Digital System Design
Module 5 - COUNTERS AND SHIFT REGISTERS
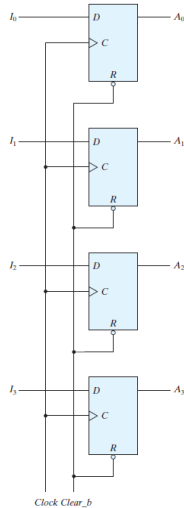
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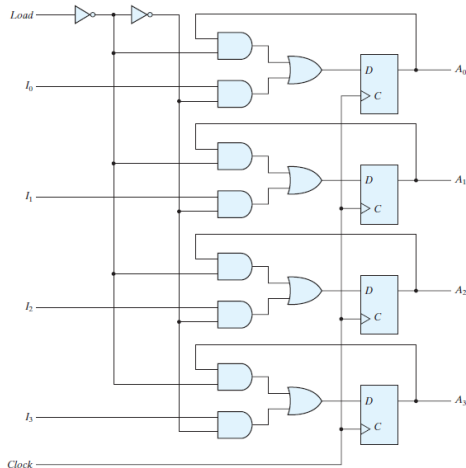GEC Barton Hill, Thiruvananthapuram

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Counters and Registers

▶ A clocked sequential circuit consists of a group of flip-flops and combinational gates.

▶ A circuit with flip-flops is considered a sequential circuit even in the absence of combinational gates.

▶ Circuits that include flip-flops are usually classified by the function they perform rather than by the name of the sequential circuit.

    ▶ A **register** is a group of flip-flops, each one of which shares a common clock and is capable of storing one bit of information.

    ▶ A **counter** is essentially a register that goes through a predetermined sequence of binary states.

4-bit register

4-bit register with parallel load

4-bit shift register