Supplementary Exercises on DoNaLD, SCOUT and EDEN

1. JUGS

Provide a DoNaLD visualisation for the jugs
Add a new window to allow donald and scout displays to run in parallel
Undo design changes as described in T1.4: add two options pourAtoB and pourBtoA
Add another jug
Make the buttons in the tank.s file sensitive

2. VCCS modifications

fix the integrator to work on a different step-size

adapt speedo window to suit values of minA and maxA
adapt dynamics to reflect relation between performance and mass
(e.g. as extra passengers / loads get on the car)
introduce a dependency to reflect how wind resistance of the vehicle depends on shape
(via some function f that would typically have to be empirically determined!)

add an item to the visualisation
e.g. visualisation of the speed transducer
via a second speedo and actual speed display

3. Railway signals

add visualisation for home and start signals
add a lever to the donald model of the signal
make the train accelerate from stop, not just start abruptly
ensure that
the distant signal cannot be set *up* unless both home and start signals are *up*
the start signal cannot be set *up* unless the home signal is *down*
introduce 2 platforms at the station, and adapt the signals accordingly

4. Bulletin Board

adapt the model to deal with through, delayed, cancelled trains
create a suitable interface for a bulletin board manager
model trains arriving / departing from different platforms
extract info for particular platforms to create platform monitors
generate a script for a railway announcement system