

**Assignment and preparations**

**Before day 1:**

Make sure you have the following software / books:

* IntelliJ (with working license)
* Github-account (free on github.com)
* OCA Oracle Certified Associate Java SE Programmer I Study Guide (EXAM 1Z0-808)

**Day 1:**

* Slides (datatypes till access level)
* Assignment: setup
* Homework: read chapter 1

**Day 2:**

* Recap Day 1. Questions and answers
* Slides (operators till equals())

**Assignment**

During this course we will build an application for a Bank and will implement both front-end and backend code. An employee of the bank should be able to use the front-end application to do the following:

* Add new clients
* Open and close bankaccounts (saving and paying accounts)
* Transfer money from and to accounts
* Create a transaction overview for an account
* Add and remove products (creditcard, debitcard)
* Security in application (not all employees are allowed to do all actions)
* Add audit trail

**Exercise 1**

Create one or more classes to hold information about clients. Make sure you use the correct type for each of the fields. Think also about a package where this class can be stored (no problem if you find a better suitable package later).

Some information we want to know about a client is:

* First name
* Last name
* Initials
* Gender
* Date of birth (think well of which type you should use here!)
* Street name
* House number
* House number extension
* Postal code
* Country

Also create some getters and setters for all fields.

**Exercise 2**

A client can have two types of addresses: a residential address and a billing address.

Try to improve the solution from exercise 1 to avoid duplication.

**Exercise 3**

To make sure a client is old enough the open a new account we need to determine the age of the client at the moment the account is opened. When the client is too young (< 18 years) the account cannot be opened. An error should be shown to the end user. This error will be implemented later.

Create a method that determines the age of a client. Also create unit-tests for this new feature.