

Topics for the ASD final exam

Remaining patterns

- Proxy and dynamic proxy pattern
- Adapter pattern
- Decorator pattern
- Singleton pattern
- Factory pattern
- Mediator pattern
- Builder 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

- Using UML class diagram using StarUML
- Using UML sequence diagram using StarUML
- In code

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
- Observer
- State
- Strategy
- Façade (Service)
- Template method
- Proxy and dynamic proxy pattern
- Adapter pattern
- Decorator pattern
- Singleton pattern
- Factory pattern
- Mediator pattern
- Builder pattern

You can expect questions to design a framework in class diagram and sequence diagram using StarUML

Framework implementation

Techniques used: IoC, context, dependency injection, profiles, convention over configuration

You should understand the code from the slides and labs. You should be able to write this in pseudo code. **You don't need to memorize the Java code**

Spring framework

- Dependency Injection
 - What problem does it solve
 - When do you use it, advantages, disadvantages
 - Understand the different types of injection
 - Understand profiles
 - Understand the different way to configure Spring
 - You should be able to implement DI in code with annotations
 - You should be able to understand DI in XML (**You don't need to memorize the XML code**)
- Spring boot
 - You should be able to implement a Spring boot application in code
- AOP
 - What problem does it solve
 - When do you use it, advantages, disadvantages
 - You should be able to understand AOP in code with the pointcut expression language. (**You don't need to memorize the pointcut expression language**)
- Events
 - What problem does it solve
 - When do you use it, advantages, disadvantages
 - You should be able to implement events in a Spring boot application (in code)