Berner Fachhochschule
Haute école spécialisée bernoise
Bern University of Applied Sciences

Object-Oriented Programming 1

Mini Project 1

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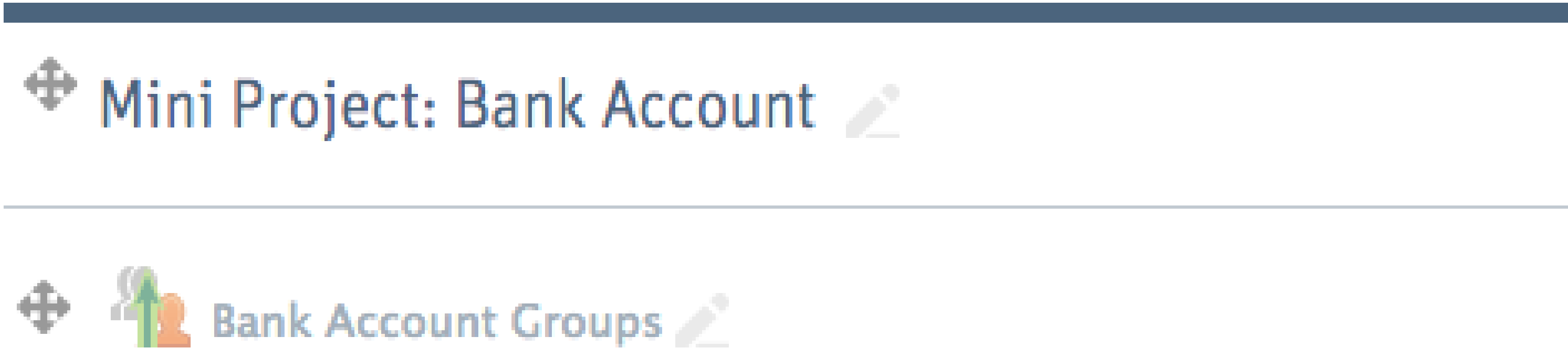
HS 2018

Mini Project

- The Mini Project is a small application that allows you to repeat the concepts we have seen so far in the class
- You will work in groups of two
- Register your group in Moodle:



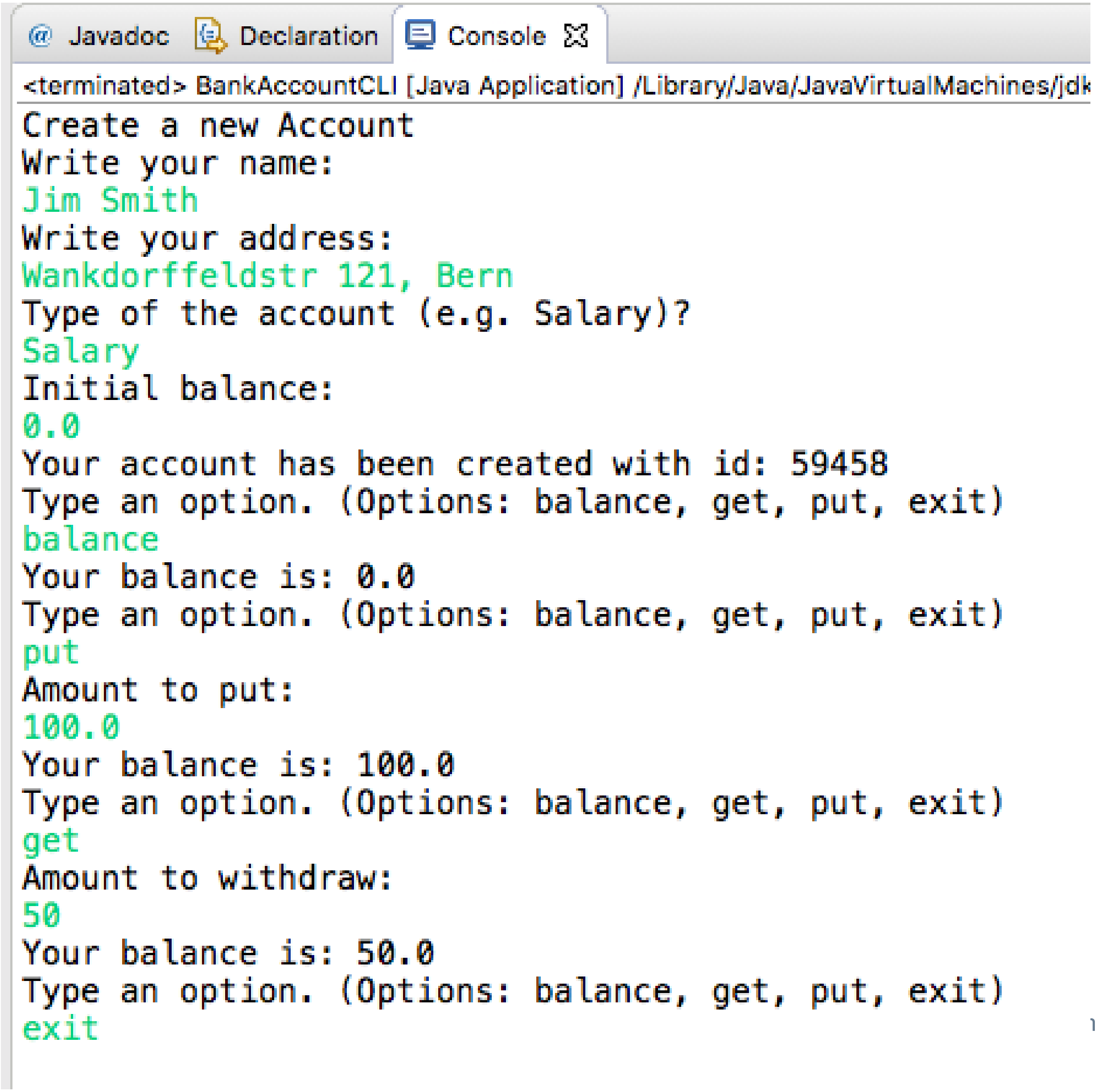
Mini Project: Bank Account

Bank Account Groups

Mini Project

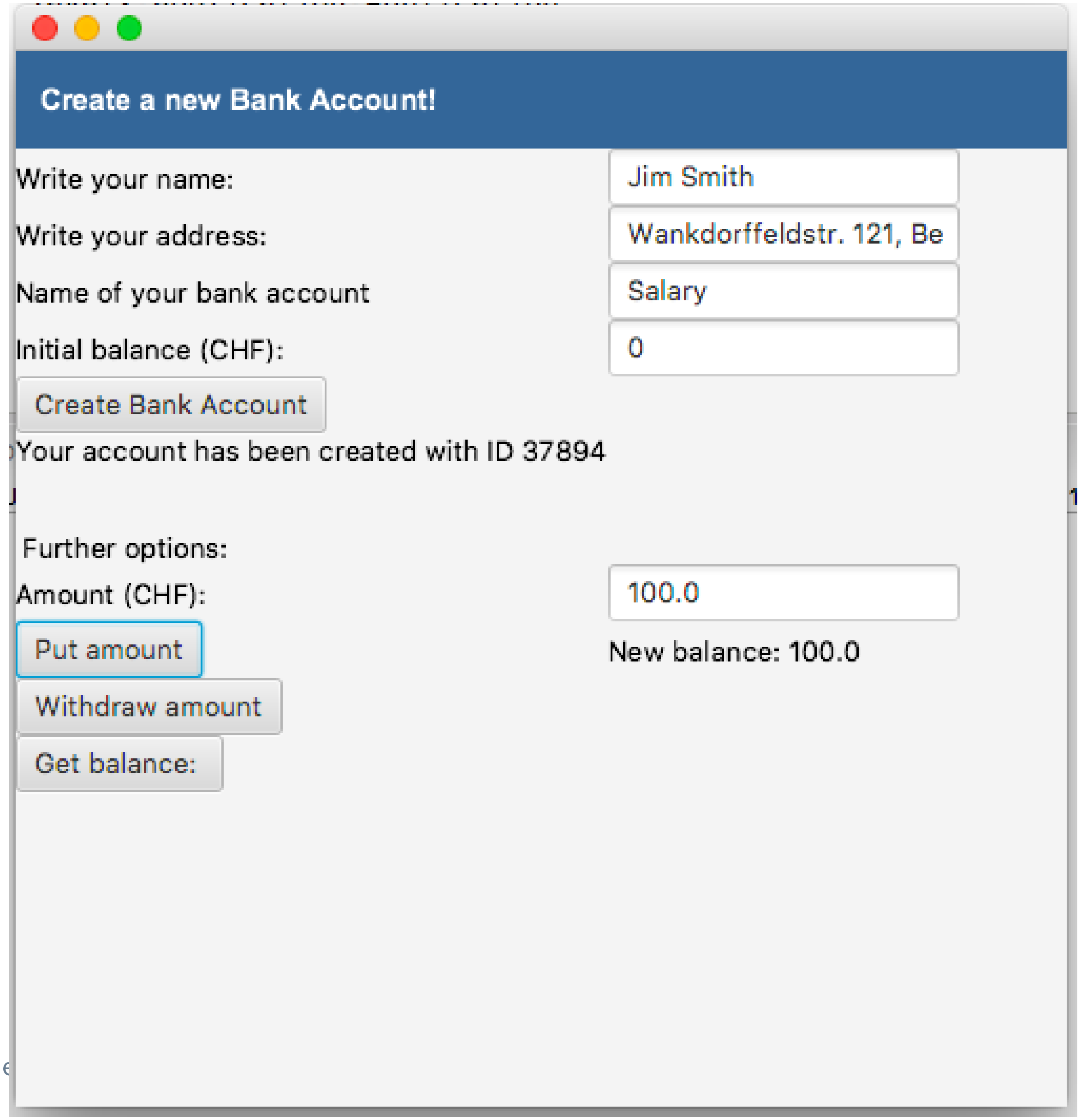
- Submission on Moodle + Demo of your application
- Submission Deadline: **Thursday 15.11.2018**
- Live demo of all the applications: **Friday 16.11.2018**

Version 1 of your Application: CLI



```
<terminated> BankAccountCLI [Java Application] /Library/Java/JavaVirtualMachines/jdk
Create a new Account
Write your name:
Jim Smith
Write your address:
Wankdorffeldstr 121, Bern
Type of the account (e.g. Salary)?
Salary
Initial balance:
0.0
Your account has been created with id: 59458
Type an option. (Options: balance, get, put, exit)
balance
Your balance is: 0.0
Type an option. (Options: balance, get, put, exit)
put
Amount to put:
100.0
Your balance is: 100.0
Type an option. (Options: balance, get, put, exit)
get
Amount to withdraw:
50
Your balance is: 50.0
Type an option. (Options: balance, get, put, exit)
exit
```

Version 2 of your Application: GUI



Create a new Bank Account!

Write your name: Jim Smith

Write your address: Wankdorffeldstr. 121, Be

Name of your bank account Salary

Initial balance (CHF): 0

Your account has been created with ID 37894

Further options:

Amount (CHF): 100.0

New balance: 100.0

Classes

- Customer
- BankAccount
- BankAccountCLI (version1)
- BankAccountGUI (version2)

Customer Class

- Fields:
  - String customerName
  - String customerAddress
  - BankAccount bankAccount

- Constructors:
  - public Customer(String customerName, String customerAddress) {}

- Methods:
  - public int createBankAccount(String bankAccountName, double initialBalance)
  - public BankAccount getBankAccount() {}

BankAccount Class

- Fields
  - String bankAccountName
  - int bankAccountId
  - double balance

- Constructors
  - public BankAccount (String bankAccountName, double balance) {}

- Methods
  - public void putMoney(double amount) {}
  - public void getMoney(double amount) {}
  - public double getBalance() {}
  - public int getId() {}

CLI and GUI

- Version 1: CLI Application: Class BankAccountCLI with main method
- Version 2: GUI Application: Class BankAccountGUI extends Application, with main and start method (see JavaFX examples)

Getting Started

- Create the Customer and the BankAccount classes

- Create the BankAccountCLI class with a main method and test your classes
- Extend your main method in BankAccountCLI to support user interaction
- Implement user input validation and exception handling, where it is necessary

- Create the BankAccountGUI class and implement your JavaFX application