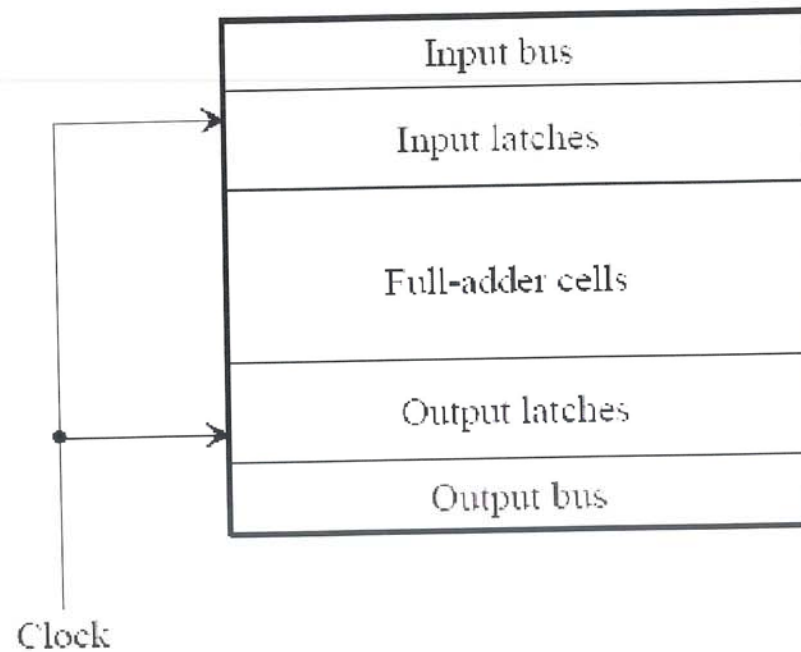


Figure 15.1 Defect density effects on yield.

22:23

1)



**Figure 15.2** Floor plan for an adder.

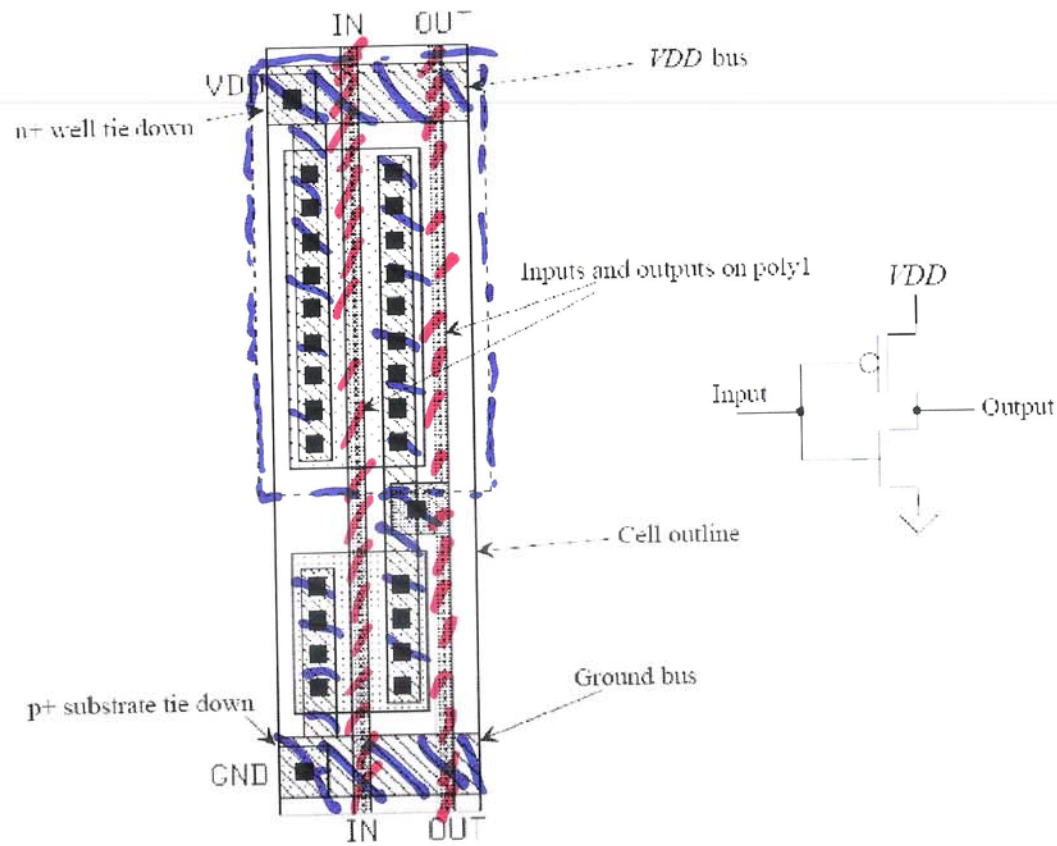
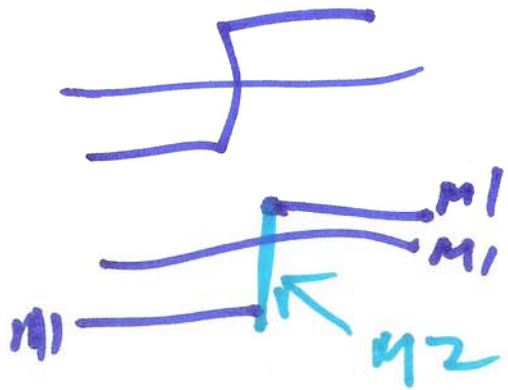
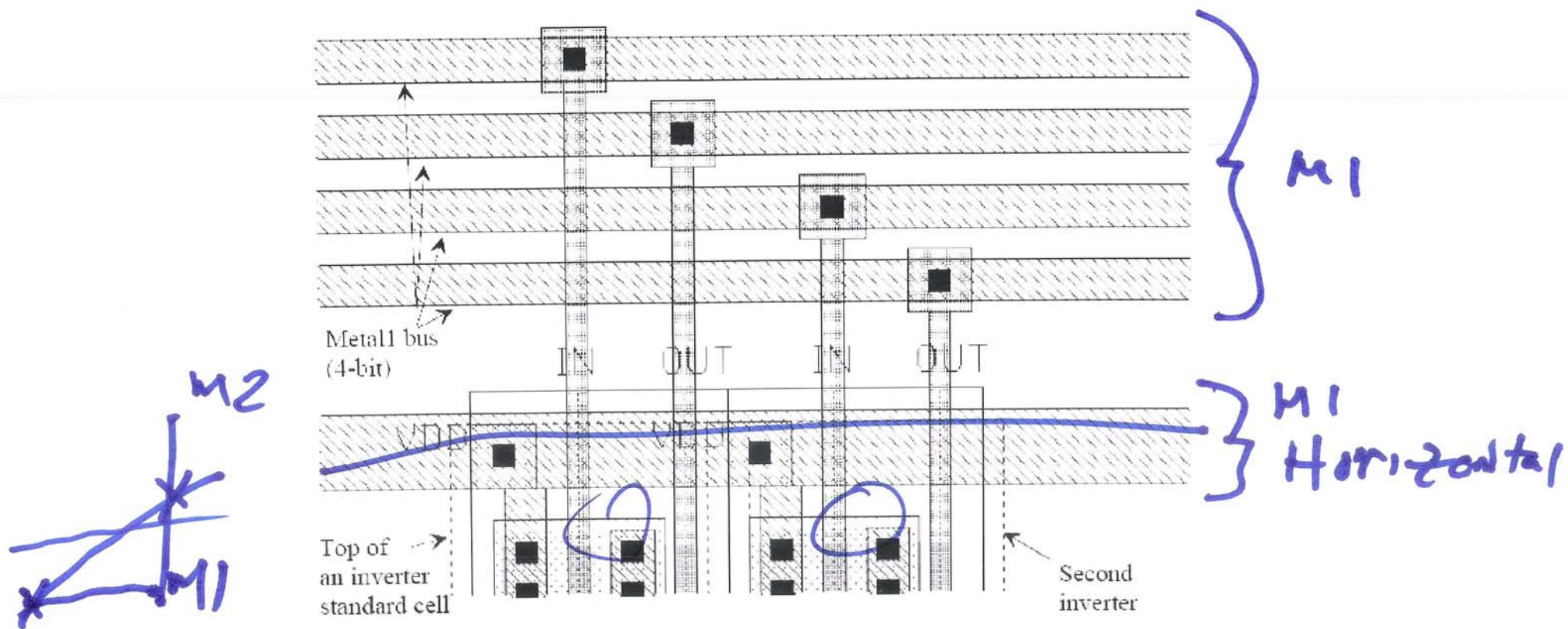


Figure 15.3 Standard cell layout of an inverter.



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3)



**Figure 15.4** Connection of two inverter standard cells to a bus.

4)

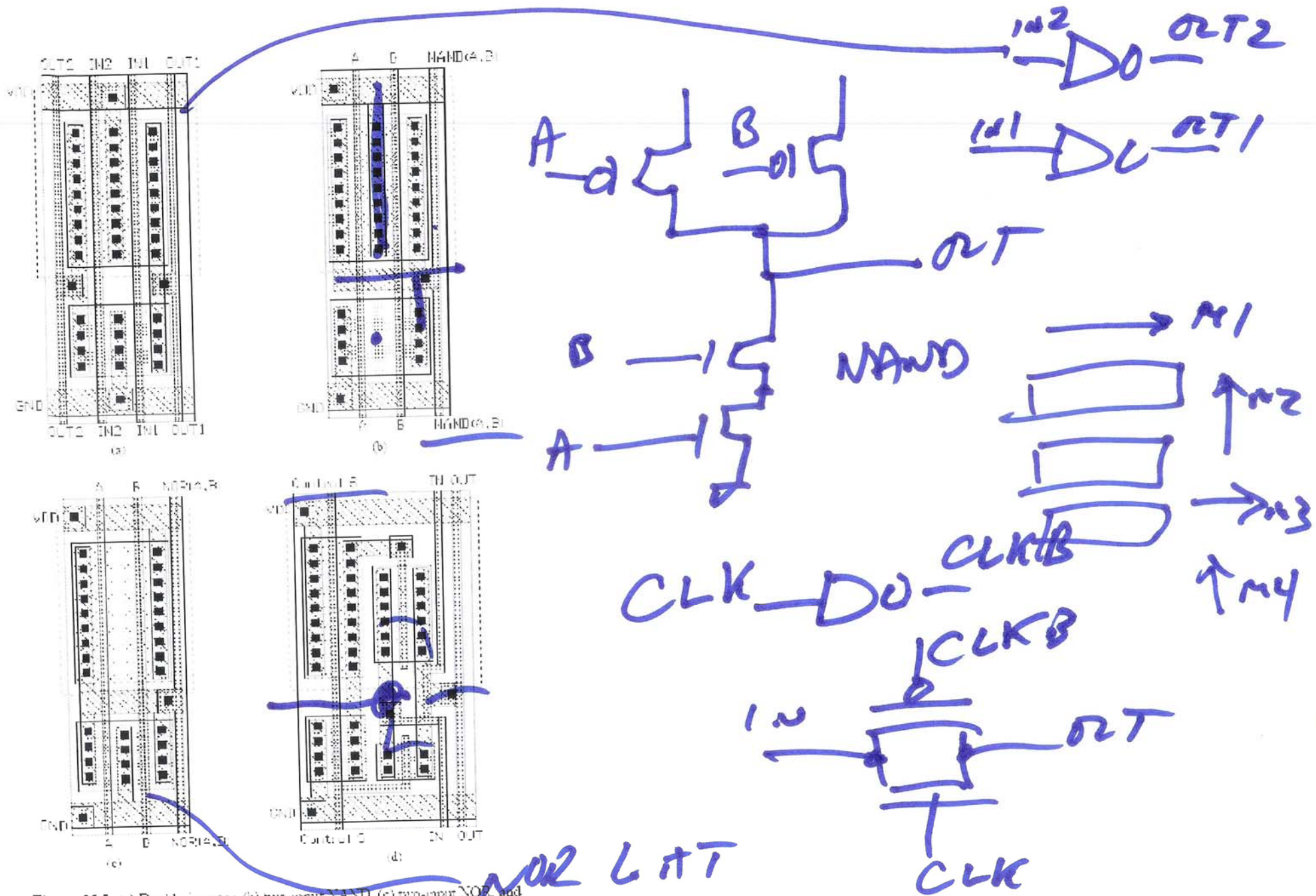
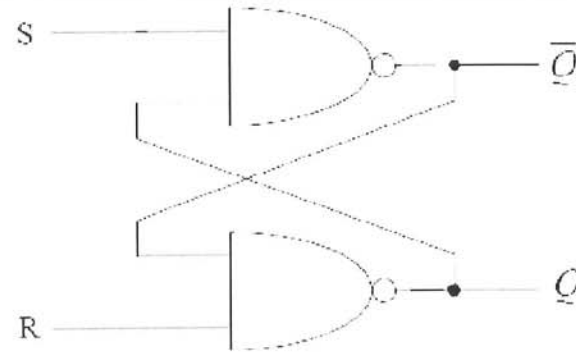
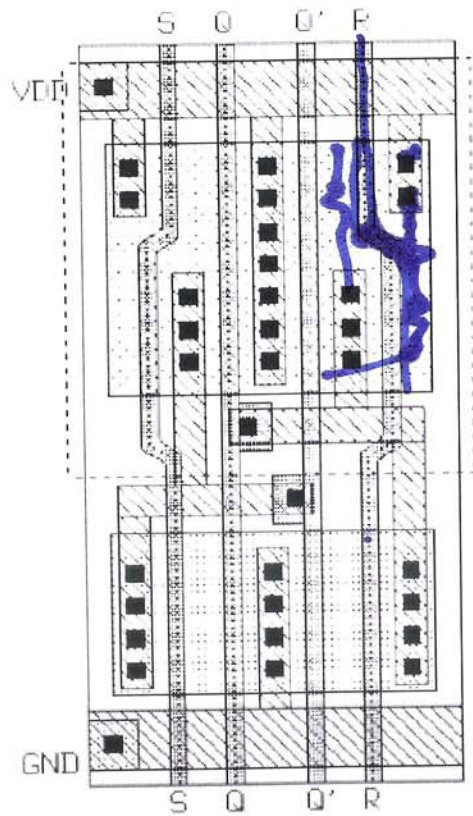


Figure 15.5 (a) Double inverter, (b) two-input NAND, (c) two-input NOR and (d) transmission gate.

5)



NAND

Figure 15.6 SR latch using NAND gates.

b)

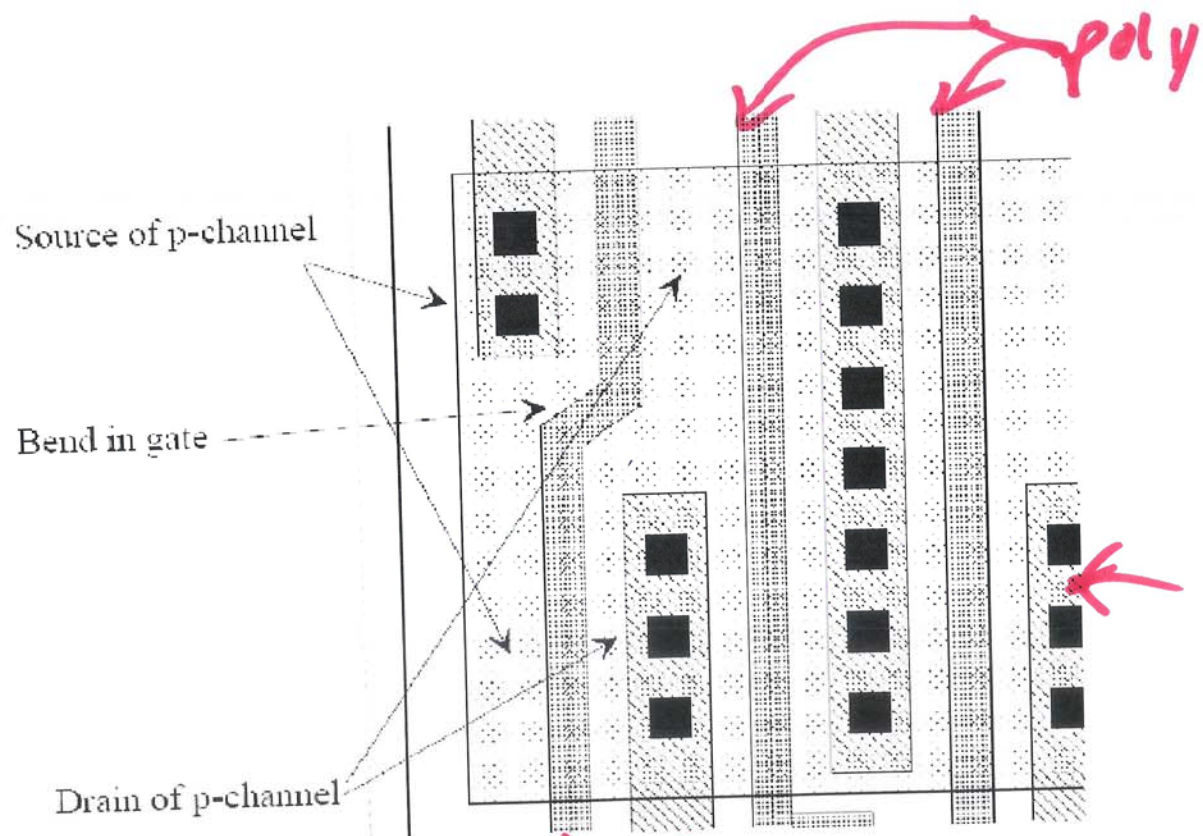


Figure 15.7 Section of the layout shown in Fig. 15.6.  
 ↑ poly ↑ Tail with contacts



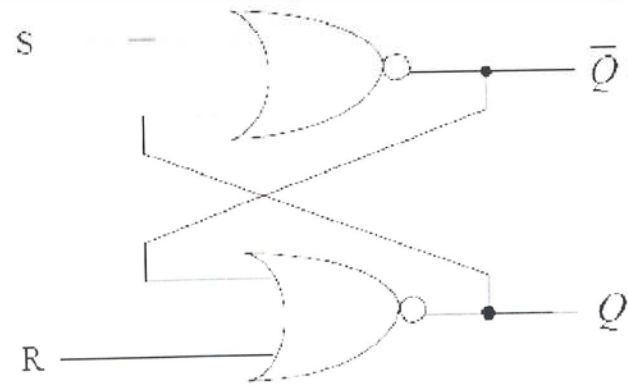
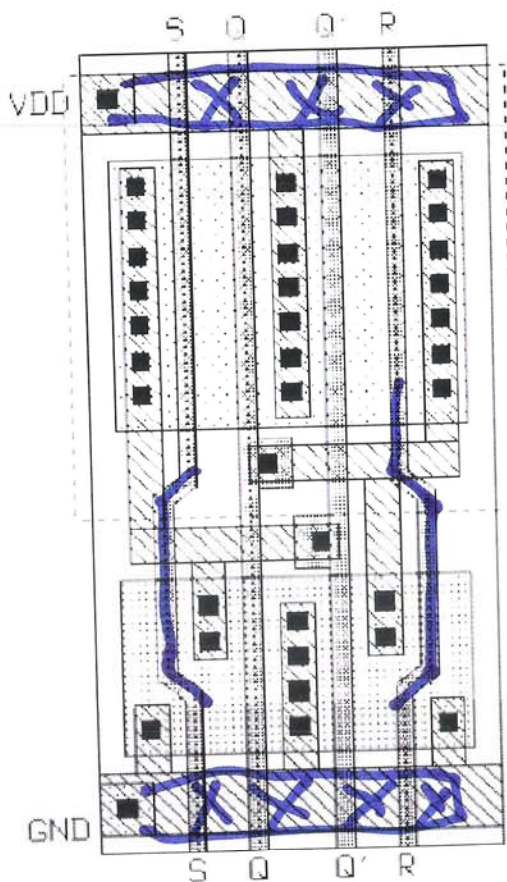
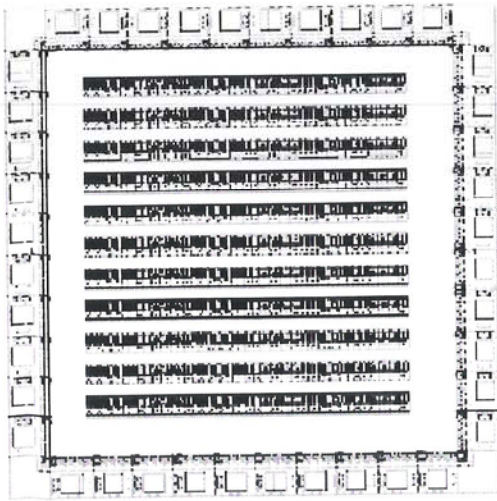


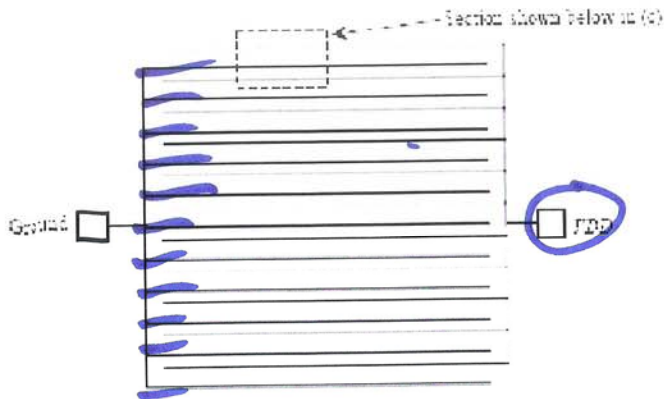
Figure 15.8 SR latch using NOR gates.

g)

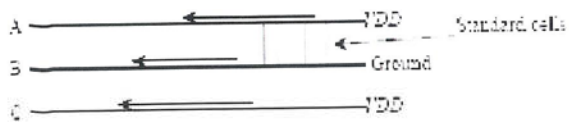




(a)



(b)



(c)

Figure 15.9 Connection of power and ground to standard cells.

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a)

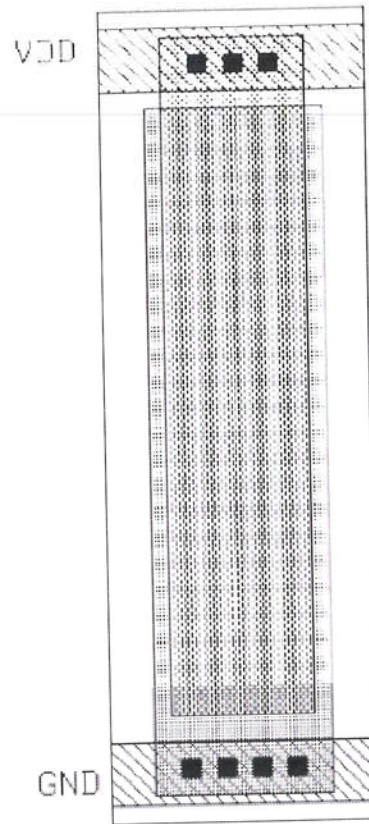


Figure 15.10 Decoupling capacitor.

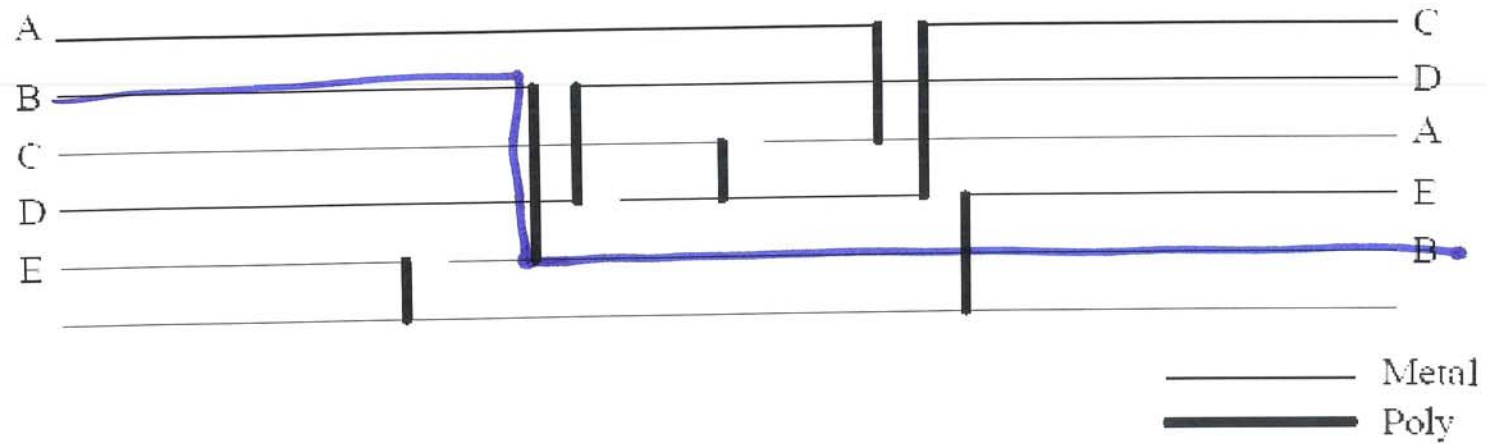
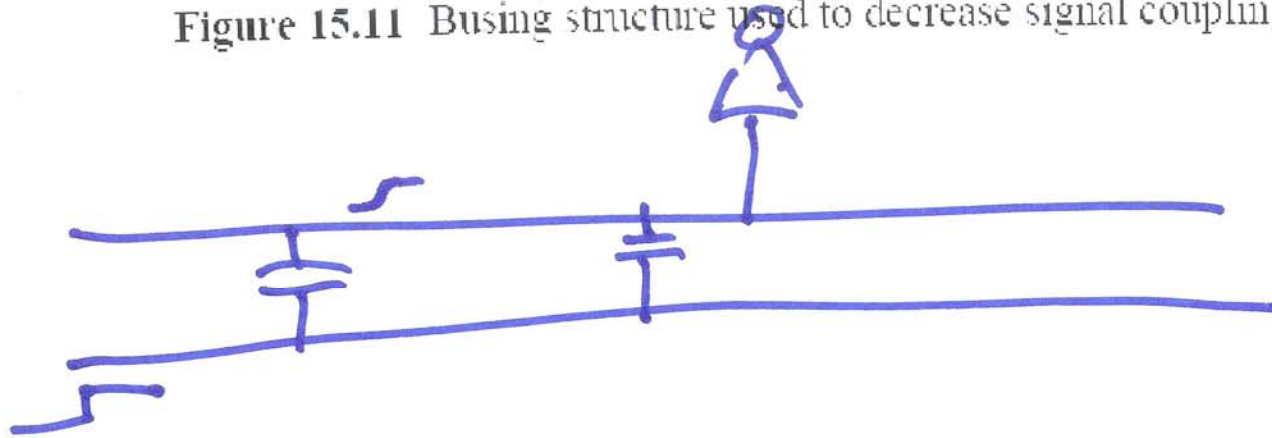


Figure 15.11 Busing structure used to decrease signal coupling.



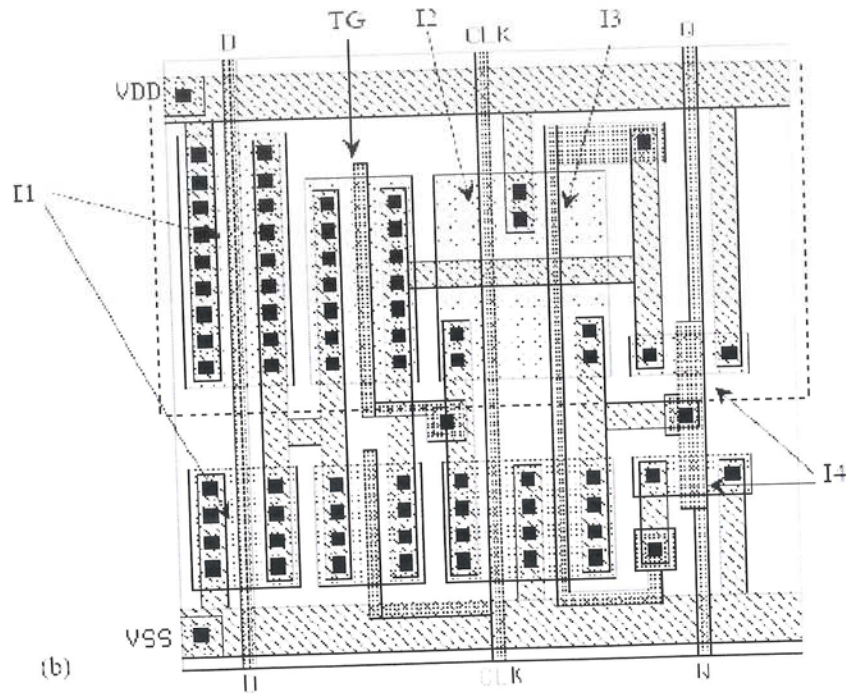
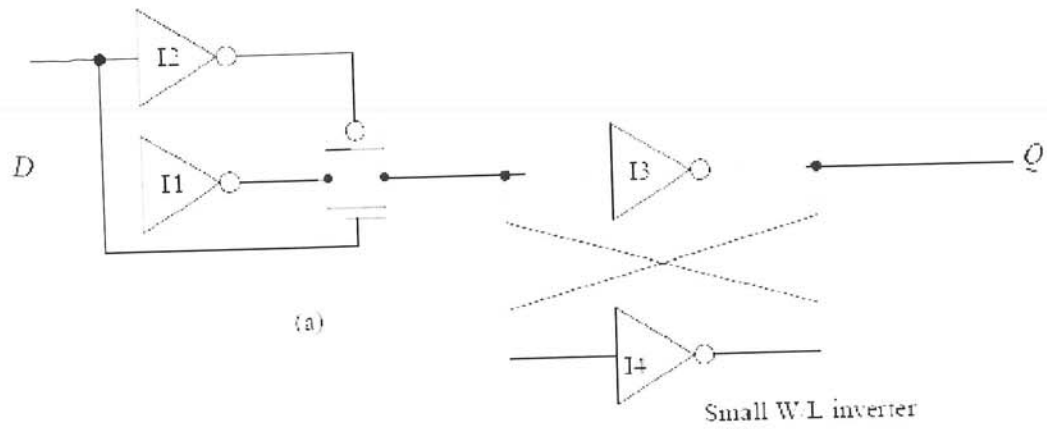


Figure 15.12 Schematic and layout of a latch.

12)

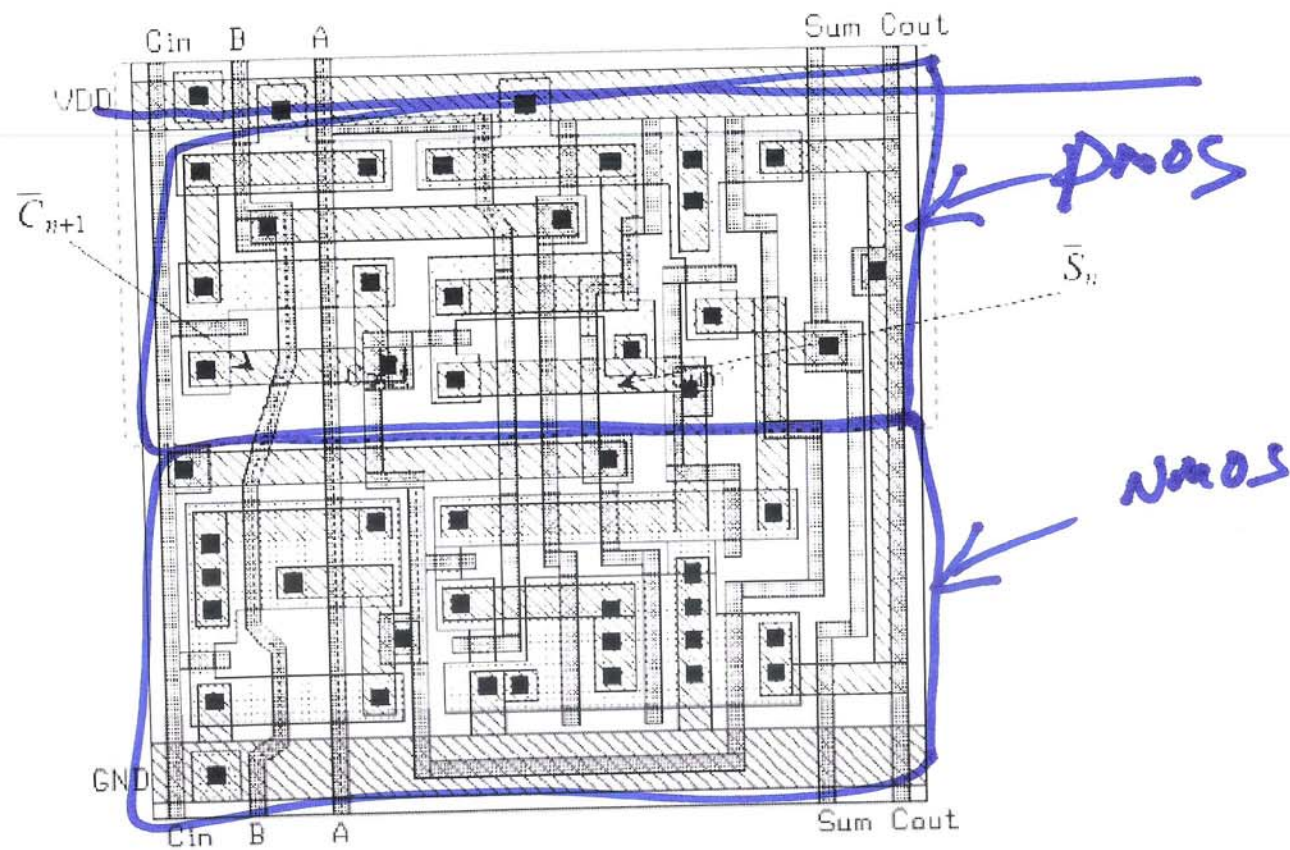


Figure 15.13 Layout of an AOI static adder.

13)

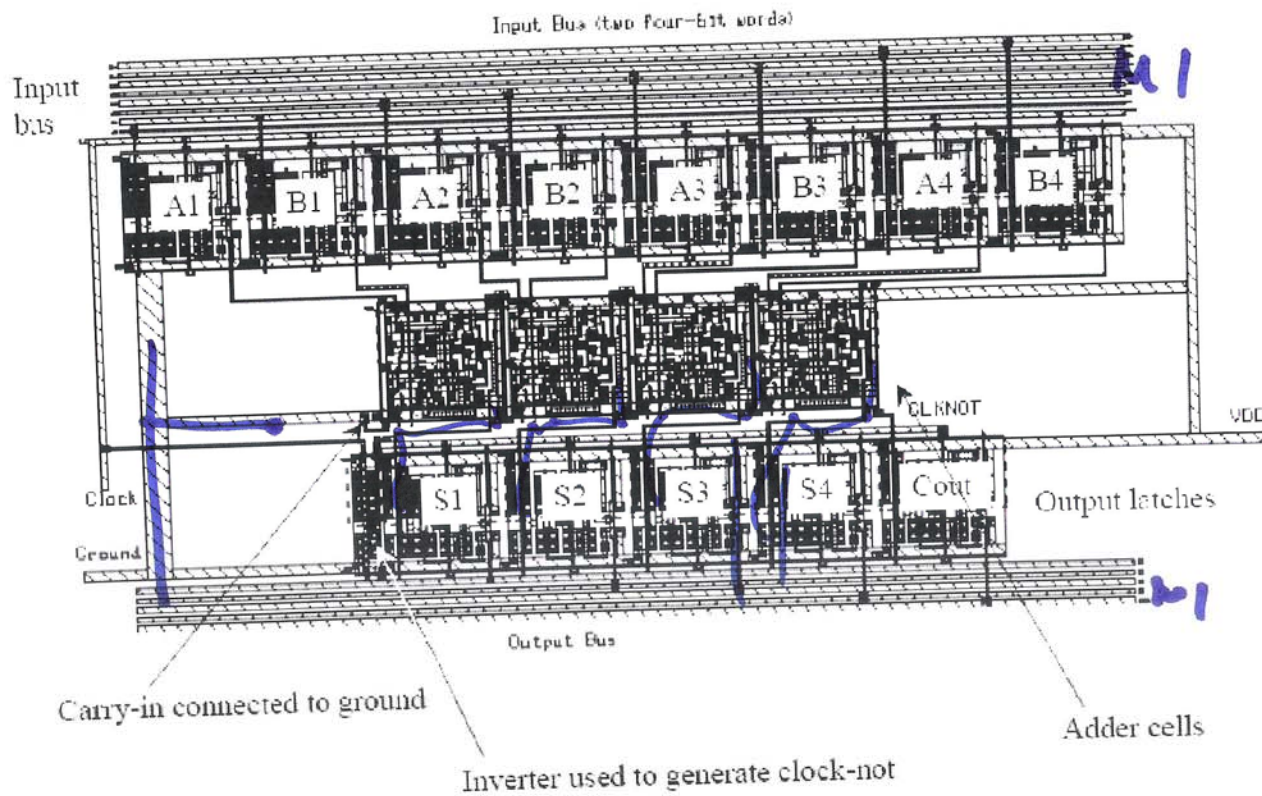


Figure 15.14 Layout of the complete adder.



M)

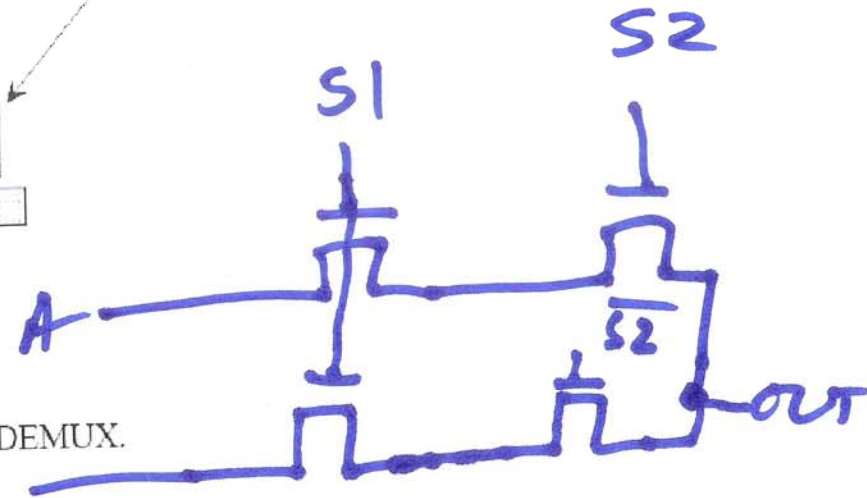
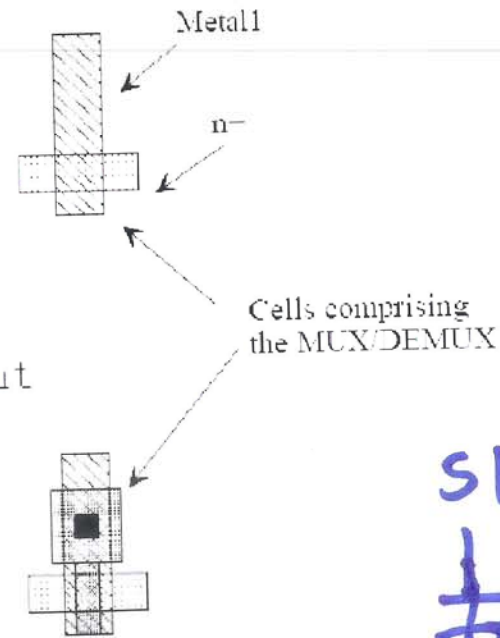
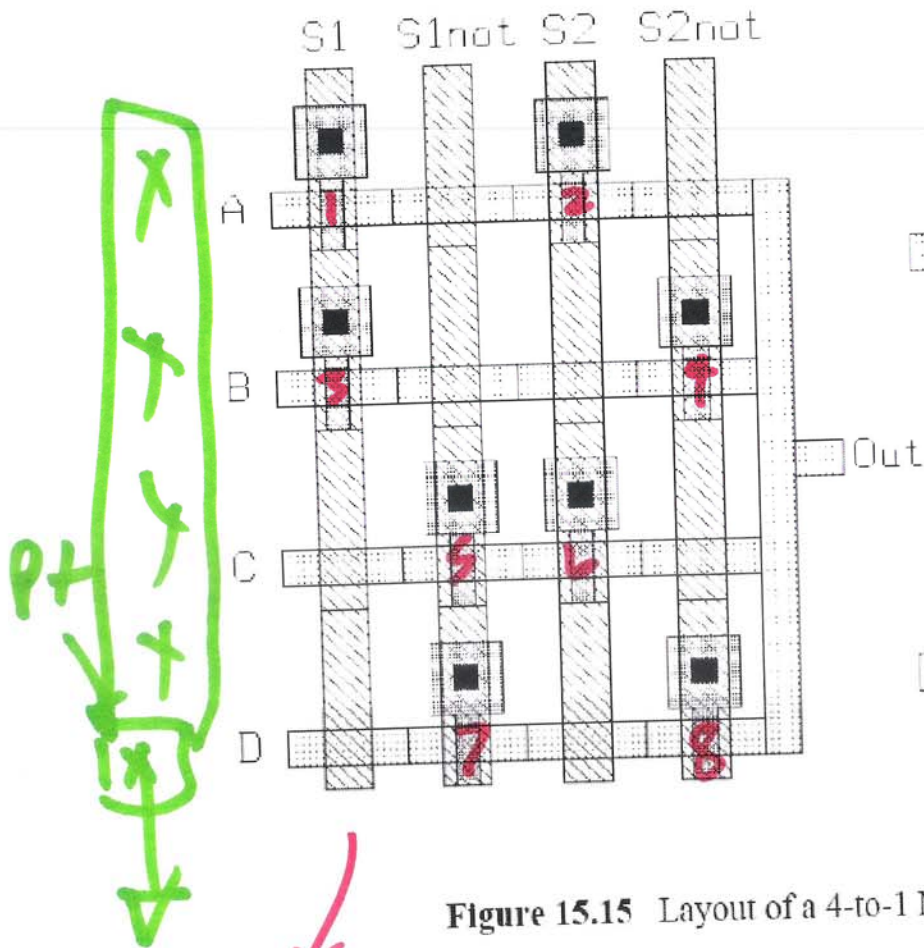


Figure 15.15 Layout of a 4-to-1 MUX/DEMUX.

NO SUBSTRATE CONNECTION