

# Laboratory 2

## week 2 (6 October- 10 October 2025)

**TASKS: Please solve the following assignment A1. Please start to work in the class and complete it at home until the deadline.**  
**DEADLINE of A1 is week 3(13.10.2025 – 19.10.2025)**

### Assignment A1

Please choose one problem from the file **examples.txt** and implement it in Java using the Model-View-Controller (MVC) architectural pattern as follows:

- 1.1. Model: contains the classes which correspond to the problem entities. Those classes can either form a hierarchy or implement the same interface. If you choose the class hierarchy you must use the method overriding for the method required to solve the problem. If you choose to implement the same interface, that interface must contain the method required to solve the problem. **Please use the interface approach.**
- 1.2. Repository: is a in-memory repository. Please **use a fixed size array** to implement the collection of the problem entities.
- 1.3. Controller: implements the functionality required by the problem and the operations to add and remove entities from the repository. It maintains a reference to the repository. The reference type is an interface such that we can easily replace the repository implementation.
- 1.4. View: usually consists of an text interface with the following functionalities: input an entity from the keyboard, delete an entity and the main functionality which solve the problem. **However in order to avoid IO operations, the text interface is not compulsory for the maximum grade. For the maximum grade you can also hardcode the test examples inside the main method.**
- 1.5. Please use exceptions to treat the errors.
- 1.6. Please use different packages to implement the repository, the model, the controller and the view.

A similar example to assignment A1 is discussed at the Seminar 1 and Seminar 2.

**Note that the lab assignments will be always discussed at the seminar. Please consult the file LabAssignmentsSchedule.pdf to see the assignments schedule.**