

# Concurrency Semantics

## Exercises 7

Prof. Nestmann, 2005

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### 1. Open bisimulation

Let  $D \stackrel{\text{def}}{=} \{(a, b), (b, c)\}$ ,  $P \stackrel{\text{def}}{=} a() \mid b() \mid \bar{c}\langle\rangle$ , and  
 $Q \stackrel{\text{def}}{=} a().(b().\bar{c}\langle\rangle + \bar{c}\langle\rangle.b()) + b().(a().\bar{c}\langle\rangle + \bar{c}\langle\rangle.a()) + \bar{c}\langle\rangle.(a().b() + b().a())$ .

1. Show that  $P \not\sim^D Q$ .
2. Find  $D'$  such that  $P \sim^{D'} Q$ .

### 2. ABC Intro

Verify your answers to exercise 1. using ABC.

### 3. Modelling a Problem in $\pi$

See separate handout.