

Parallel and Distributed Systems Group (PDS)
Department Software and Computer Technology
Faculty EEMCS
DELFT UNIVERSITY OF TECHNOLOGY

LAB EXERCISES

DISTRIBUTED ALGORITHMS (IN4150)

Exercise 1a

Implementation of causal ordering of broadcast messages in Java/RMI

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Assignment

Implement the Birman-Schiper-Stephenson algorithm for causal ordering of broadcast messages with Java/RMI. The implemented program should be **truly distributed** in that it can be demonstrated to run across multiple physical machines.

The assignment can be split up into the following two parts.

First day

Implement the algorithm itself. Incorporate random delays before processes broadcast a message.

Second day

Design a few test cases for the algorithm. Implement a program that records for any two broadcasts whether one happens before the other, that records all receive events in all processes, and that checks the causal ordering.