2.24. Lab practical: Class diagrams, classes and objects

This is a pair-programming task. The aim of this practical is to become familiar with classes, class diagrams, constructors, methods, and interacting with objects. The tasks are based on the class diagram from previous week's tutorial.

Tasks

1. Using the class diagram from previous week's tutorial:

i) Create a new project in BlueJ;

ii) Create new classes to match the class diagram;

iii) For each class, add the respective fields as they appear in the class diagram.

Make sure you compile your code regularly to make sure you catch syntax errors early and correct them.

Note: You may ignore collection fields, as we haven't covered collections yet.

2. Create a few objects. Use the BlueJ object inspector to display the state of each object. Observe the default values of each field.

3. Implement (at least) one constructor for each class. Each constructor should initialize all fields to reasonable initial values.

Hint: Fields can be initialized to default values or values passed as parameters to constructors. You have plenty of flexibility here, so use your judgement.

4. Create a few objects using the newly added constructors. Use the BlueJ object inspector to display the state of each object. Observe the values of each field.

5. Add the necessary getter and setter methods to each class. You may do this at class diagram level first or in BlueJ directly.

6. Create a few objects. Call/invoke some of the newly added methods to make sure everything works as expected.

(Optional) 7. Add further methods to each class. Decide with your partner what the functionality of those methods will be. You may do this at class diagram level first or in BlueJ directly.

Make sure you share your code with your partner before leaving the lab! If you have any further questions in regard to this practical, you can attend tomorrow's lab session either as a pair or individually.

Good luck!