# OSL Bank System

**Jiacong Jiang**

# CONTENTS

This document introduces the functions and features in bank system.

# DETAILS AND INTERPRETATIONS OF THE BANK SYSTEM

**class** system.bank_system.**bankSystem**(*df*, *ts*)

Some operations functions in bank systems.

Initialize the system and record dataframe for bank system.

> **Parameters**
>
> > • **df** (*pd.DataFrame*) – store the data and ninformation of all clients' account
> >
> > • **ts** (*pd.DataFrame*) – store the details of all transaction and operations history

**checkPassword**()

This function checks the password when users try to access their account in the system for further operations. If the account is invalid or the password is incorrect,it will ask the user to input the account and password again. If all goes correctly, it will return the account number.

> **Returns account** – account number
>
> **Return type** int

**checkWithdraw**(*user*)

To check whether a single client do more than 5 withdrawals of any currency in the last 5 mins. Return false if it exceeds 5 times, otherwise returns true.

> **Parameters user** (*string*) – the name of the particular user, string
>
> **Returns True or False** – the result of the checks
>
> **Return type** boolean

**createAccount**()

create an account in the bank system, the system will allocate the account number automatically, and required input of name, password, currency from users.

**depositMoney**()

This function is fot deposit the money. It will first check the account and password of the users' input. And it asks the amount of money to be deposited. Finally, load the operations record into the bank system and operation history dataframe.

**displayTran**()

To generate transaction statement for the particular user, it shows all the transaction record of all the accounts of the users, including the time, currency, operation type, and amount.

**listBalance**()

List all the account for the particular user, showing the name of the users, the account currency and the balance.

**mainMenu**()

The main menu of the system. It will repeat until the user chooses to exit the system.

**transferMoney()**

> To transfer the money between accounts. Check the target account is valid, check two accounts are of the same currency, check the balance is sufficient. If all goes well, it will write the history and operations in the system.

**withdrawMoney()**

> This is for money withdrawal. Check the account and password. Then check the times of withdrawal in the last 5 mins, and check the fund is sufficient. If all goes well, the withdrwal history will be wriiten in the system.

`system.bank_system.`**main()**

> This is the main function.