ECEG69

(6 P.) P1.

Problem 1

P_1	P_2
1a, A = 3;	2a, print A;
1b, B = 0;	2b, print B;

Which sequences are Seq. Consistent?

1a, 1b, 2a, 2b
1a, 2a, 1b, 2b
1a, 2a, 2b, 1b
1b, 1a, 2b, 2a

Problem 1. L5.1

RISC processor, 200 MHz, 2 IPC

20% instructions -Stores-; 8 bytes of data.

Q: How many procs. will a 1GB/s bus support? Without saturation. Assume a write-through cache

$T_c = 5$ ns, 1 instr. 2.5 ns, 12.5 ns Store instruction. 2 byte/ns

$\frac{8 \text{ byte}}{12.5 \text{ ns}}$; $\frac{1 \text{ byte}}{\text{nsec}}$

Problem 2

(28) Pts.

P_1	P_2	P_3
A = 1;	while (A == 0);	while (B == 0);
	B = 1;	print A;

Show how not preserving write atomicity violates sequential consistency.