

Method Descriptions & UML Diagram

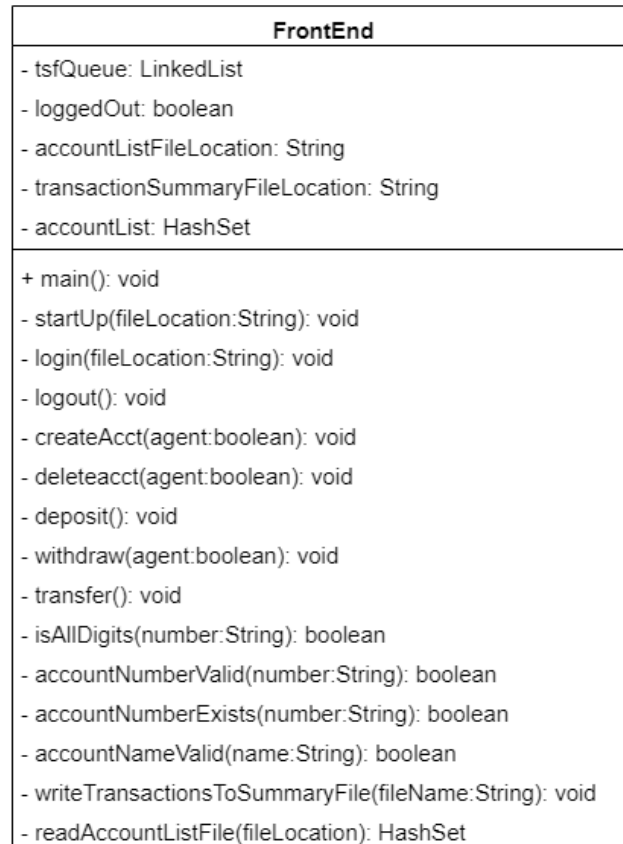
Student1#: 20072745

Student2#: 20047267

Student3#: 20053704

Student4#: 20070181

system



main

This method takes in both the accountListFile location and transactionSummaryFile location via parameters, and calls the startUp function which would begin the session

startUp

This method acts as a welcome screen, requests for initial user commands and keeps on running until a system logout

login

This method starts a front-end session, asks for a type of session, and assigns the agent variable a Boolean value which will be used in a variety of functions to check the session mode. This also assigns the global accountList hashset to contain all valid account numbers.

logout

This method ends the front-end session, writes "EOS" to the transaction summary file and directs user to the welcome screen afterwards where a new session can be started

createAcct

This method validates the mode the user is in and the account number and name before creating a new account using user input and adding the transaction code to tsfQueue.

deleteAcct

This method validates the mode the user is in and the account number and name before deleting an existing account and adding the transaction code to tsfQueue.

deposit

This method validates the account number and amount being deposited before depositing money into an account and adding the transaction code to tsfQueue

withdraw

This method validates the account number and amount being withdrawn before withdrawing money into an account and adding the transaction code to tsfQueue.

transfer

This method validates both account numbers and amount being transferred before transferring money into the second account and adding the transaction code to tsfQueue.

isAllDigits

This method is a common helper function that is called by multiple larger methods that verifies that the account number entered consists only of decimal digits.

accountNumberExists

This method is a common helper function that is called by multiple larger methods. This takes in a string as a parameter and verifies that the string is currently in the valid accounts list file. This is done by checking through the hashset that was created in the login method, ensuring $O(1)$ efficiency.

accountNumberValid

This method is a common helper function that is called by multiple larger methods that verifies the account number is exactly seven decimal digits not beginning with 0.

accountNameValid

This method is a common helper function that is called by multiple larger methods that verifies the string follows all rules and constraints for account names such as no leading or trailing spaces.

writeTransactionsToSummaryFile

This method writes out every transaction that has been made in the session day to the transaction summary file by emptying out tsfQueue.

readAccountListFile

This method the file location/directory. Using this, the method will open the account list file and add its content into a hashset. Then, it will return that hashset to the global variable.