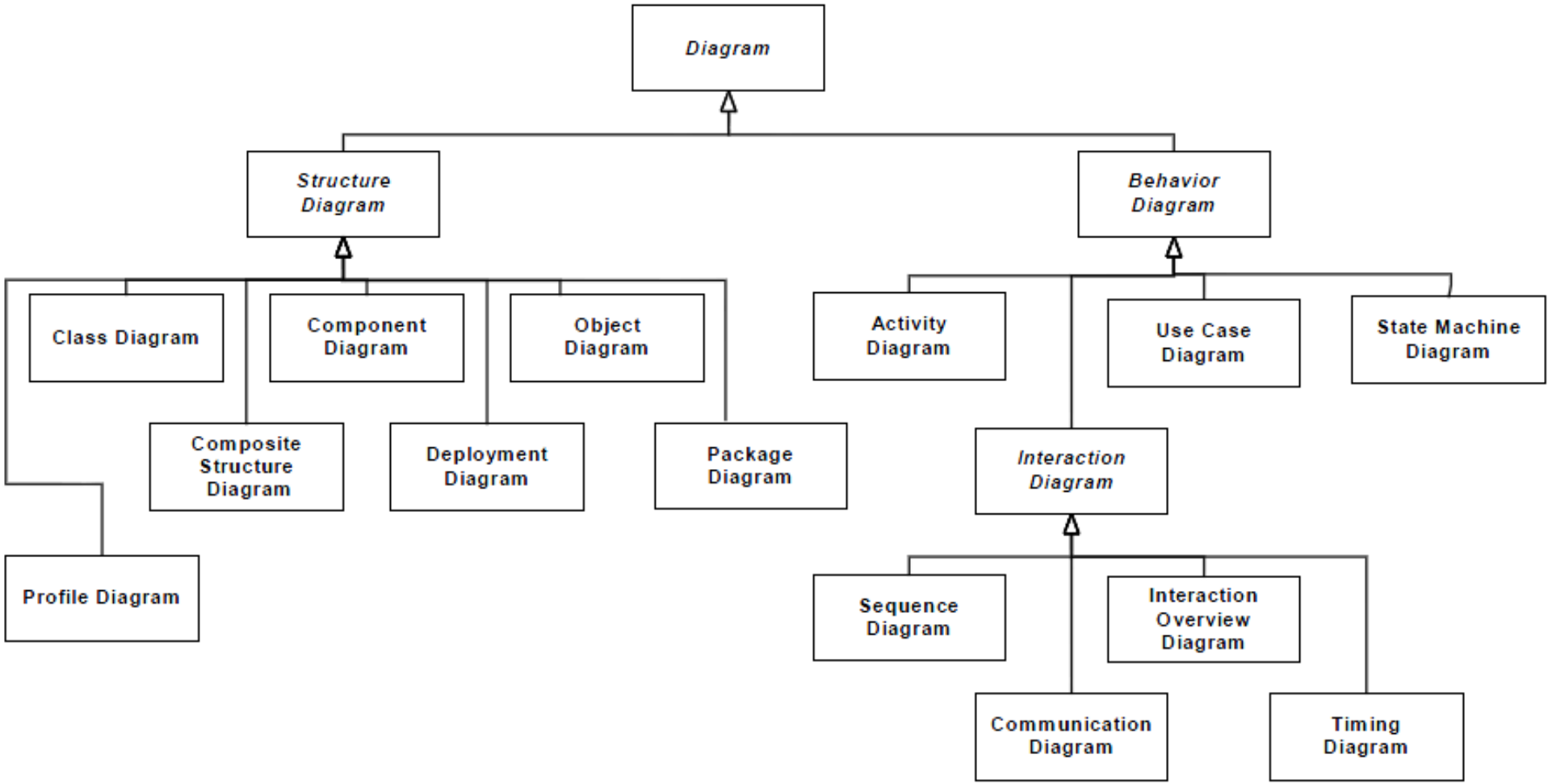
Object-Oriented Technology and UML

Review

Object-Oriented Technology and UML



Summary

- Introduction to software engineering and the concepts of OO
- Introduction to RUP and UML
- Use case diagram
- Class diagram, object diagram, package diagram
- Activity diagram, state machine diagram
- Interaction diagram
- Component diagram, deployment diagram, composite structure diagram, profile diagram

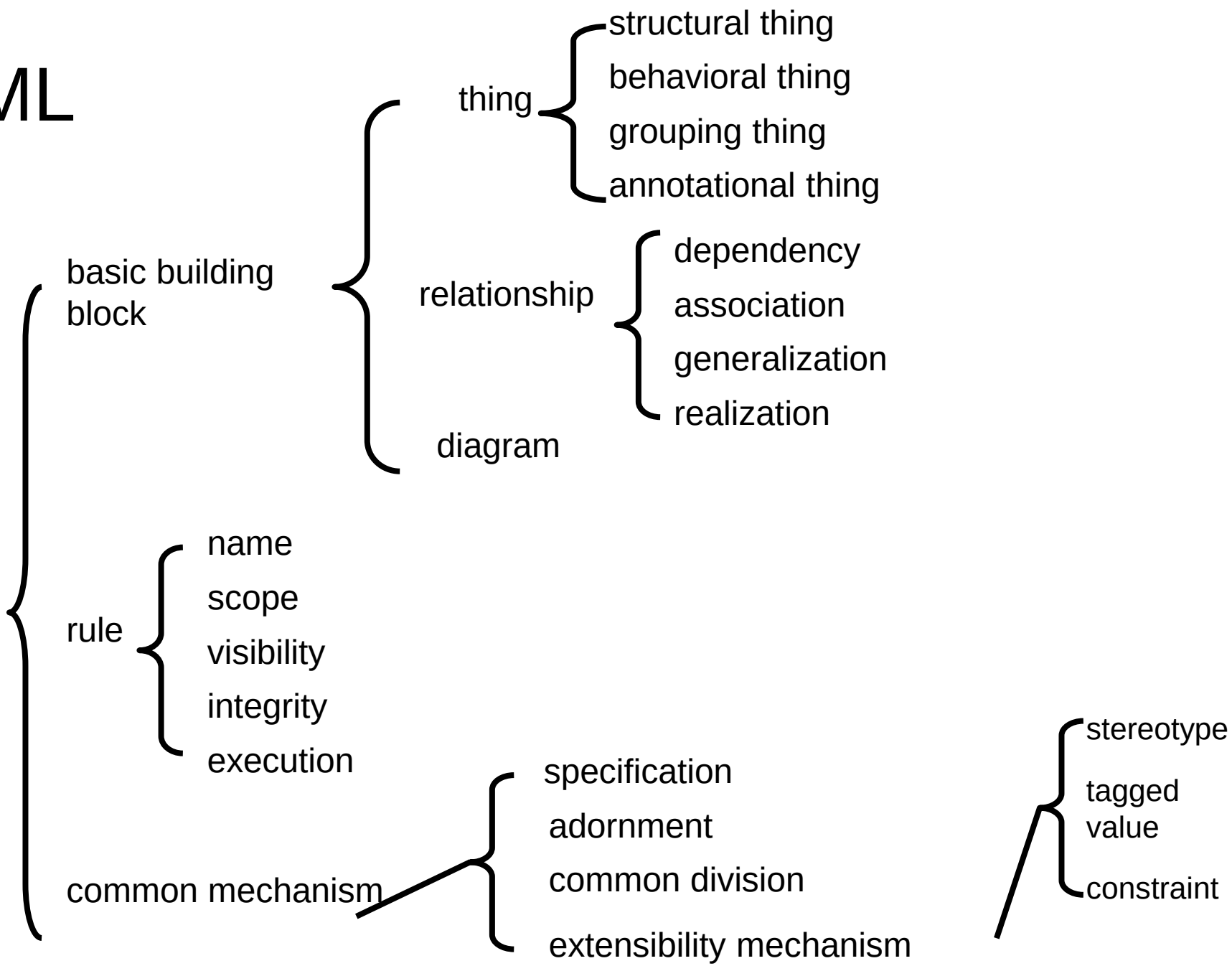
Software Engineering and OO, RUP

- The Main Phases Of The Software Life Cycle
- Software Process Model and UML
- Features of Object-Oriented Technology
- The Main Phases of RUP

UML Overview

- Concept of UML, its difference to the the programming language
- Classification of UML Diagrams
- Conceptual Model of the UML
- UML tools

UML


basic building block
thing
structural thing
behavioral thing
grouping thing
annotational thing
relationship
dependency
association
generalization
realization
diagram
rule
name
scope
visibility
integrity
execution
common mechanism
specification
adornment
common division
extensibility mechanism
stereotype
tagged value
constraint

Use case diagram

- Requirements technology, two types of Requirements
- Definition of use case
- Elements of use case diagram
- Relationships between use cases
- Use case modeling

Class diagram

- Basic concept of Class
- Relationships between classes and their representation
- Three Stereotypes of class and and their representation
- Three Perspectives of Class Diagram
- Multiplicity
- Principles of Object Oriented Class Design

Object diagram, package diagram

- Representation of Objects
- Package in UML
- Owned Elements of Package
- Relationships between packages
- Principles of Package Design

Activity diagram

- Basic concepts
- Constituent elements
- Model parallel flows of control
- Composite elements of activity diagram
- Activity diagram modeling
- Difference between fork and decision node

State machine diagram

- Basic concepts
- Constituent elements
- Transition
- Composite state
- History State
- State machine diagram modeling

Interaction diagram

- Diagrams of interaction diagram
- Elements of Sequence Diagram, Communication Diagram
- Comparison between Sequence Diagram and Communication Diagram
- Basic concept of Timing Diagram and Interaction Overview Diagram

Other UML Diagrams

- Component Diagram
- Deployment Diagram
- Concept of Forward and Reverse Engineering
- ……

Thanks

- The Course is Finished
- Learning does not finish
- I hope I and this course could inspire you a little