

LAB211 Assignment

Type:
Code:
LOC:
Slot(s):

Short Assignment
J1.S.P0070
100
3

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 **Function2**.

Function2: 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 Regular Expression 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 convert to characters (type char) .

Function 5: Check the captcha code

- 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:

```
-----Login Program-----
```

1. Vietnamese
2. English
3. Exit

Please choice one option:

So tài khoản: 1
So tài khoản phải là 1 số và phải có 10 chữ số

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: aaaaaaaaaa

Mat khau phai trong khoang 8-31 ky tu va phai chua ky tu va so
Mat khau: 111111111111111111111111111111111111

```
Mat_khau: 123456ab
```

Captcha: H9M0A

Nhap captcha: Adafda

Captcha sai

Nhap Captcha: H9MOA

```
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: aaaaaaaaaa

```

```
Password: aaaaaaaaaa
Password must be between 8 and 31 characters and must be alphanumeric
Password: 111111111111111111111111111111111111111111111111111
```

```
Password: 11111111111111111111111111111111  
Password must be between 8 and 31 characters and must be alphanumeric  
Password: 123456ab
```

Password: 1234.
Captcha: H9MOA

Enter a Captcha: Adafda

Captcha incorrect

Enter a Captcha: H9MNOA

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.

- 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.
- Implement the function: void setLocate(Locate locate).
 - Input :
 - locate: name of properties file which needs to be converted.

Function 2: Check the account number.

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

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

- The program generates a random captcha code, so that the it must assure the defined requirements.
- Implement the function: String generateCaptcha ()
 - Return value: a random captcha string.

Function 5: Check the captcha code.

- 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.