



REGISTERS

SEQUENTIAL LOGIC CIRCUITS

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TOPIC OUTLINE

Registers

- Shift Register
- Parallel-Access Shift Register



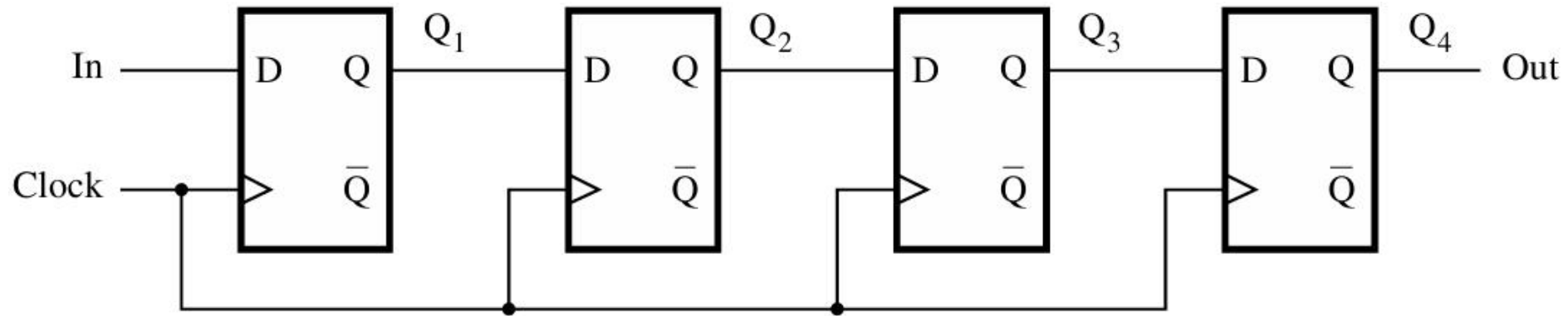
REGISTERS



REGISTER

Flip-flop stores one bit of information.

Register store **n bits** of information.



A simple shift-register

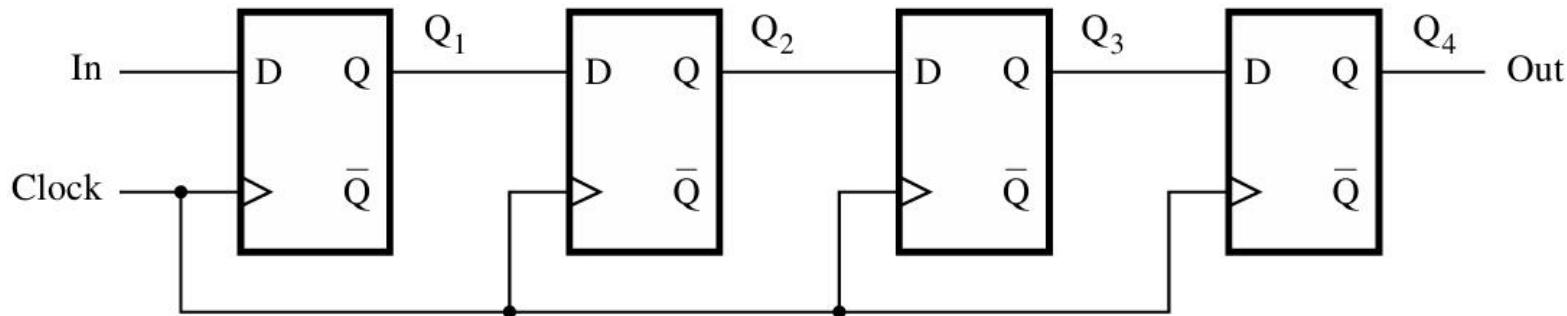
The term register is merely a convenience for referring to n-bit structures consisting of flip-flops.



SHIFT REGISTER

A register that provides the ability to shift its contents is called a shift register.

sample sequence: 0 0 0 1 1 1 0 1



A simple shift-register

	In	Q_1	Q_2	Q_3	$Q_4 = \text{Out}$
t_0	1	0	0	0	0
t_1	0	1	0	0	0
t_2	1	0	1	0	0
t_3	1	1	0	1	0
t_4	1	1	1	0	1
t_5	0	1	1	1	0
t_6	0	0	1	1	1
t_7	0	0	0	1	1

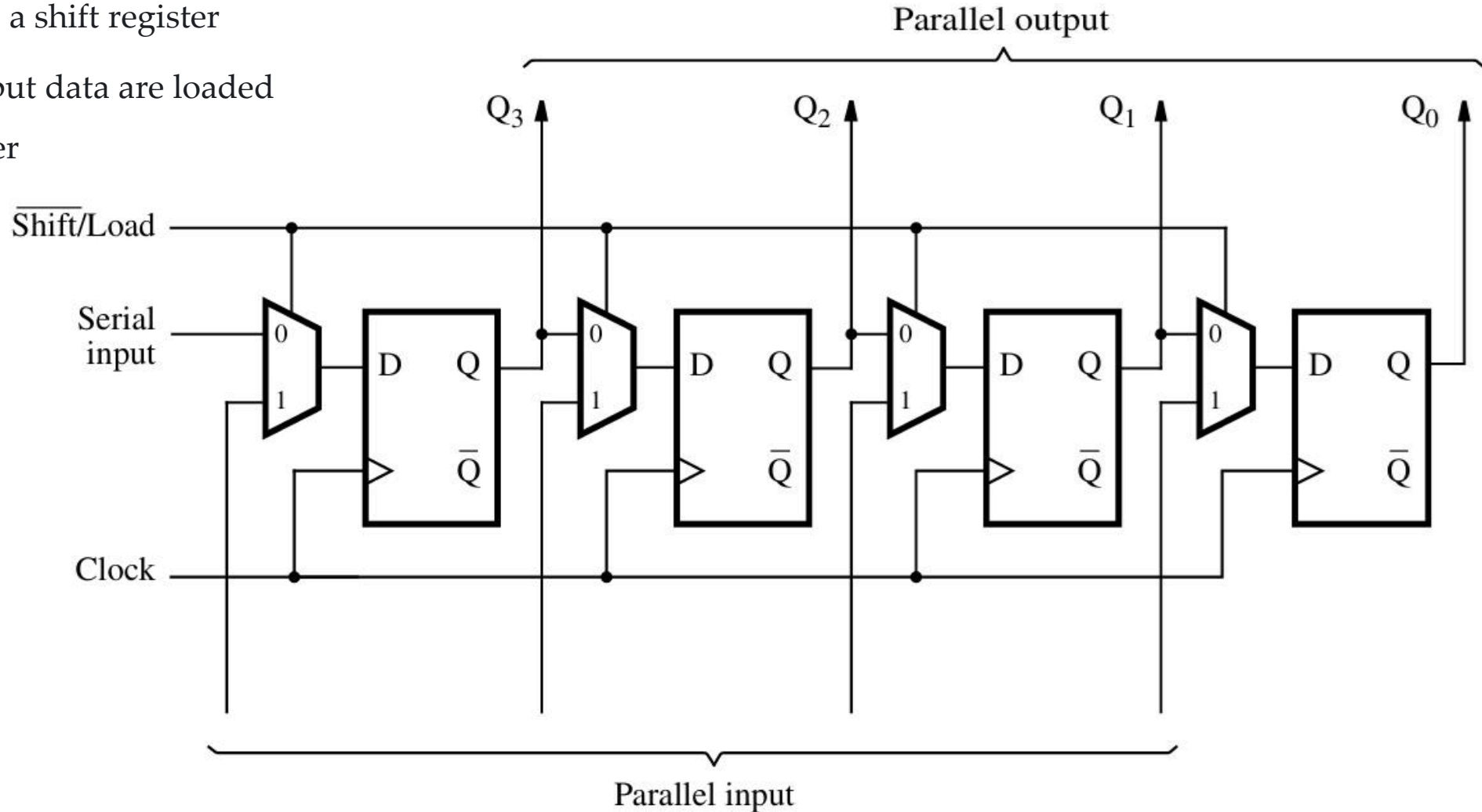


PARALLEL-ACCESS SHIFT REGISTER

The control signal **Shift/Load** is used to select the mode of operation.

0 – operates as a shift register

1 – parallel input data are loaded into the register



LABORATORY

