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Softwaretechnik

http://proglang.informatik.uni-freiburg.de/teaching/swt/2013/

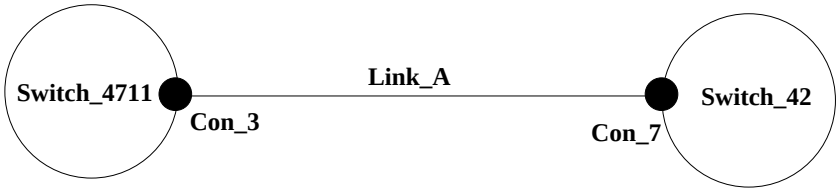
Exercise Sheet 6

Exercise 1: Meta Modeling

Design a DSL for modeling networks. A network consists of the following parts:

- A **Switch** has a name (String) and some **Connectors**.
- A **Connector** has a name (String) and is associated to a **Switch**. Moreover, the **Connector** connects to another **Connector** over some **Link**.
- A **Link** has a name (String) and connects two **Connectors**.

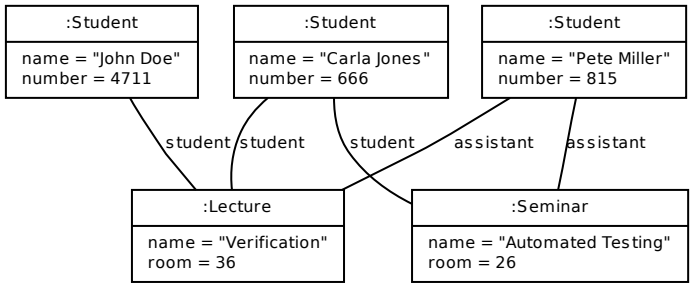
The following example shows a graphical representation of a sample network:



1. Design a metamodel for modeling networks.
2. Draw a classifier diagram that shows the connection between the metamodel and the sample network from above.

Exercise 2: OMG's Four Metalevels

Consider the following object diagram which acts as Layer M0 of OMG's four metalevels. Provide an adequate model which acts as Layer M1.



Exercise 4: Feature Modeling

Assume you have to develop a car configuration software with the following features. Transform the informal description into a feature model.

1. A vehicle consists of an engine, a transmission, and an entertainment system. Customers may order a sun roof for their car.
2. Customers must select either diesel or gasoline engine. If gasoline is selected, LPG (liquefied petroleum gas) can be added.
3. The transmission is either manual or automatic.
4. Customers may select a tape, and/or a CD player, and/or a navigation system as their entertainment system. The language of the entertainment system is English or German.