OBJECT-ORIENTED LANGUAGE AND THEORY

13. UML DIAGRAMS

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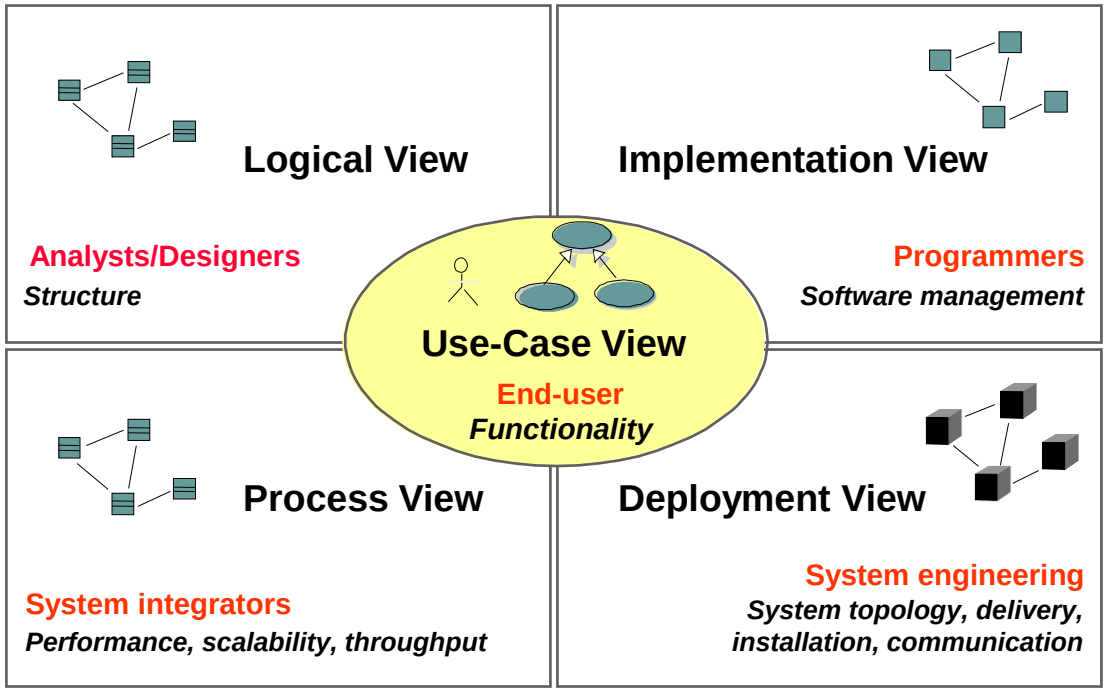
4+1 UML Views

- No single model is sufficient. Every non-trivial system is best approached through a small set of nearly independent models.
  - Create models that can be built and studied separately, but are still interrelated.

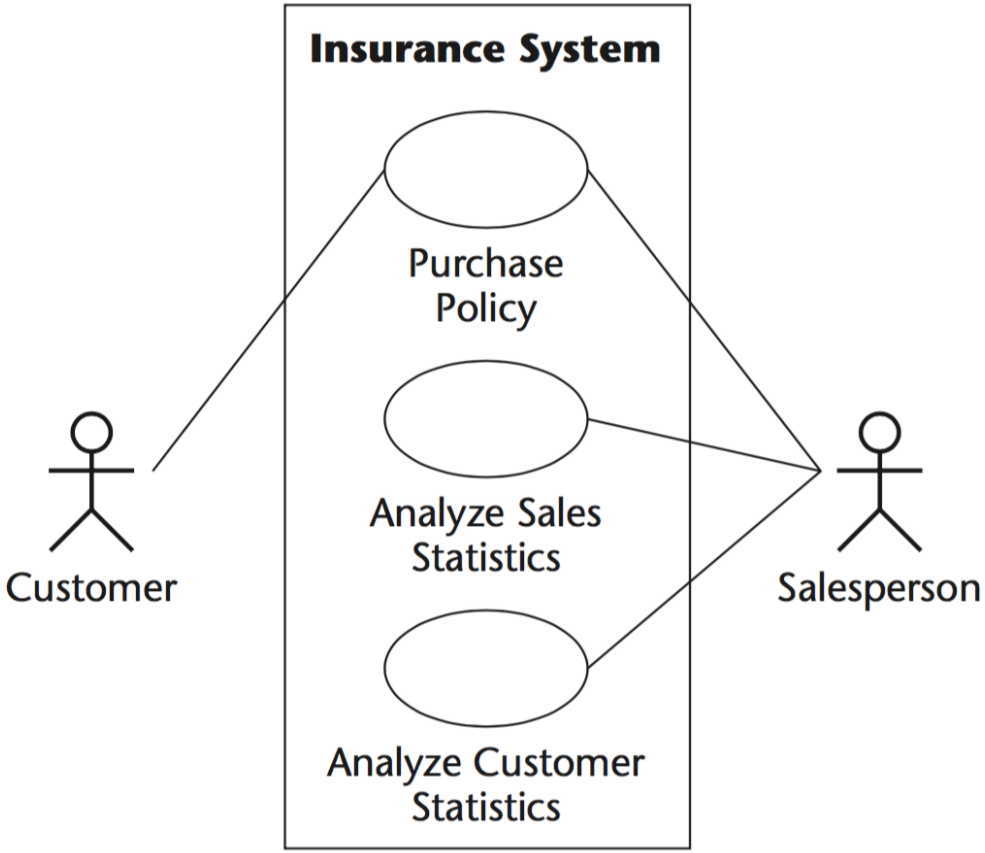


Common diagrams in UML

- Use-case diagram
- Class diagram
- Object Diagram
- State machine
- Activity diagram
- Interaction diagrams
- Deployment diagram

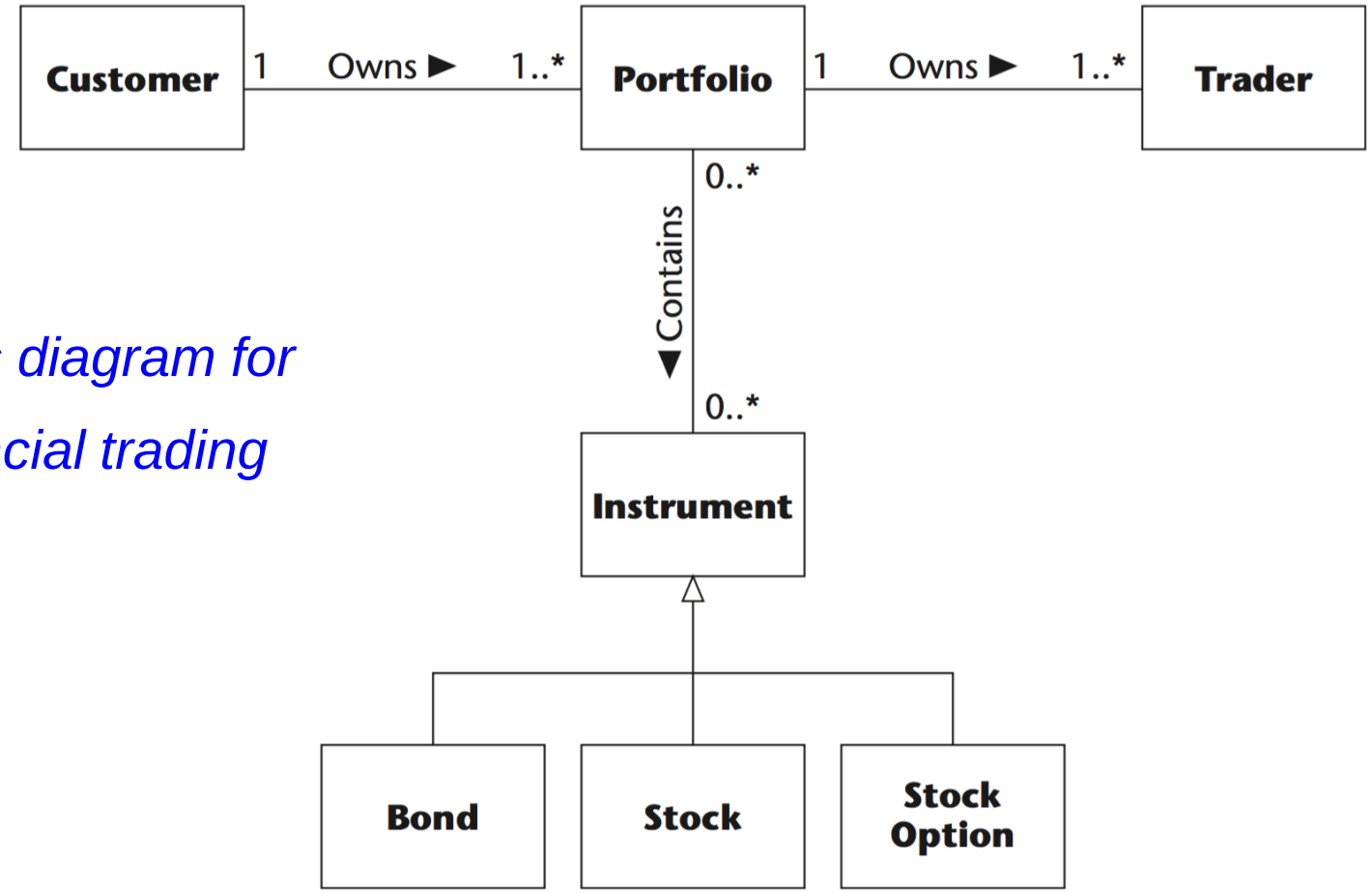
Use case diagram

- A number of external actors and their connection to the use cases that the system provides



Class diagram

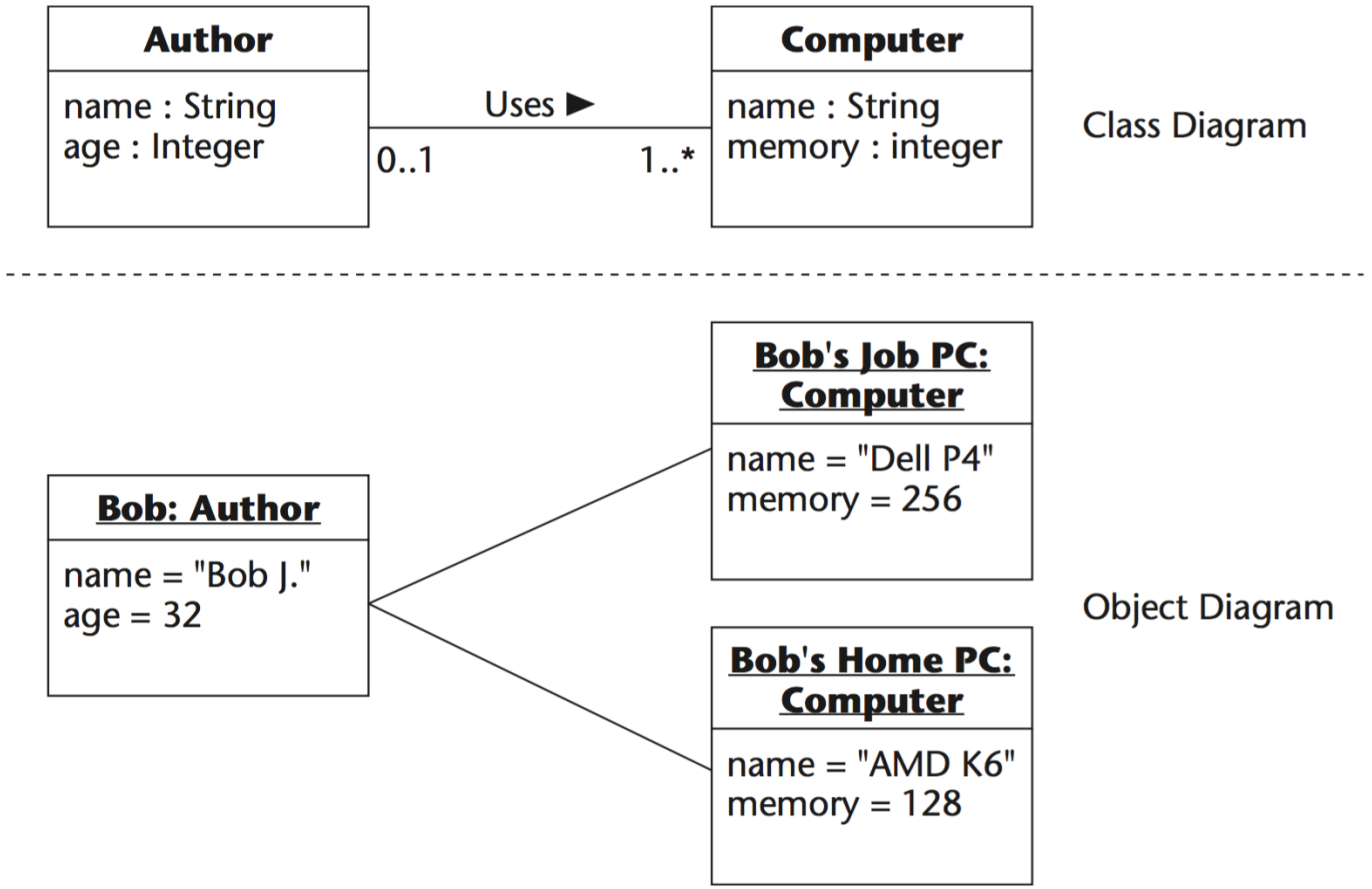
- Static structure of classes in the system



Class diagram for Financial trading

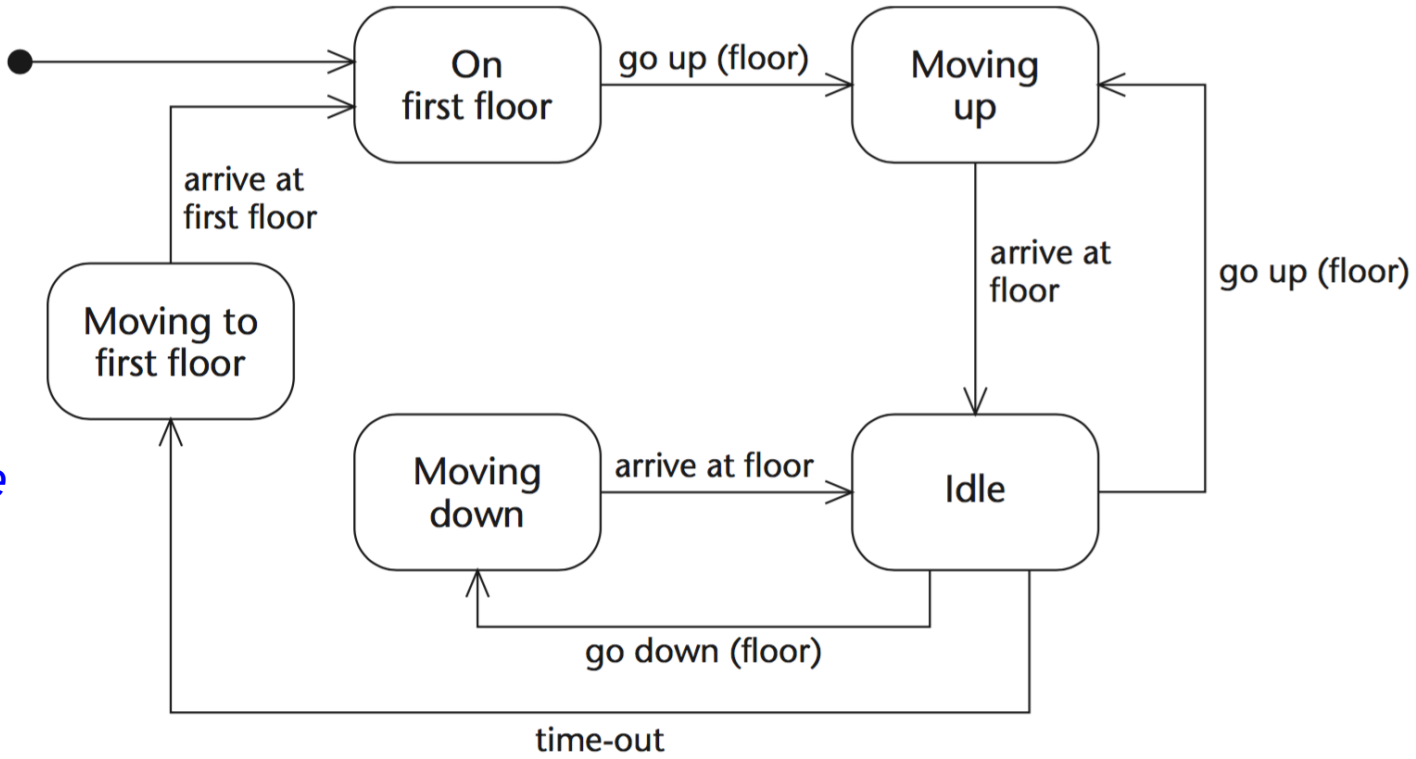
Object diagram

- Shows a number of object instances of classes, instead of the actual classes



State machine

- Shows all the possible states that objects of the class can have during a life-cycle instance, and which events cause the state to change

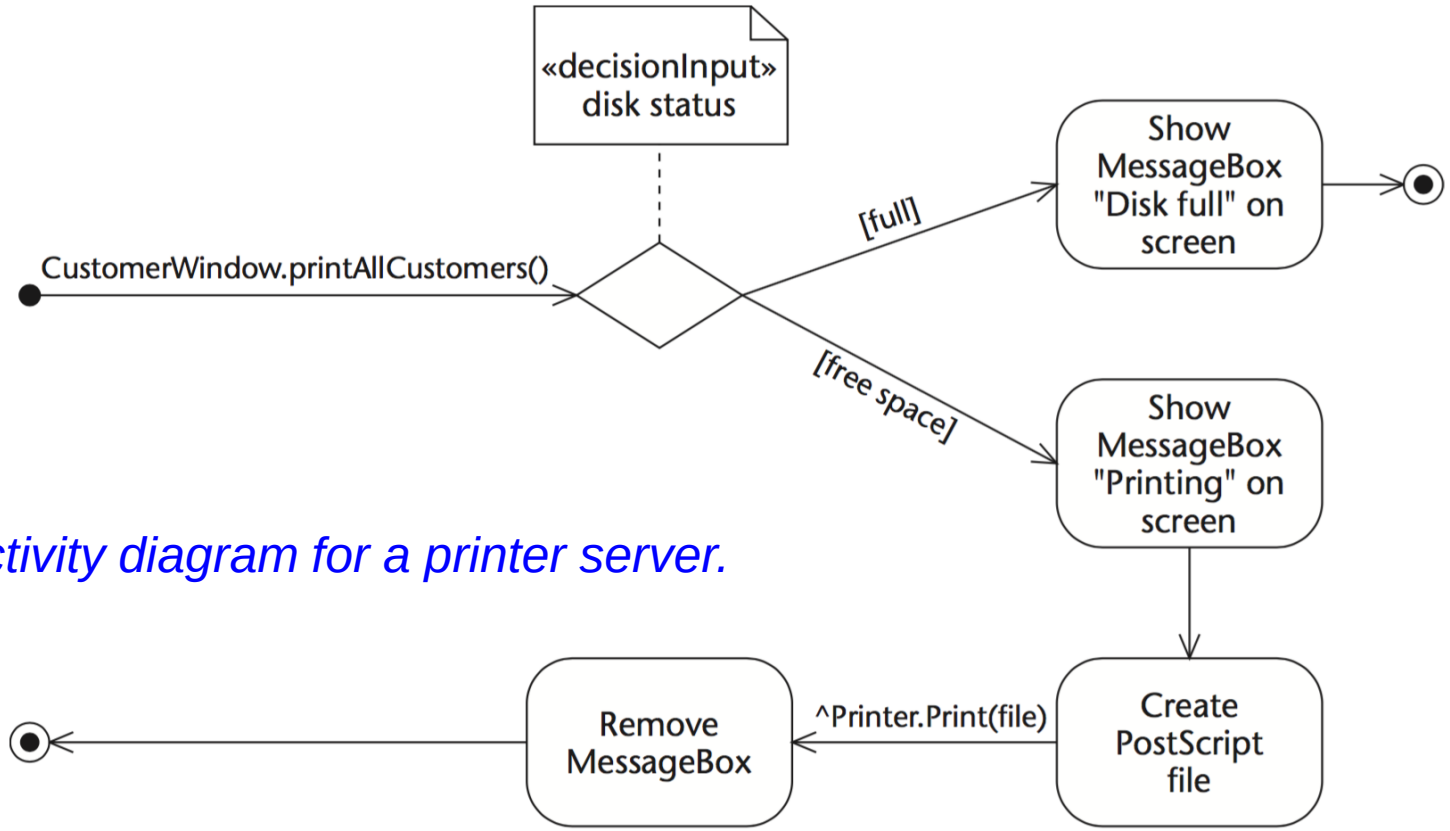


A state machine

for an elevator

Activity diagram

- Shows a sequential flow of actions to describe
  - the activities performed in a general process workflow
  - or other activity flows, such as a use case or a detailed control flow

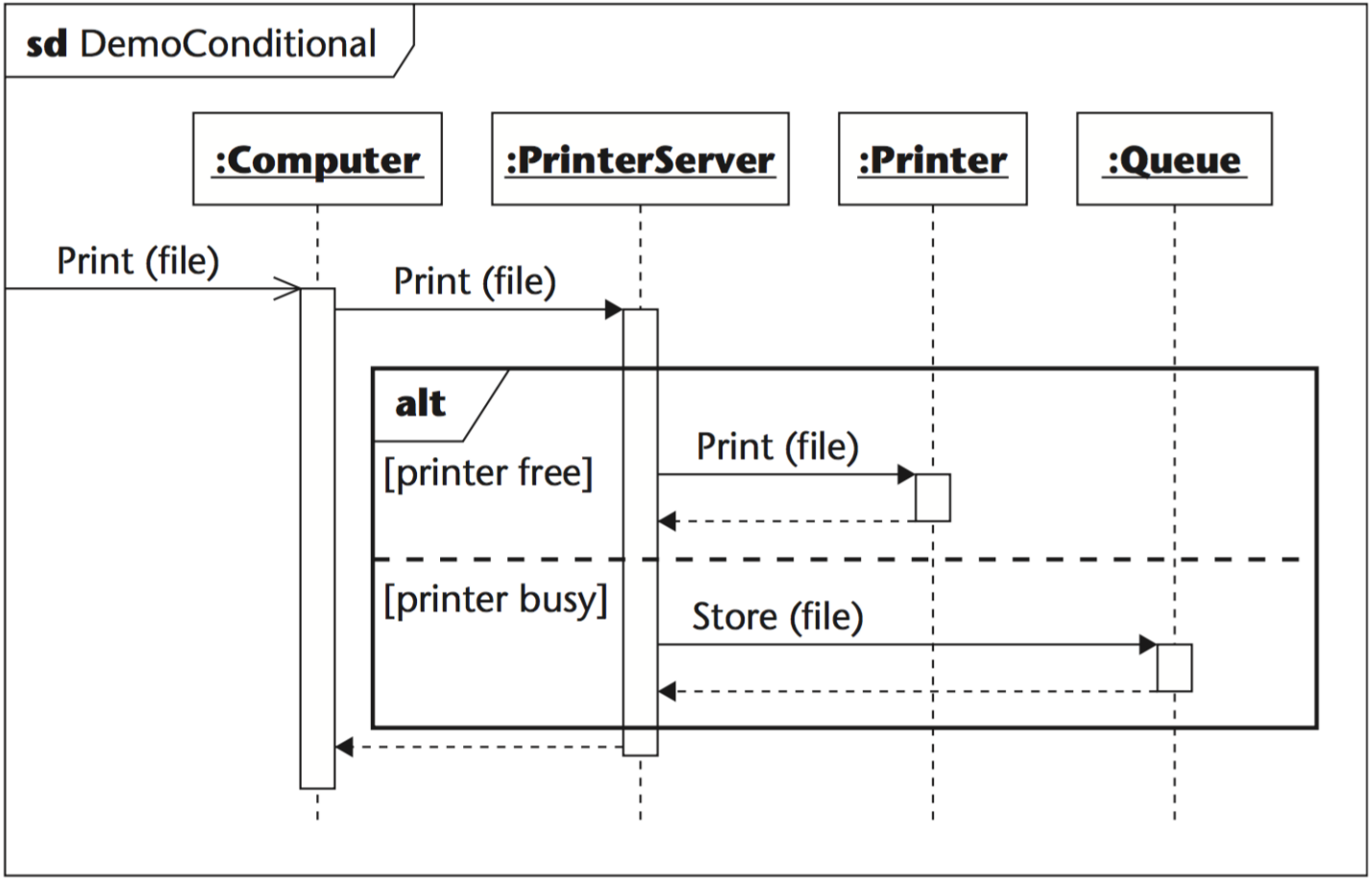


An activity diagram for a printer server.

Interaction Diagrams

- Show the interaction between objects during the execution of the software

A sequence diagram for a print server



Deployment Diagram

- Shows the physical architecture of the hardware and software in the system