The exam will cover the first two chapters of the textbook (not chapter 0), plus all material in the lectures and the labs. The most important topics covered are the “object” concept and modelling objects by means of Java classes. In particular, you will be expected to know the “Java way” of specifying an object’s properties and behaviors. You will also be expected to understand how the basic objects in the wheels.users package are manipulated.

With your exam, you will be given a copy of the table on page 71, so you do not need to memorize the names of the wheels classes and methods.

Particular aspects of modelling that you should pay attention to are: use of constructors and the new command; methods and parameters; correct definition and usage of accessor and mutator (“get” and “set”) methods. In addition to questions about Java, you will be expected to know some of the basic terms used in chapters 1 and 2.

Here are some review questions that are based on the assumption that you have read the chapters:

1. [True or false:] UML provides a way to diagram classes and the relationships between classes.
2. [Multiple Choice:] In the class which models a student, which of these is an attribute?
   (a) head
   (b) advisor
   (c) age
   (d) parent
3. [Multiple Choice:] In the class which models a cat, which of the following is a peer object?
   (a) catColor
   (b) catToy
   (c) scratch
   (d) whiskers
4. [Multiple Choice:] Names that you choose for your classes, properties, and capabilities are called:
   (a) keywords
(b) identifiers
(c) instances
(d) comments

5. **[Multiple Choice:]** Capabilities are implemented in Java using:
   (a) instance variables
   (b) properties
   (c) keywords
   (d) methods

6. Using UML write a class box for a PlayingCard, where the PlayingCard has two instance variables — _suit of type Suit and _value of type Value — and three capabilities: a constructor with no parameters; a method named getSuit, which returns a Suit; and a method named getValue, which returns a Value.

7. **[True or False:]** Actual parameters are the working names for details that will be filled in later.

8. **[True or False:]** A class can have only one constructor.

9. **[Multiple Choice:]** The purpose of which method is to change the value of an instance variable during the lifetime of the instance variable?
   (a) constructor
   (b) mutator
   (c) accessor
   (d) assignment operator

10. **[Multiple Choice:]** Which of the following is not true about primitive data types?
    (a) A primitive data type is not an object.
    (b) You can not pass messages to a primitive data type.
    (c) You create a new instance of a primitive data type using the keyword new.
    (d) The names of the primitive data types are keywords.

11. What is the purpose and syntax of the return statement?

12. What is the difference between the scope and the lifetime of a variable?