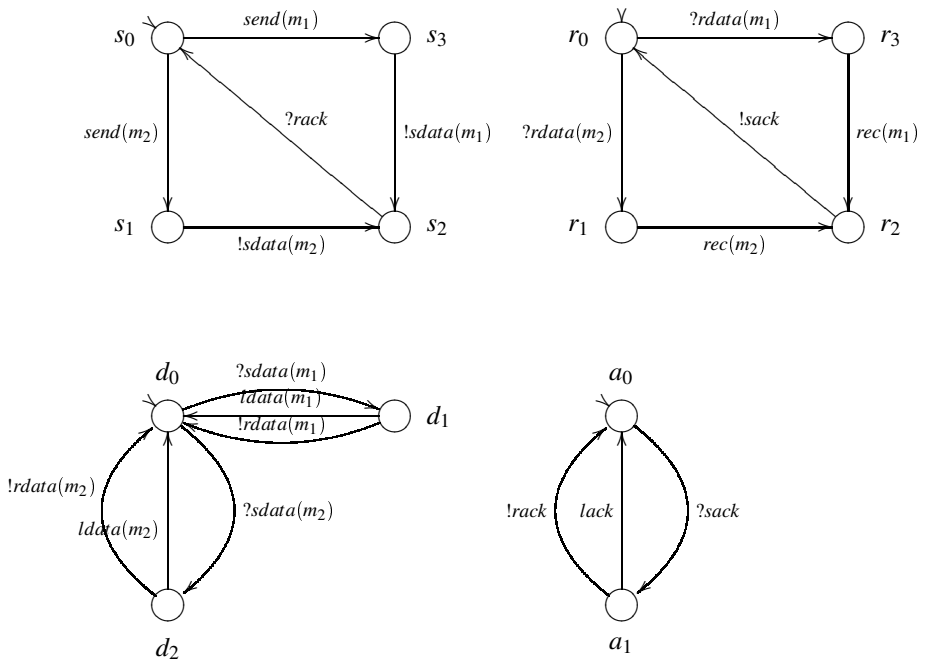
Laboratory for Theoretical Computer Science
T-79.231 Parallel and Distributed Digital Systems

Tutorial 1
23.9.2002
Orig. JL

1. Let us consider the following simple protocol given as a labelled transition system:



(a) Generate the reachability graph of the LTS.

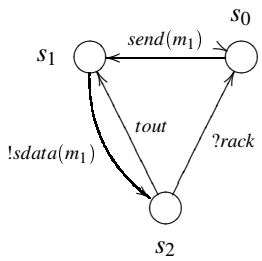
(b) Write a Petri net which is semantically equivalent to the above LTS.

(c) Generate the reachability graph of the Petri net.

(d) Find the system errors from the reachability graph.

(e) How can the model be simplified?

2. Let us replace the protocol sender with the following LTS:



Additionally, the states and transitions related with the message m_2 are deleted from the receiver and data channel.

(a) Write a Petri net which is semantically equivalent to the above LTS.

(b) Does the protocol now work correctly?