

Solutions to Problem Set # 9

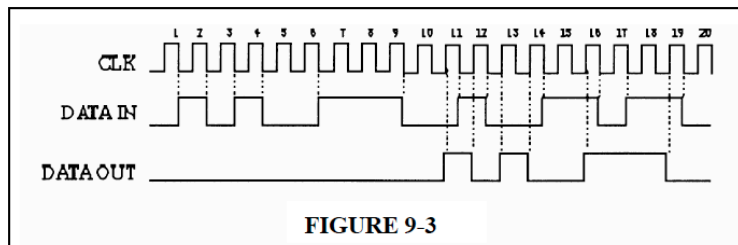
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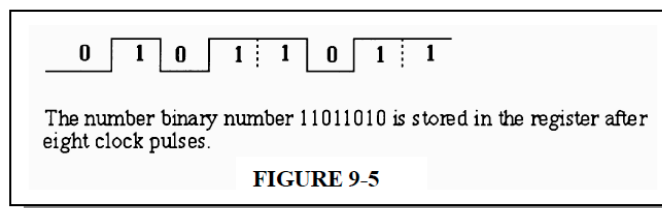
2. 1 byte = **8 bits**; 2 bytes = **16 bits**

4. Initially: 0000
1st CLK: 1000
2nd CLK: 1100
3rd CLK: 0110

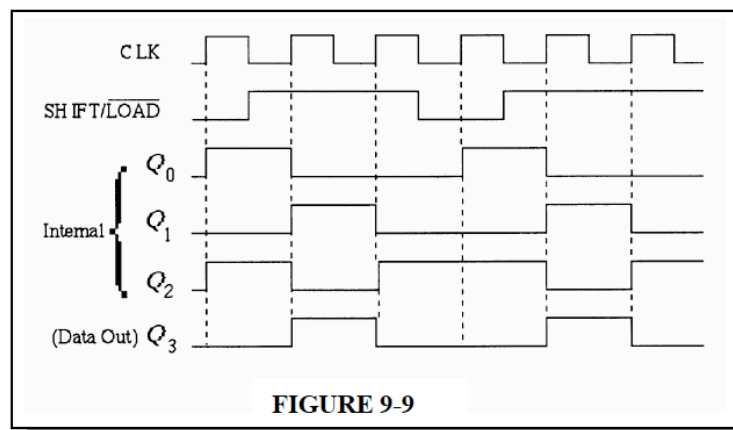
8. See Figure 9-3.



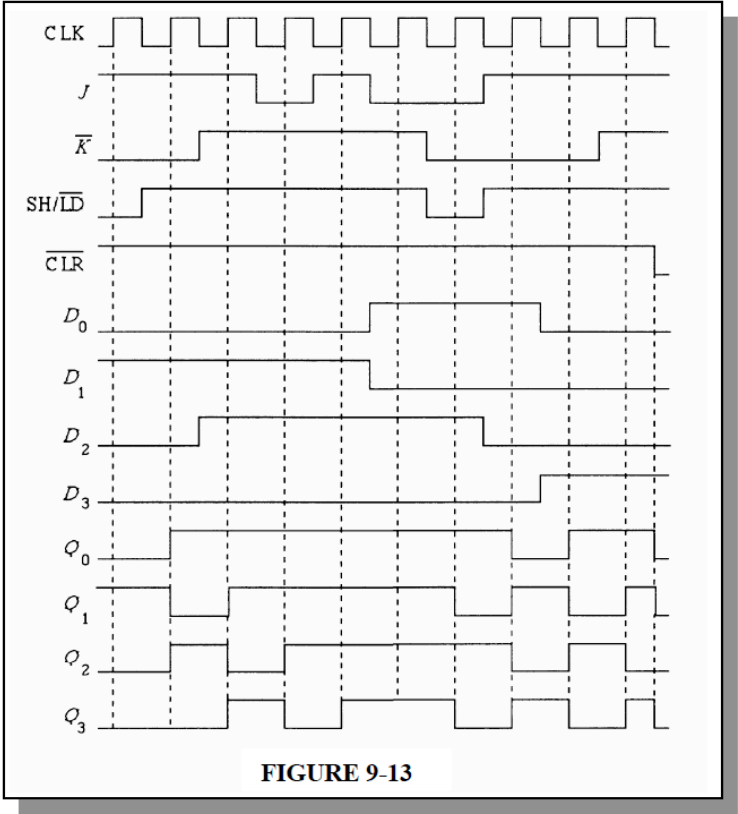
10. See Figure 9-5.



14. See Figure 9-9.



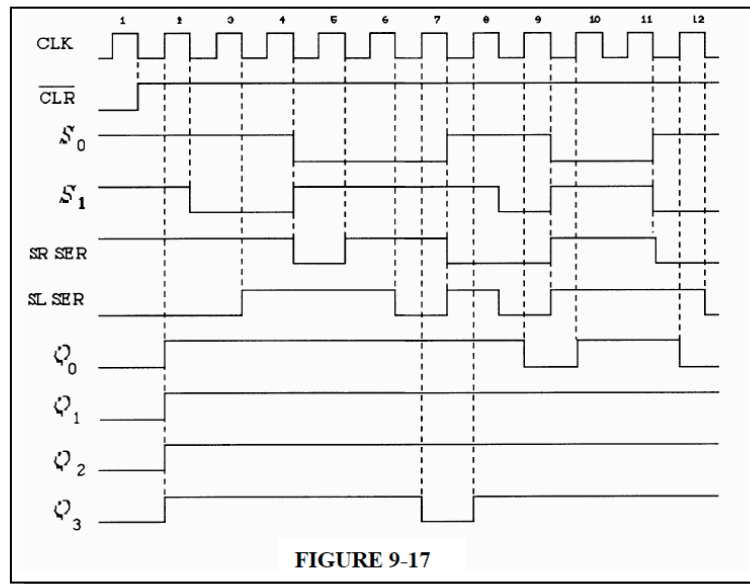
18. See Figure 9-13.



22.

Initially (76)	01001100	
CLK 1	00100110	Shift right
CLK 2	00010011	Shift right
CLK 3	00001001	Shift right
CLK 4	00010010	Shift left
CLK 5	00100100	Shift left
CLK 6	01001000	Shift left
CLK 7	00100100	Shift right
CLK 8	01001000	Shift left
CLK 9	10010000	Shift left
CLK 10	00100000	Shift left
CLK 11	00010000	Shift right
CLK 12	00001000	Shift right

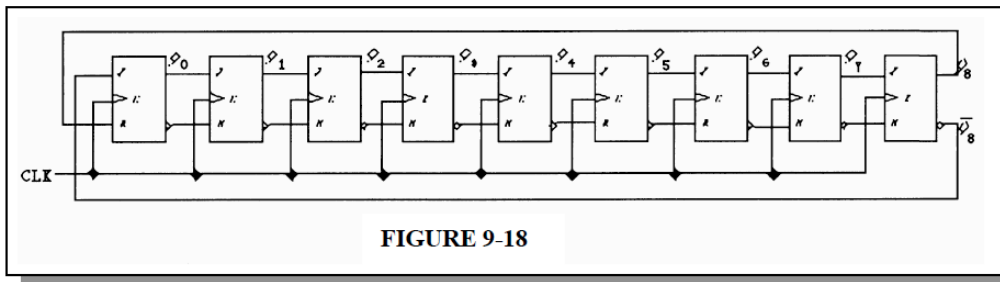
24. See Figure 9-17.



26. $2n = 18$; $n = 9$ flip-flops

[illegible]

See Figure 9-18.



28. A 15-bit ring counter with stages 3, 7, and 12 SET and the remaining stages RESET. See Figure 9-20.

