## Arman Ramiz, ECE551, SPRING 2021

Timeline you have created for the retiring instructions of perf-test-dep-ldst.asm.

CYCLE	INSTRUCTION RETIRED	REASON
1	NOP	
2	NOP	
3	NOP	
4	NOP	
5	lbi r0, 0	Will execute, WB, no hazards yet
6	lbi r5, 43	Will execute, WB, no hazards yet
7	lbi r6, 43	Will execute, WB, no hazards yet
8	lbi r7, 43	Will execute, WB, no hazards yet
9	ld r1, r0, 0	Will execute, WB, no hazards yet
10	NOP	RAW on r1 due to st r5, r1, 0 instruction. Stall
11	NOP	Stall again. RAW on r1 due to st r5, r1, 0 instruction
12	st r5, r1, 0	Processed in writeback stage. Done
13	ld r1, r0, 2	Processed in writeback stage. Done. No hazard on r1
14	NOP	RAW on r1 due to st r6 r1, 1 instruction. Stall
15	NOP	RAW on r1 due to st r6 r1, 1 instruction. Stall
16	st r6, r1, 1	Processed in writeback stage. Done
17	ld r1, r0, 4	Processed in writeback stage. Done
18	NOP	RAW on r1 due to st r7 r1, 1 instruction. Stall
19	NOP	RAW on r1 due to st r7 r1, 1 instruction. Stall
20	st r7, r1, 1	Processed in writeback stage. Done
21	halt	done