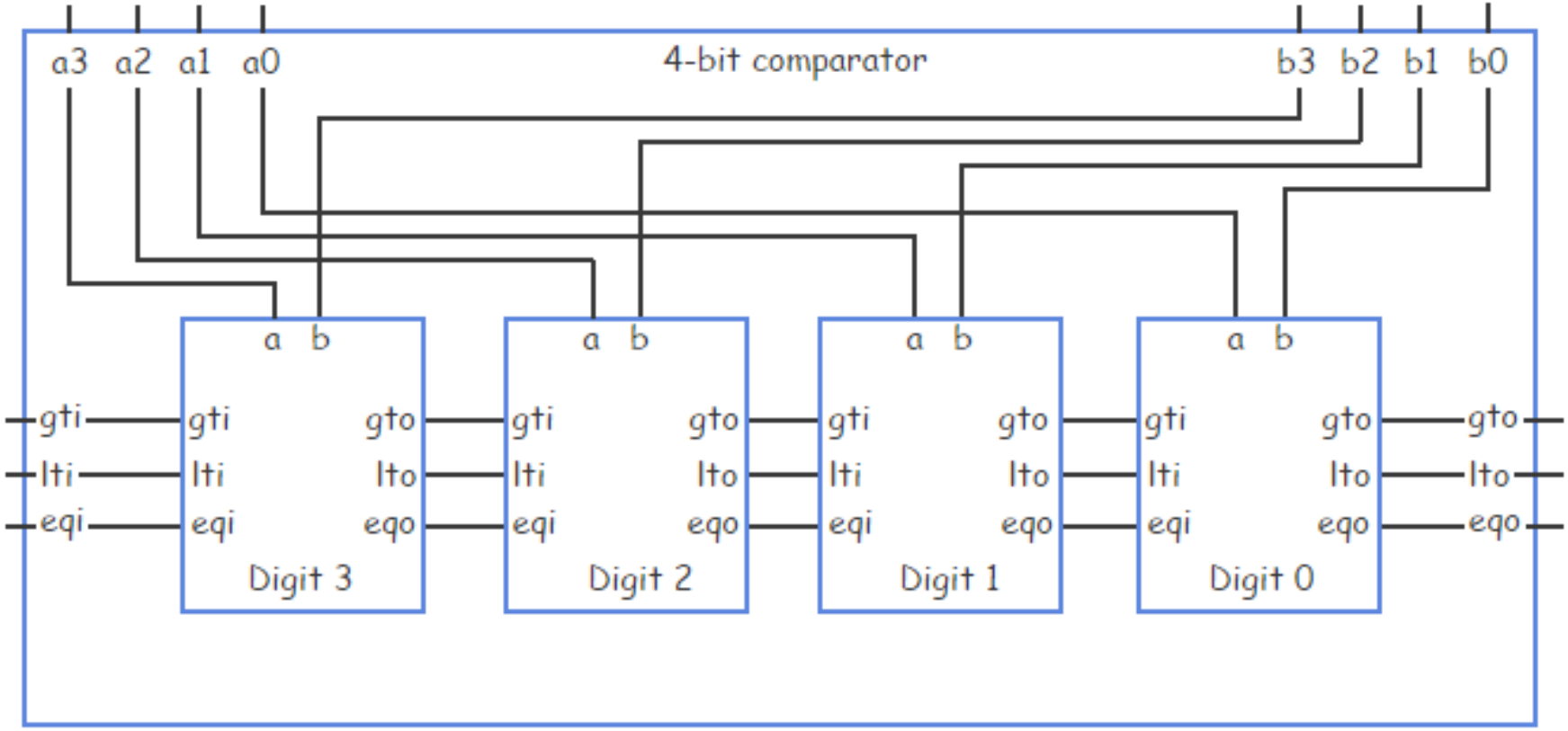
Introduction to Digital Logic

- Comparators
- Serial Circuits

Doug Shook

Review Questions

- If we assume each gate has a delay of 2ns, how much time must we wait to ensure that the result has enough time to propagate through the circuit?



Review Questions

- Design a 4-bit comparator that uses a subtractor to compute greater than and less than. Will this comparator have greater or fewer gates than a carry ripple comparator?

Review Questions

- What's the difference between a parallel and a serial circuit? Why might you choose one over the other?

- Design a serial adder. This circuit will read in two binary values, one bit at a time, and output the result, one bit at a time.
  - Draw a FSM for this circuit.
  - Write VHDL to implement this circuit

Review Questions

- The shifter we created for lab 1 only allowed us to shift by one position. Design a more flexible 4-bit shifter that allows you to shift left by any number of bits <= 3.