Class Project **Group 2**
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CSCI 3060U Course Project - Winter 2026
Phase #2 - Front End Requirements

Class and Function Descriptions:

Class	Method Name	Description
FrontEndApp	run	Main loop of the application; keeps the program running and processing commands.
	read_command	Reads and parses the user's input from the console.
	dispatch	Takes a command string and routes it to the specific transaction method.
	login_transaction	Handles the user input and flow for logging into a session.
	logout_transaction	Handles the flow for logging out and saving necessary data.
	withdrawal_transaction	Coordinates the withdrawal process between user input and the account manager.

	transfer_transaction	Coordinates the transfer of funds between two accounts.
	paybill_transaction	Coordinates the payment of a bill to a specific company.
	deposit_transaction	Coordinates the deposit of funds into an account.
	create_transaction	Handles the administrative process of creating a new account.

	delete_transaction	Handles the administrative process of deleting an existing account.
	disable_transaction	Handles the administrative process of disabling an account.
	changeplan_transaction	Handles the administrative process of changing an account's plan (Student/Non-Student).

Session	login	Updates the session state with the user mode (Standard/Admin) and username.
	logout	Clears the current session data.
	can_do_privileged	Boolean check to verify if the current session allows admin-level actions.
AccountManager	load_current_accounts	Reads the accounts file and populates the accounts_by_number dictionary.
	get_account	Retrieves a specific Account object using its account number.
	is_valid_owner	Verifies that a specific account number belongs to the provided account holder name.
	is_active	Checks if a specific account is currently active.
	account_exists	Checks if a provided account number exists in the system.
TransactionManager	add	Adds a new Transaction object to the internal list.
	add_end_of_session	Creates and adds the specific end-of-session transaction/token.
	write_daily_transactions	Writes all stored transactions to the transaction summary

		file.
	format_tx_line	Helper function to format a single transaction object into the required string format for the file.
Validators	validate_amount	Checks if a monetary amount is valid (e.g., non-negative, correct precision).
	validate_company	Checks if a company name is valid for bill payments.
	validate_name	Checks if an account holder's name meets the required format and length.
Account	Attribute Only Class	**Data Class:** Stores account details including number, holder name, status, and balance.
Transaction	Attribute Only Class	**Data Class:** Stores transaction details including code, name, account number, amount, and misc data.

Phase 2 - Deploying Technical Debt
UML Diagram:

Session

+is_logged_in: bool
+mode: str
+current_user: str
+withdraw_total: float
+transfer_total: float
+paybill_total: float

+login(mode:str, user:str|None) : None
+logout() : None
+can_do_privileged() : bool

AccountManager

-accounts_by_number: dict[str, Account]

+load_current_accounts(path:str) : None
+get_account(acct_no:str) : Account|None
+is_valid_owner(acct_no:str, owner:str) : bool
+is_active(acct_no:str) : bool
+account_exists(acct_no:str) : bool

Account

+number: str
+holder: str
+status: str
+balance: float

FrontEndApp

+run() : None
-read_command() : str
-dispatch(cmd: str) : None
+login_transaction() : None
+logout_transaction() : None
+withdrawal_transaction() : None
+transfer_transaction() : None
+paybill_transaction() : None
+deposit_transaction() : None
+create_transaction() : None
+delete_transaction() : None
+disable_transaction() : None
+changeplan_transaction() : None

TransactionManager

-transactions: list[Transaction]

+add(tx:Transaction) : None
+add_end_of_session() : None
+write_daily_transactions(path:str) : None
-format_tx_line(tx:Transaction) : str

Transaction

+code: str
+name: str
+account_no: str
+amount: float
+misc: str

Validators

+validate_amount(amount:float) : bool
+validate_company(company:str) : bool
+validate_name(name:str) : bool

uses

uses

uses

uses

stores

stores