

Activity: Quiz 2 Review

Mon Oct 5

- As last time, the quiz will begin the class, be 30 minutes long; we'll take a short break and have a short lecture. The quiz will be open book, open notes (but no sharing books or notes) and no support equipment.
- The quiz will cover the material from weeks 3 – 5 (Chapter 3).

A. Outcomes

Outcomes for Lectures 5–9 & Labs 3–5 are below; the most important ones are starred.

1. Know what transistor switches do. // Know how to read a transistor-level diagram.
2. Know how to read a simple voltage/current diagram. (Be able to take a simple voltage diagram and determine whether an output is connected to the voltage source or ground/)
3. Know the behavior of some typical gates: NOT, AND, OR, NAND, NOR.
4. Know how to write logical “propositional” formulas.
5. *Know what a truth table is and how to build one for a logical formula.
6. Know how DeMorgan’s laws connect the behavior of AND, OR, and NOT.
7. Know the symbols for the usual gates
8. Know what a combinatorial logic circuit is.
9. *Be able to convert between truth tables, boolean functions, and gate-level circuit diagrams.
10. Know what decoders and multiplexers (muxes) do (and that they’re combinatorial logic circuits). // Know what half adders and full adders do.
11. Know how an R-S Latch works. // Know why we extend an R-S Latch to make a D-Latch.
12. Understand how decoders, muxes, and latches can be used to form a memory bank.
13. *Know what a state machine is, what its components are, and how one executes.// Be familiar with state tables and state diagrams for representing state machines.
14. Understand why and how clocks are used with state machines.
15. *Be able to trace the state change caused by modifying the inputs to a storage unit.
16. *Be able to translate a state diagram for a finite state machine to an equivalent state table.

B. Questions

1. As a group, pick two outcomes above and write a suggested test question for each.
2. If you have time, pick a third outcome and write a suggested test question for it.