enter a numeric value.	Y
	31	exit delete transaction	Operation cancelled. ----User Dashboard---- 1. Initialize account chart 2. Account Management 3. Transaction Management 4. Budget Management 5. Exit Select an option:	Y
Show transaction	32	system can find the transaction	transaction_id: 1 source_account_id: 987 destination_account_id: 6543 amount: 12345.0 date: 2001-10-10 description: test account_id: 6543	Y
Search for transaction	33	ask user for next input	Enter your choice (1, 2, 3 or cancel): 1 Enter the source account id to search for (or type 'cancel' to exit):	Y
	34	Display error message and ask user to reinput	Invalid choice. Please enter 1, 2, or 3. How would you like to search for the transaction? 1. Source account Number 2. Destination account Number 3. Date Enter your choice (1, 2, 3 or cancel):	Y
	35	system cannot find transaction	No transactions found for bank number	Y
	36	Pop up all list of transaction that is assign to that date	Transactions found: transaction_id: 1 source_account_id: 987 destination_account_id: 6543 amount: 12345.0 date: 2001-10-10 description: test account_id: 6543	Y
	37	Pop up all list that have source account of that id, arrange by id	Transactions found: transaction_id: 1 source_account_id: 987 destination_account_id: 6543 amount: 12345.0 date: 2001-10-10 description: test account_id: 6543	Y
	38	No transaction found		Y

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	39	system warn invalid id format	Invalid bank number. Please enter a 4-digit number.	Y
	40	system warn about invalid id format	Invalid bank number. Please enter a 4-digit number.	Y
	41	exit search transaction	Operation cancelled. ----User Dashboard---- 1. Initialize account chart 2. Account Management 3. Transaction Management 4. Budget Management 5. Exit Select an option:	Y
Add Account	42	Add account to the database.	Enter account type (Income, Expense, Asset, Liability): income Enter account name: SCB income Enter amount of balance: 6000 Account has been added successfully! Account ID: 1003 Account Name: SCB income Account Type: Income Balance: \$6,000.00	Y
(account type validation)	43	system continue to ask next input	Enter account type (1: Income, 2: Expense, 3: Asset, 4: Liability) or 'cancel' to exit: 1 Enter account name or type 'cancel' to exit:	Y
	44	system gives error, and ask user to reinput account type	Enter account type (Income, Expense, Asset, Liability): income Error: Invalid account type. Please try again. Enter account type (Income, Expense, Asset, Liability):	Y
	45	system gives error, and ask user to reinput account type	Enter account type (Income, Expense, Asset, Liability): Error: Invalid account type. Please try again. Enter account type (Income, Expense, Asset, Liability):	Y
(name validation)	46	system continue to ask next input	Enter account name: KrungSri Saving Account Enter amount of balance: 3000	Y
	47	system continue to ask next input	Enter account name: KrungSri Saving Account Enter amount of balance: 3000	Y
	48	system gives error, and ask user to reinput account name	Enter account type (Income, Expense, Asset, Liability): Income Enter account name: KrungSri Saving Account Error: Account name already exists. Please try again. Enter account name:	Y
	49	system gives error, and ask user to reinput account name	Enter account name: Error: Account name cannot be empty. Please try again. Enter account name:	Y

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(amount validation)	50	Add account to the database.	Enter amount of balance: 3000  Account has been added successfully! Account ID: 1004 Account Name: KrungSri Saving Account Account Type: Income Balance: \$3000.00	Y
	51	system gives error, and ask user to reinput amount	Enter amount of balance: 300a Error: Balance must be a positive number. Please try again.	Y
	52	system gives error, and ask user to reinput amount	Enter amount of balance: -3000 Error: Balance must be a positive number. Please try again.	Y
	53	system gives error, and ask user to reinput amount	Enter amount of balance: Error: Balance must be a positive number. Please try again.	Y
	54	exit add account	Enter account type (1: Income, 2: Expense, 3: Asset, 4: Liability) or 'cancel' to exit: cancel Cancel adding account... Account creation canceled. ----User Dashboard---- 1. Initialize account chart 2. Account Management 3. Transaction Management 4. Budget Management 5. Exit Select an option:	Y
Delete Account	55	system continue to ask next input	Enter '1' to delete the account by name or '2' to delete by ID: 1 Enter account name:	Y
(ID validation)	56	system gives error, and ask user to reinput choice	Enter '1' to delete the account by name or '2' to delete by ID: 3 Invalid choice. Please enter '1' or '2'.	Y
	57	system continue to ask next input	Enter account name: KrungSri Saving Account Are you sure you want to delete the account 'KrungSri Saving Account' and all its related data? Type 'Y' to confirm or 'N' to cancel:	Y
	58	system continue to ask next input (confirmation)	Enter account ID: 1001 Are you sure you want to delete the account 'Account 1' and all its related data? Type 'Y' to confirm or 'N' to cancel:	Y
	59	system gives error, and ask user to reinput account ID	Enter '1' to delete the account by name or '2' to delete by ID: 2 Enter account ID: 200h Error: Account ID does not exist.	Y

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	60	system give error	Enter account ID, or 'cancel' to exit: 2001 Cannot delete account 'expense' because it has associated transactions.	Y
	61	delete account from database and delete that account transaction and budget from the database	Are you sure you want to delete the account '1001' and all its related data? Type 'Y' to confirm or 'N' to cancel: y No transactions found for this account. No budget found for this account. Account deleted successfully! Account and its related data deleted successfully!	Y
	62	system cancel the account deletion	Are you sure you want to delete the account 'account' and all its related data? Type 'Y' to confirm or 'N' to cancel: N Account deletion canceled.	Y
	63	exit delete account	Enter '1' to delete the account by name, '2' to delete by ID, or 'cancel' to exit: cancel ----User Dashboard---- 1. Initialize account chart 2. Account Management 3. Transaction Management 4. Budget Management 5. Exit Select an option:	Y
Show Account Balance	64	Show account balance based on user options. (1: all account, 2: selected account ID, 3: selected account name, 4: exit program )	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: 1 Account ID: 1002, Account Name: account, Balance: 70.0 Account ID: 1003, Account Name: SCB income, Balance: 6000.0  Account ID: 1005, Account Name: KrungSri Saving Account2, Balance: 80.0  Account ID: 2001, Account Name: Account 2, Balance: 0.0 Account ID: 2003, Account Name: expense3, Balance: 4.0 Account ID: 3001, Account Name: Account 3, Balance: 0.0 Account ID: 4001, Account Name: Account 4, Balance: 0.0	Y
(option validation)	65	system gives error, and ask user to reinput option	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: all Invalid choice. Please enter '1', '2', '3', or '4'.	Y

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(ID validation)	66	system show all account balance	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: 1 Account ID: 1002, Account Name: account, Balance: 70.0  Account ID: 1003, Account Name: SCB income, Balance: 6000.0  Account ID: 1005, Account Name: KrungSri Saving Account2, Balance: 80.0  Account ID: 2001, Account Name: Account 2, Balance: 0.0 Account ID: 2003, Account Name: expense3, Balance: 4.0 Account ID: 3001, Account Name: Account 3, Balance: 0.0 Account ID: 4001, Account Name: Account 4, Balance: 0.0	Y
	67	system show that account ID balance	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: 2 Enter the account ID: 1003 Account ID: 1003, Account Name: SCB income, Balance: 6000.0	Y
	68	system show error and ask user to choose options	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: 2 Enter the account ID: 3002 No account found with ID: 3002	Y
	69	system show that account name balance	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: 3 Enter the account name: expense3 Account Name: expense3, Account ID: 2003, Balance: 4.0	Y
	70	system show error and ask user to choose options	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: 3 Enter the account name: Asset4 No account found with name: Asset4	Y



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	71	exit the show account balance program and go back to user dashboard	Enter '1' to show balance of all accounts, '2' to show balance by an account ID, '3' to show balance of an account by name, or '4' to exit the program: 4 Exiting the program. ----User Dashboard---- 1. Initialize account chart 2. Account Management 3. Transaction Management 4. Budget Management 5. Exit Select an option:	Y
Creating Budget	72	Budget is created and stored in the database.	Enter the category for your budget (Or type cancel to exit): Monthly Expenses Enter the account ID of this budget (Expense type): 2001 Enter the amount of your budget: 1500 Budget for 'Monthly Expenses' added with amount: 1500.00 linked to account '2001'.	Y
	73	System displays "invalid budget amount" error message.	Enter the category for your budget (Or type cancel to exit): Monthly Expenses Enter the account ID of this budget (Expense type): 2001 Enter the amount of your budget: -1000 Invalid budget amount! Budget amount cannot be negative.	Y
	74	System displays "invalid budget amount" error message.	Enter the category for your budget (Or type cancel to exit): Monthly Expenses Enter the account ID of this budget (Expense type): 2001 Enter the amount of your budget: abc Invalid budget amount! could not convert string to float: 'abc'	Y
	75	System displays "Budget name already exist!" error message.	Enter the category for your budget (Or type cancel to exit): Monthly Expenses Category 'Monthly Expenses' already exists with a budget of 1000.00, linked to Account ID: 2001.	Y
	76	System displays "Invalid budget name!" error message.	Enter the category for your budget (Or type cancel to exit): Invalid budget name! Please enter a non-empty category name.	Y
Modify Budget	77	Budget is modify and stored in the database.	Enter the category of the budget to modify (Or type cancel to exit): Monthly Expenses Current budget for 'Monthly Expenses': 1000.00, Account ID: 2001 Enter the new budget amount: 1500 Budget for 'Monthly Expenses' updated to 1500.00.	Y
	78	System displays "Budget does not already exist!" error message.	Enter the category of the budget to modify (Or type cancel to exit): Utilities Budget category 'Utilities' not found.	Y

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	79	System displays "Invalid budget amount!" error message.	Enter the category of the budget to modify (Or type cancel to exit): Monthly Expenses Current budget for 'Monthly Expenses': 1500.00, Account ID: 2001 Enter the new budget amount: -1000 Invalid budget amount! Amount cannot be negative.	Y
	80	System displays "Invalid budget amount!" error message.	Enter the category of the budget to modify (Or type cancel to exit): Monthly Expenses Current budget for 'Monthly Expenses': 1500.00, Account ID: 2001 Enter the new budget amount: abcd Invalid budget amount! could not convert string to float: 'abcd'	Y
	81	System displays "Invalid budget amount!" error message.	Enter the category of the budget to modify (Or type cancel to exit): Monthly Expenses Current budget for 'Monthly Expenses': 1500.00, Account ID: 2001 Enter the new budget amount: Invalid budget amount! could not convert string to float: "	Y
	82	System displays "Invalid budget name!" error message.	Enter the new account ID (Expense type only): Invalid or non-expense account ID.	Y
	83	System displays "Invalid budget name!" error message.	Enter the new account ID (Expense type only): abcd Invalid or non-expense account ID.	Y
	84	System displays "Invalid budget name!" error message.	Enter the new account ID (Expense type only): 2003 Invalid or non-expense account ID.	Y
Delete Budget	85	System delete the budget from the database.	Enter the category of the budget to delete (Or type cancel to exit): Monthly Expenses Confirm deletion of budget 'Monthly Expenses'? (y/n): y Budget for 'Monthly Expenses' has been deleted.	Y
	86	System displays "Budget category 'Utilities' doesn't exist!" error message.	Enter the category of the budget to delete (Or type cancel to exit): Utilities Budget category 'Utilities' not found.	Y
	87	Confirmation message: "Budget for 'Monthly Expenses' has been deleted."	Enter the category of the budget to delete (Or type cancel to exit): Monthly Expenses Confirm deletion of budget 'Monthly Expenses'? (y/n): y Budget for 'Monthly Expenses' has been deleted.	Y
	88	System displays message: "Budget deletion cancelled."	Enter the category of the budget to delete (Or type cancel to exit): Monthly Expenses Confirm deletion of budget 'Monthly Expenses'? (y/n): n Deletion canceled.	Y