Exercise 3.1 Inheritance

On www.learnjavaonline.org, please work through section “Inheritance”.

Exercise 3.2 Programming Exercise

Please develop a Java program consisting of the following classes:

- clsPerson
- clsStudent (inheriting from clsPerson)
- clsDHBWStudent (inheriting from clsStudent)
- clsLecture
- clsCompany
- clsMain (main class initializing other classes thereby managing the control flow)

Please realise all possible relationships between the aforementioned classes. All classes should have encapsulated attributes (no direct access). Finally, please integrate a class clsEmployee with the other classes.

Please realise the following cases:

- a person is enrolled for a degree program
- a student is not successful in his or her studies and is exmatriculated
- a DHBW student successfully finished his or her degree program and is employed by a company as a regular employee

Exercise 3.3 Reading Assignment

From http://openbook.rheinwerk-verlag.de/javainsel/, please read the following chapters:

- 3.10.2 Annotationen
- 3.7 Mit Referenzen arbeiten, Identität und Gleichheit (Gleichwertigkeit)
- 5.3 Eine für alle – statische Methode und statische Attribute

Exercise 3.4 Self-Assessment

Please answer the following questions:

(1) What is the purpose of a null reference in Java?
(2) What is the difference between call by value and call by reference? How can you prevent the callee from modifying the callers parameter?
(3) Please describe the concept of static attributes and methods. For which purpose can they be used? What is special about the validity and thus availability of static attributes and methods?
(4) What happens within the program you developed in Exercise 3.2 when a DHBW student earns his or her Bachelor degree and is employed with a company?
(5) For which purposes can annotations be used in Java?