

COMP480 Homework 1

Due Friday, Week 3 at the start of class

- 1) Give a short description of a distributed system. (5 points)
- 2) Give a description of a safety property. (5 points)
- 3) Give a description of a liveness property. (5 points)
- 4) Define an atomic process. (5 points)
- 5) Define the term guard. Can a single statement have a guard? (5 points)
- 6) How can processes use shared memory to communicate? (10 points)
- 7) How can processes use message passing to communicate? (10 points)
- 8) Your model uses message passing to determine if all the processes are working. It turns out that you do not really need FIFO for the messages, so you remove that constraint. (5 points each)
 - a) What is FIFO and how does that relate to message passing?
 - b) Have you made your model stronger or weaker and why?
 - c) Explain why you would expect your model to either be a better description of the system or a worse description of the actual system.