




# Computer Architecture (CSC-3501) Lecture 8 (12 Feb 2008)

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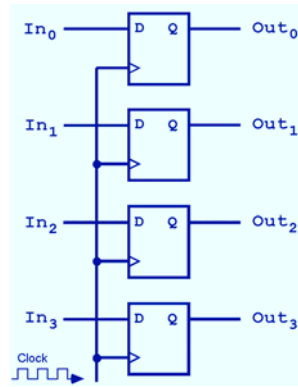
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## Announcement

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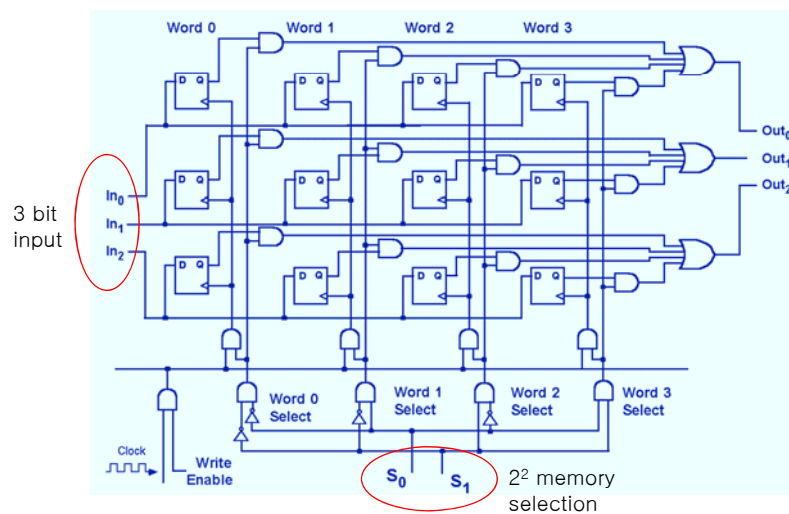
## 4-Bit Register (Sequential Circuits)

- This illustration shows a 4-bit register consisting of D flip-flops. You will usually see its block diagram (below) instead.



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## 4 X 3 Memory

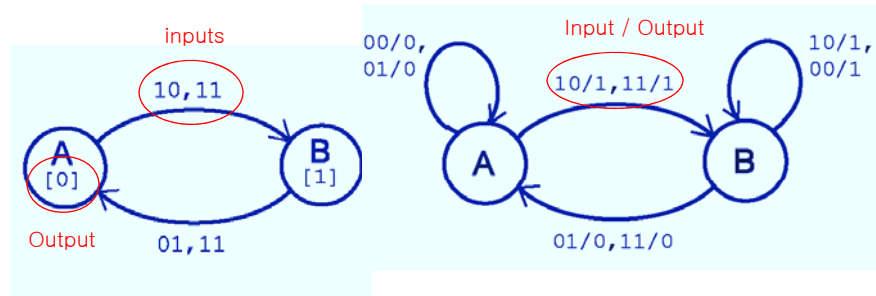


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## Moore vs. Mealy

- The behavior of a JK flip-flop is depicted below by a Moore machine (left) and a Mealy machine (right).
- Although the behavior of Moore and Mealy machines is identical, their implementations differ.

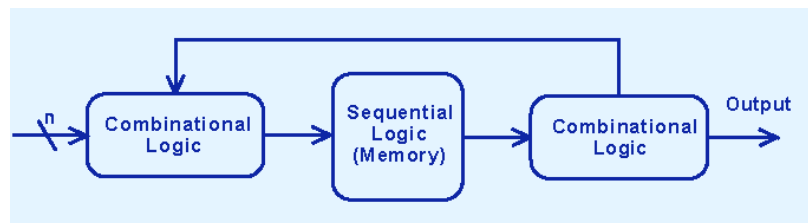
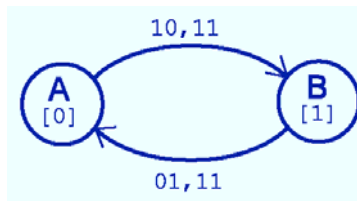


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## Moore Machine

- J-K Flip Flop

J	K	Q(t+1)
0	0	Q(t) (no change)
0	1	0 (reset to 0)
1	0	1 (set to 1)
1	1	$\bar{Q}(t)$



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# Mealy Machine

