

## Topics for the ASD final exam

### Remaining patterns

- proxy and dynamic proxy pattern
- bridge pattern
- Singleton pattern
- Factory Method pattern
- Abstract factory pattern

For these patterns you should know (when applicable):

- What problem does this pattern solve?
- Advantages and disadvantages
- What are the issues when you apply this pattern?
- What are the different ways you can apply the pattern?

You should be able to apply the pattern to a certain design problem

- With an UML class diagram (like in the homework and labs)
- With a UML sequence diagram (like in the homework and labs)
- In code (like in the labs)

### Frameworks

- Characteristics of frameworks
- Framework design

Because frameworks are often full of patterns, you will need to know all patterns we have studied this course:

- command
- chain of responsibility
- composite
- iterator
- mediator
- observer
- state
- strategy
- façade
- template method
- proxy and dynamic proxy pattern
- bridge pattern
- Singleton pattern
- Factory Method pattern
- Abstract factory pattern

You can expect questions similar like the homework assignments, lab assignments and practice questions from the practice final exam.

You should be able to design a framework

- With an UML class diagram (like in the homework and labs)
- With a UML sequence diagram (like in the homework and labs)
- In code (like in the labs)

**Dependency Injection and AOP with Spring**

- You need to understand both patterns, when and why you use it and what problem it solves.
- You should be able to understand and apply DI and AOP in UML diagrams and in code.
- You should be able to write the Java and XML code to implement DI and/or AOP with Spring.