

### Exercises Week 3 Some preliminary code:

```
module LabExerc3 where

import List
import LAI9
import LAI10
import LAI11
```

1. Define functions

```
myModel1 :: EpistM State and myModel2 :: EpistM State
```

that generate the models from exercises 1 and 3 in the Pencil and Paper exercises of this week. Next compare `myModel1` with `bisim myModel1`, and `myModel2` with `bisim myModel2`, and check if the answers agree with your findings of the Pencil and Paper exercises.

2. Use `myModel1` and `myModel2` from the previous exercise to check how the partition refinement algorithm handles these models. What are the initial partitions? How many refinement steps are there? What happens in these steps? Compare with your pencil and paper findings.

3. Define a function

```
gsm :: Ord state => EpistM state -> EpistM state
```

that maps an epistemic model to its generated submodel (see exercise 5 in Pencil and Paper exercises of this week).

4. Define a function

```
part2pairs :: [[a]] -> Rel a
```

that maps a list partition to the corresponding relation (list of pairs).

5. HOMEWORK Use the function from the previous exercise to define a function

```
maxBisim :: Ord state => EpistM state -> Rel state
```

that computes the maximal bisimulation on an epistemic model.