

# UML Day



Uebungen zum Script

**Die Uebungen benötigen das UML Script auf <http://max.kleiner.com/uml2.htm>**

## Analysis

Use Cases UC \_\_\_\_\_ 11

1. Erstellen Sie ein UseCase Script für den Fall <Kreditaufnahme> anhand des UC auf Seite 16.

2. Three items of interest in use case diagrams are:

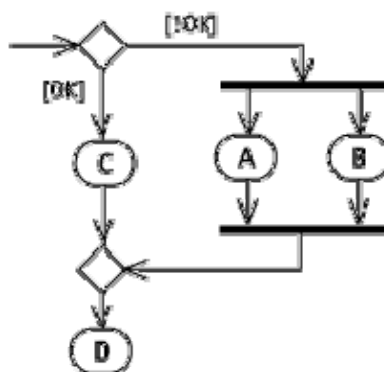
- Objects, activities, and associations
- Actors, messages, and activities
- Objects, use cases, and activities
- Actors, use cases, and associations

Antworten: Alle Uebungen sind per Antwortnummer oder via Diagramm als Lösung vorhanden.

Activity AD \_\_\_\_\_ 17

Topic: Project management (Sheet UML Project Management)

3. Script S. 60, Uebung 6.2.1 AD-Task



4. Which of the following pseudo code implements the activity diagram above?

- |  |   |
|--|---|
| <input type="checkbox"/> If (OK) then<br>do C<br>else<br>do A and B //either order<br>do D | <input type="checkbox"/> do C<br>do A and B<br>do D |
| <input type="checkbox"/> if (OK) then  | <input type="checkbox"/> if (OK) then               |

```

do C
else
do A OR B //not both
do D

```

```

do C
else
do A
do B
do D

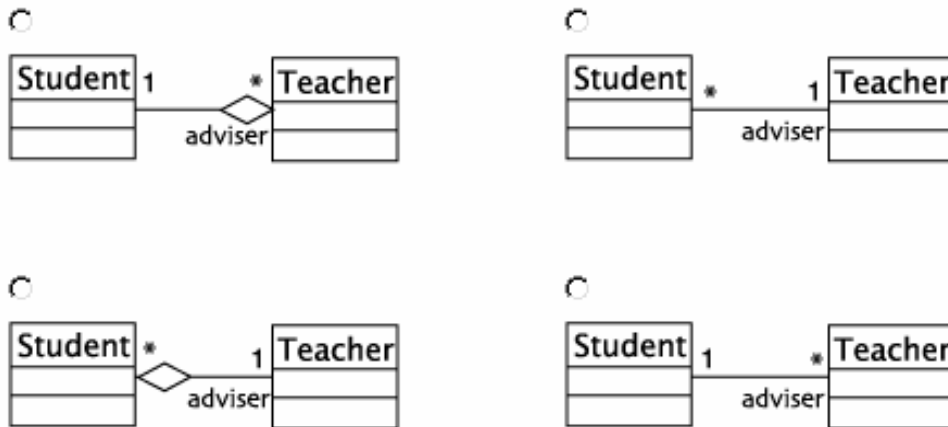
```

## Design

Class Diagram CD \_\_\_\_\_ 23

5. Script S. 61, Uebung 6.2.3 CRC-Card

6. Every student at TS College will be advised by one teacher. Some teachers advise many students, and some advise none. Which of the following class diagrams most clearly represents that student-teacher relationship?



State Event SE \_\_\_\_\_ 33

7. Script S. 62, Uebung 6.2.6 Strassenampel

8. Which of the following statements about statechart diagrams is correct?

- All actions in a statechart diagram are attached to transitions.
- An event may cause an object to remain in the same state it was prior to the event.
- Once an object leaves a state, it cannot return to that state.
- Two different transitions out of the same state may overlap (they can be triggered by the same event).

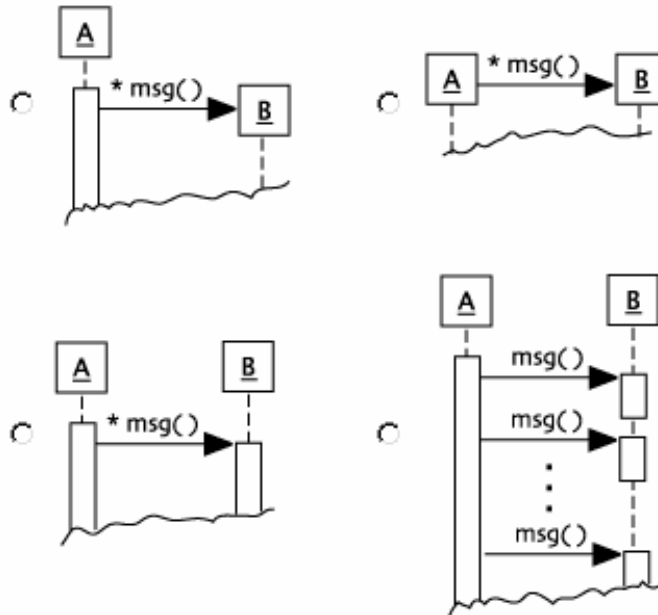
## Implementation

Interaction Diagrams SEQ \_\_\_\_\_ 38

9. Script S. 62, Uebung 6.2.7 Nachrichten

10. Which of the following pieces of sequence diagrams represents this action:

"Object **A** sends object **B** several messages named msg."



Packages PAC \_\_\_\_\_ 43

11. Script S. 63, Uebung 6.2.9 Klassen in Packages

12. Which of the following statements is correct?

- Classes in class diagrams may be grouped into packages in order to illustrate the overall organization of a model.
- In object diagrams, names of instances are in italics or all-caps.
- If package B depends on package A, then any change in A will require a change in B.
- Object diagrams and class diagrams are completely interchangeable.

## Integration

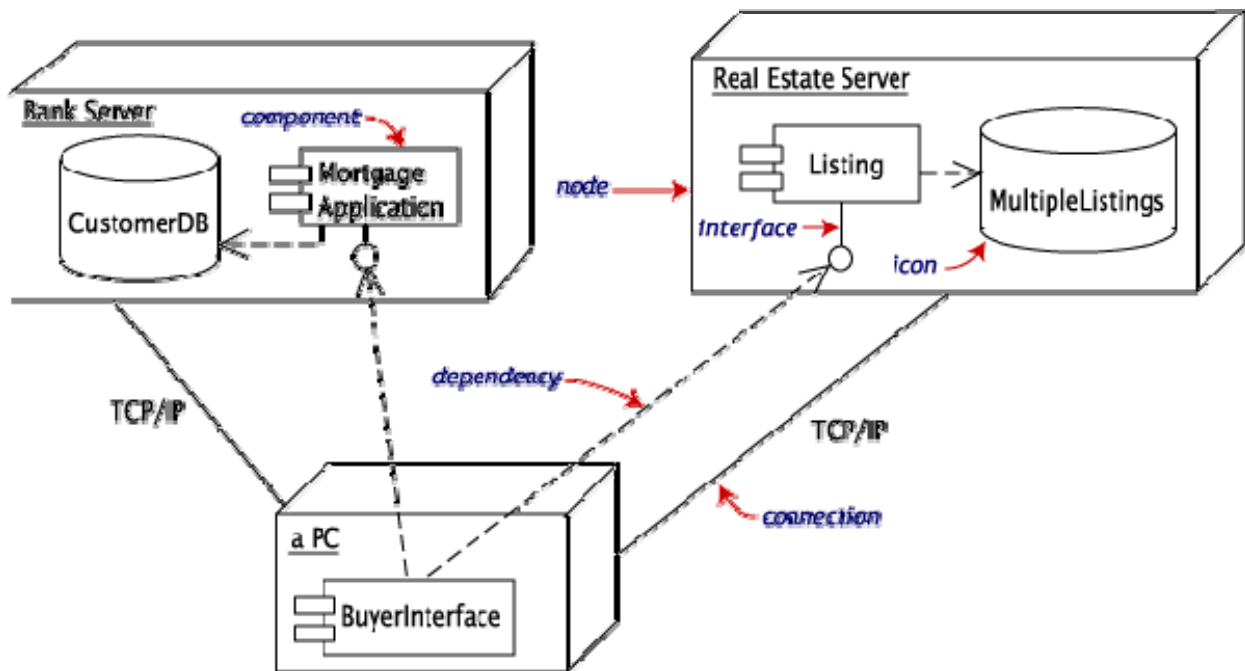
Components COM \_\_\_\_\_ 48

13. Definieren Sie, was eine Komponente softwaretechnisch ist

Deployment Diagram DEP \_\_\_\_\_ 50

14. Erstellen Sie eine Schnittstellenmatrix von folgendem DEP:

Script S. 46, Hinweis zum Erstellen der Matrix



Topic: Tools \_\_\_\_\_ 56

## In Practice

Generis Project Train Control System, International Union of Railways  
Talk about structure and functions of the system.

### Materials

- **Slides UML with V (42 slides on 11 pages)**
- **Sheet UML Projectmanagement (1 page)**
- **Generis Project Euro Interlocking (16 slides)**

This presentation takes a look at 8 levels of modern IT modeling and puts them in perspective of a simplifying “big picture”. It shows these model-driven techniques can be effectively applied to improve the overall system life-cycle as part of a holistic approach to IT management in the sense of traceability through the 8 diagrams.