

4.1

- a)rm P0, B0 :(S, 120, 00, 20) returned: 20
- b)wm P0, B0 :(M, 120, 00, 80)
P15,B0 :(S, 110, 00, 30)
- c)wm P0, B0 :(S, 110, 00, 30)
- d)rh P0, B0 :(S, 110, 00, 30)
P1.B2 :(S, 110, 00, 30), M[110] :(00,30) returns: 30
- e)wm P0, B1 :(M, 108, 00, 48)
P15,B1:(I, 108, 00, 08)
- f)wm P0,B2(M,130,00,78)
overwrite M[110] :(00,30)
- g)wm P0,B2(M,130,00,78)

4.6

=) ... =/ ... =(

4.16

- a) [P0: read 100]
P0.B0: (S, 100, 00 00)
Mem: (DS, {P0}, 00 00)
- b) [P0: read 128]
P1.B1: (S, 128, 00 68)
Mem: (DS, {P0, P1}, 00 68)
- c) [P0: write 128 <-- 78]
P1.B1: (I, 128, 00 68)
Mem: (DM, {P0}, 00 68)
P0.B0: (M, 128, 78 68)
- d) [P0: read 120]
P0.B0: (S, 120, 00 20)
Mem: (DS, {P0, P15}, 00 20)

- e) [P0: read 120], [P1: read 120]
P0.B0: (S, 120, 00 20)
P1.B0: (S, 120, 00 20)
Mem: (DS, {P0, P1, P15}, 00 20)
- f) [P0: read 120], [P1: write 120 <-- 80]
P1.B0: (M, 120, 80 20)
P0.B0: (I, 120, 00 20)
Mem: (DM, {P1}, 00 20)
P15.B0: (I, 120, 00 20)
- g) [P0: write 120 <-- 80], [P1: read 120]
P0.B0: (M, 120, 80 20)
P1.B0: (S, 120, 80 20)
Mem: (DS, {P0, P1}, 80 20)
- h) [P0: write 120 <-- 80], [P1: write 120 <-- 90]
P1.B0: (M, 120, 90 20)
P0.B0: (I, 120, 90 20)
Mem: (120, DM, {P1}, 00 80)

4.17

- a) P0: write 100 <-- 80 :: no messages, hits on P0 cache
- b) P0: write 108 <-- 88 :: Invalidate to P15
- c) P0: write 118 <-- 90 :: Invalidate to P1
- d) P1: write 128 <-- 98 :: Invalidate to P1