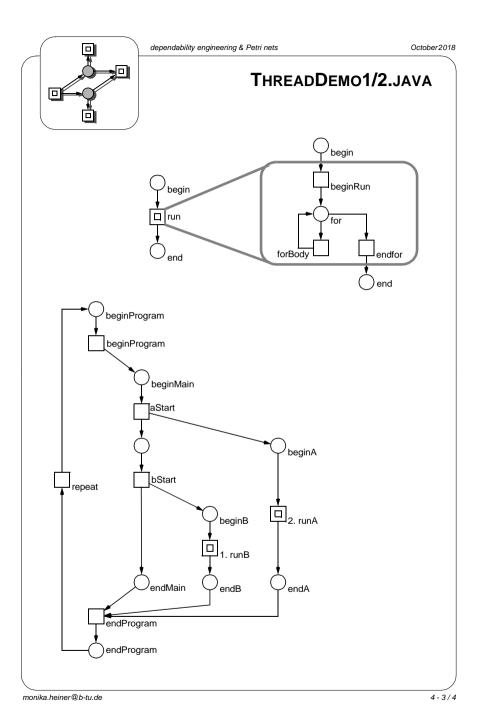


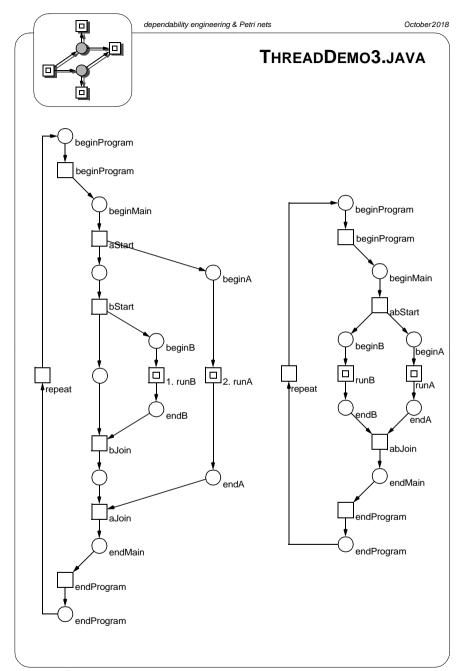
## JAVA THREAD PROGRAMMING AND PETRI NET MODELLING



## WHY CONCURRENT PROGRAMMING?

- more appropriate (understandable) structure
  - -> for programs interacting with environment
    - reactive systems
    - embedded systems
  - -> to control multiple activities
  - -> to handle multiple events
- performance gain
  - -> exploit multiprocessing hardware
- increase application throughput
  - -> an I/O call needs only to block one thread
- ☐ increase application responsiveness
  - -> high priority thread for user requests
- ☐ fault tolerance
  - -> survival of hardware errors requires redundant parallel hardware running in parallel + redundant software running in parallel
- lower CPU clock cycles may save power, which in turn may require parallelisation to keep the required performance;
- □ parallelisation = modularisation = increased program clarity
  - -> fault avoidance





monika.heiner@b-tu.de 4 - 4/4