CS375 Practical Class 10 — Coursework 3 Question 4

This practical class uses FDR to investigate Question 4 from Coursework 3.

Getting Started

1. Connect to tartan and start FDR and an editor.

Coursework 3 Question 4

1. Copy the file `/CS/ftp/pub/CS375/comm.fdr2` to your directory.
2. Load this file into FDR and check *SYSTEM* for deadlocks (click on the "Deadlock" tab, then select *SYSTEM* from the "Implementation" menu, then click on "Check").
3. You should find that there is a deadlock; use the debug window to see how it arises.
4. FDR just shows one deadlocking possibility. Use ProBE to explore the behaviour of *SYSTEM*. Can you find any other deadlocks?
5. As suggested in the coursework, one way of removing the deadlocks is to modify *P_STARTING* and *Q_STARTING* so that a *StartReq* message can be received and is treated in the same way as a *StartAck* message. Change the definitions in this way and use ProBE to check that the deadlocking trace which you found before can be extended.
6. Check *SYSTEM* for deadlocks again. Does it still deadlock? If so, modify the definitions again to remove this deadlock.