

# Homework 5

Prof. Loh

*CS6290 - Spring 2007*

Handed Out: 09 Apr 2007 (Mon)

Due: 18 Apr 2007 (Wed)

## 1. Snooping Protocol Behavior

H&P, problem 4.1, but use the following instead. Note: apply each to the *initial* state as shown in the figure in the book. That is for each part, start over with the initial state.

- (a) P15: read 118
- (b) P15: write 100  $\leftarrow$  48
- (c) P15: write 118  $\leftarrow$  80
- (d) P15: write 108  $\leftarrow$  80
- (e) P15: read 110
- (f) P15: read 128
- (g) P15: write 110  $\leftarrow$  40

## 2. Snooping Protocol Optimization

H&P, problem 4.3

3. **Directory-based Coherence – State Transitions** H&P, problem 4.16, but use the following instead. Similar to problem 1, start with the initial state for each problem.

- (a) P1: read 110
- (b) P15: read 128
- (c) P0: write 120  $\leftarrow$  80
- (d) P15: write 120  $\leftarrow$  80
- (e) P0: replace 110  
P1: read 110
- (f) P1: write 110  $\leftarrow$  80  
P0: read 110
- (g) P1: read 110  
P0: replace 110

4. **Directory-based Coherence – Traffic/Communication** H&P, problem 4.17 (all parts), but use the following instead

- (a) P1: write 120  $\leftarrow$  80
- (b) P1: write 110  $\leftarrow$  88
- (c) P15: write 118  $\leftarrow$  90
- (d) P15: write 108  $\leftarrow$  98