Title

Login system of the Tien Phong Bank's Ebank

Background

(Module extracted from TienPhong Bank, ebank project)

Program Specifications

Login function of Ebank system includes:

1. Vietnamese
2. English
3. Exit

If the user selects 1: Switch the interface language to Vietnamese and perform "check login" function.

If the user selects 2: Keep the English interface and perform "check login" function.

Check the Login function:

1. Require to input an account number :

   - Check the account number must be a number

   - Each account number must be 10 digits.

2. Input a password:

   - Check length of the password which is enough length or not

   - Check the password which includes alphanumeric or not.

3. Require to input one character or multiple characters in the captcha:

   - Create a random captcha code in each login.

   - Check the input characters of captcha are correct or not.

Function details:

Function 1: Display a menu and ask users to select an option.
- User runs the program. The program prompts users to select an option.

- User selects an option, perform **Function 2**.

Function 2: Perform language based on the selected option.
Function 1: Change language
- Use the resourceBundle to get the value of the language according to the key in 2 files as En.properties and Vi.properties which are corresponding English and Vietnamese

.**Function 2: Checking account number**
- Using Regular Expression to check the validity of the account number was input at the request of the assignment.

- If the account number is invalid, it returns an error message corresponding to the language you chose.

Function 3: Check the password.
- Use a RegularExpression to check the validation of the inputted password.

- If the password is invalid, then return an error message corresponding to the language you have just selected.

Function 4: Generate a random captcha code.
- Use the Random function to generate a random sequence, and then converser to characters (type char) .
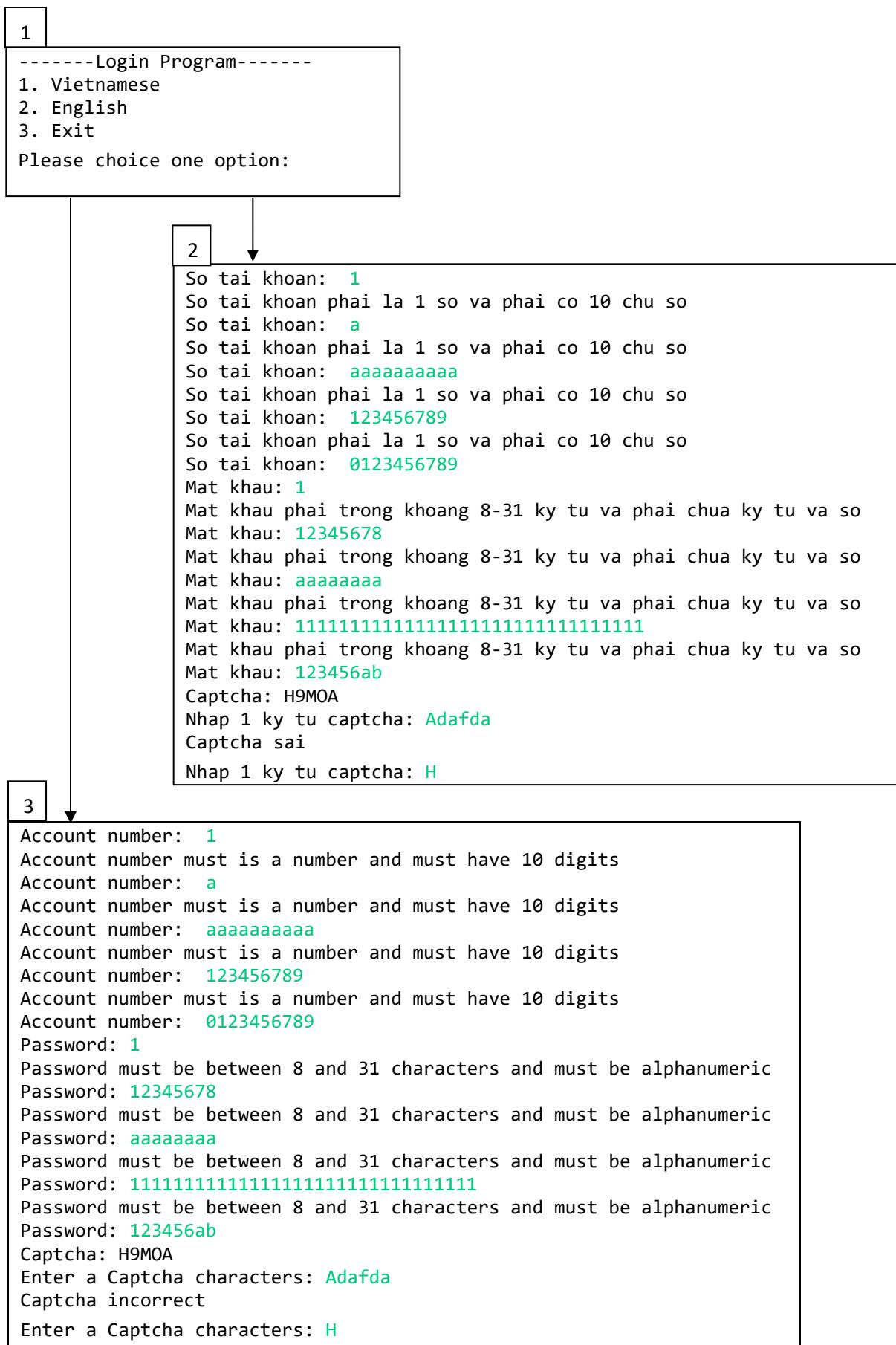
Function 5: Check the captcha code
- Use the function contains () to check the captcha characters input exists in the captcha string was born at first did not.

- If the captcha characters are invalid, then returns the error message that corresponds to the language you have selected.

Function 6: Login
- Allows the user to input the account number, password and captcha from the keyboard.

- If a valid account number, then allows the user to input a password and if the account number entered is not valid, then print out the error screen and allows the user to input again.

- If valid password then allows users to input captcha. Otherwise then print out the error screen and allows the user to input again.

- If the captcha is not valid then print out the error screen.

Expectation of User interface:

```
1
-------Login Program-------
1. Vietnamese
2. English
3. Exit

Please choice one option:
```

```
2
So tai khoan:  1
So tai khoan phai la 1 so va phai co 10 chu so
So tai khoan:  a
So tai khoan phai la 1 so va phai co 10 chu so
So tai khoan:  aaaaaaaaaa
So tai khoan phai la 1 so va phai co 10 chu so
So tai khoan:  123456789
So tai khoan phai la 1 so va phai co 10 chu so
So tai khoan:  0123456789
Mat khau: 1
Mat khau phai trong khoang 8-31 ky tu va phai chua ky tu va so
Mat khau: 12345678
Mat khau phai trong khoang 8-31 ky tu va phai chua ky tu va so
Mat khau: aaaaaaaa
Mat khau phai trong khoang 8-31 ky tu va phai chua ky tu va so
Mat khau: 11111111111111111111111111111111
Mat khau phai trong khoang 8-31 ky tu va phai chua ky tu va so
Mat khau: 123456ab
Captcha: H9MOA
Nhap 1 ky tu captcha: Adafda
Captcha sai

Nhap 1 ky tu captcha: H
```

```
3
Account number:  1
Account number must is a number and must have 10 digits
Account number:  a
Account number must is a number and must have 10 digits
Account number:  aaaaaaaaaa
Account number must is a number and must have 10 digits
Account number:  123456789
Account number must is a number and must have 10 digits
Account number:  0123456789
Password: 1
Password must be between 8 and 31 characters and must be alphanumeric
Password: 12345678
Password must be between 8 and 31 characters and must be alphanumeric
Password: aaaaaaaa
Password must be between 8 and 31 characters and must be alphanumeric
Password: 11111111111111111111111111111111
Password must be between 8 and 31 characters and must be alphanumeric
Password: 123456ab
Captcha: H9MOA
Enter a Captcha characters: Adafda
Captcha incorrect

Enter a Captcha characters: H
```

Guidelines

Student must implement methods
>   setLocate
>   checkAccountNumber
>   checkPassword

in startup code.
- Create a Main class to display the selected language in the Menu.
- Create the Ebank class including the following functions:
Function 1: Convert the languages.

o   The program will switches from this language to another one, so that the result is the elements is defined in the Language.properties file will convert to another one.

o   Implement the function: void setLocate(Locate locate).

- Input :

  ➢ locate: name of properties file which needs to be converted.

Function 2: Check the account number.

o   The program checks an account number, so that it must be one number as the defined requirements.

o   Implement the function: String checkAccountNumber (String accountNumber)

- Input :

  ➢ accountNumber: account number needs to be checked.

- Return value: messages about the value of the account number.

Function 3: Check the password.

o   The program checks the password, so that it must assure the defined requirements.

o   Implement the function: checkPassword String (String password)

- Input :

  ➢ password: the password needs to be checked .

- The value returns: messages about the value of the password.

Functions 4: Generate a random captcha code.

o   The program generates a random captcha code, so that the it must assure the defined requirements.

o   Implement the function: String generateCaptcha ()

- Return value: a random captcha string.

Function 5: Check the captcha code.

o   The program checks the captcha code, so that the result is a captcha string which must assure the defined requirements.

- Implement the function: String checkCaptcha (String captchaInput, String captchaGenerate)

- Input :

  - captchaInput: Captcha is inputted

  - captchaGenerate: Captcha is generated

- The value returns: The message about the value of the captcha.