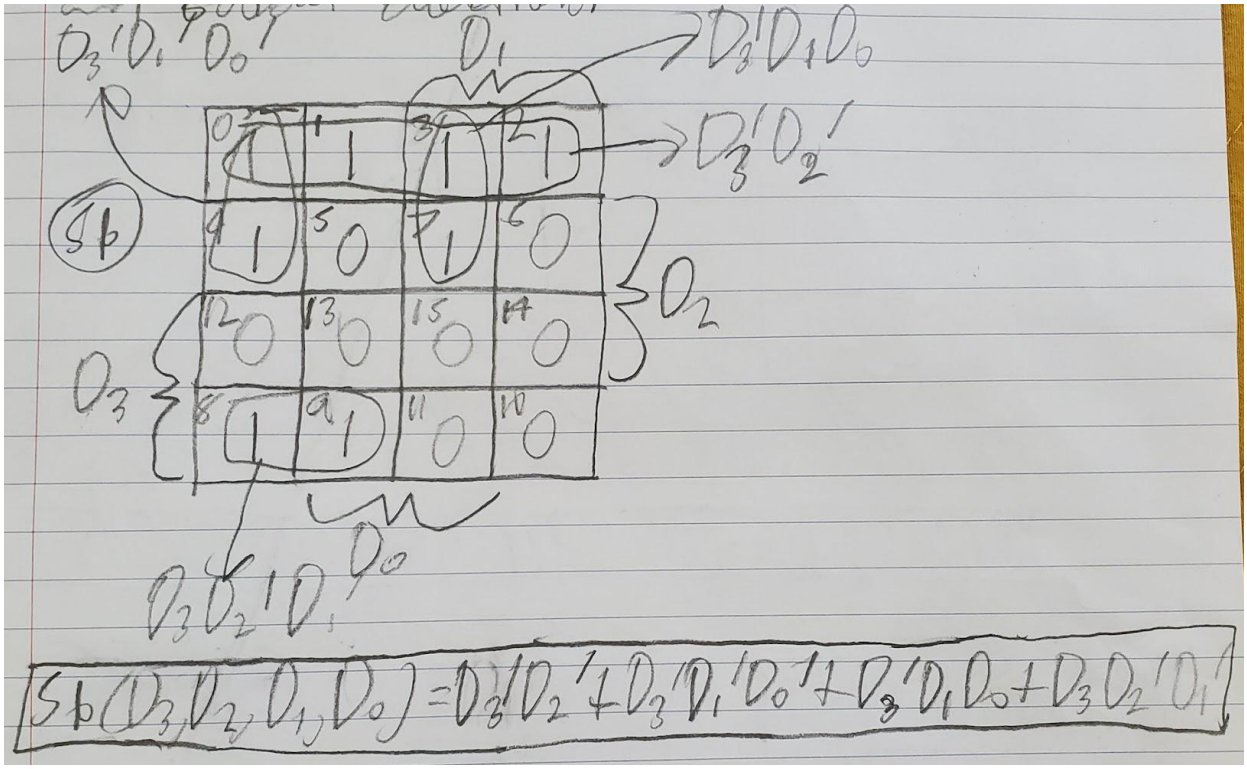
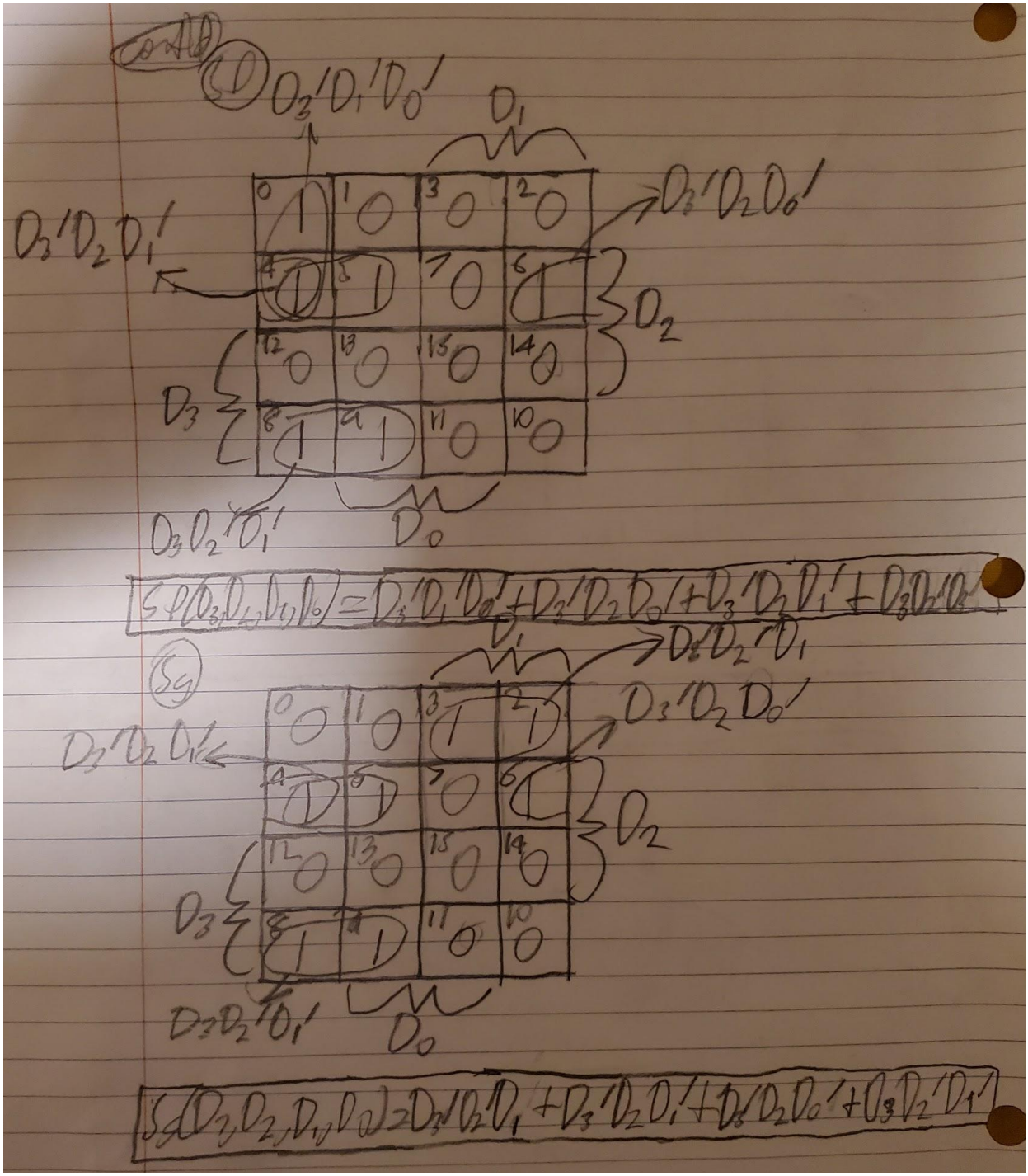
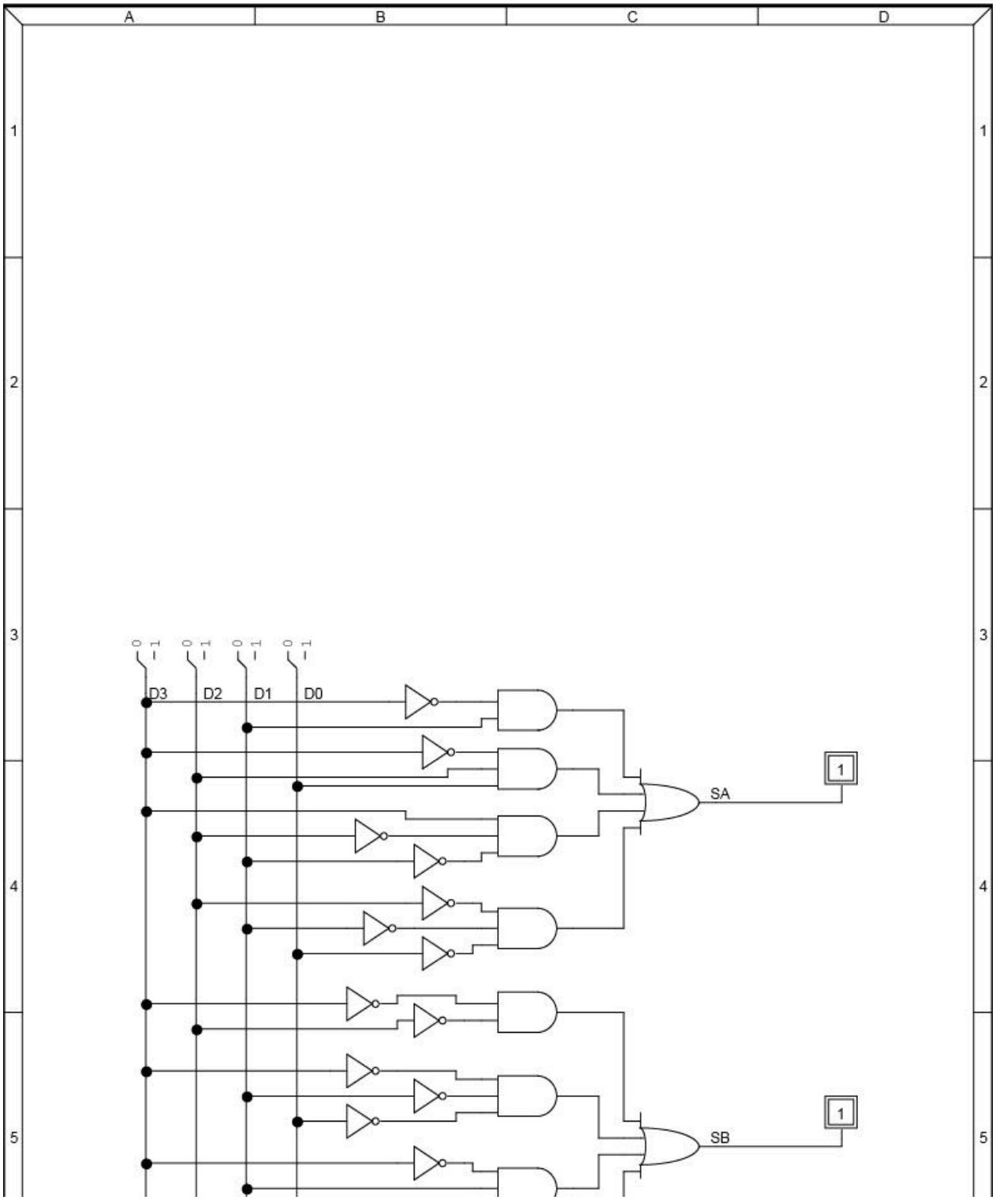
1. Use K-maps to derive the Boolean equations for Sb , Sf and Sg. Show your K-map groupings and the Boolean equations clearly in your homework submission. (2 points)

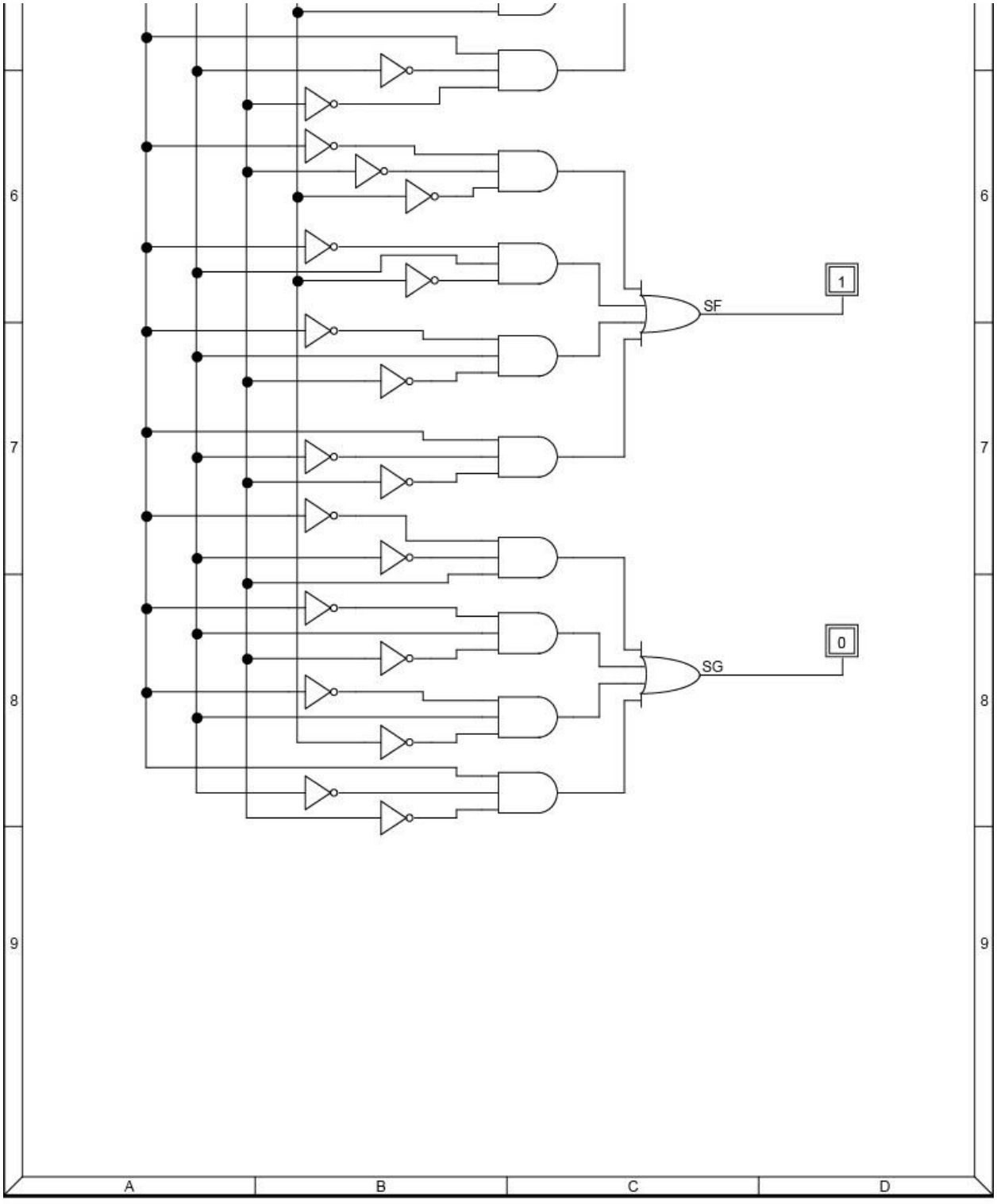




2. Implement the logic circuits for Sa, Sb, Sf and Sg. in LogicWorks. Submit the screenshot of your LogicWorks circuit in your homework submission. Make sure the circuit is clear and legible. (2 points)

*My screenshot is large so it is posted below in two parts!

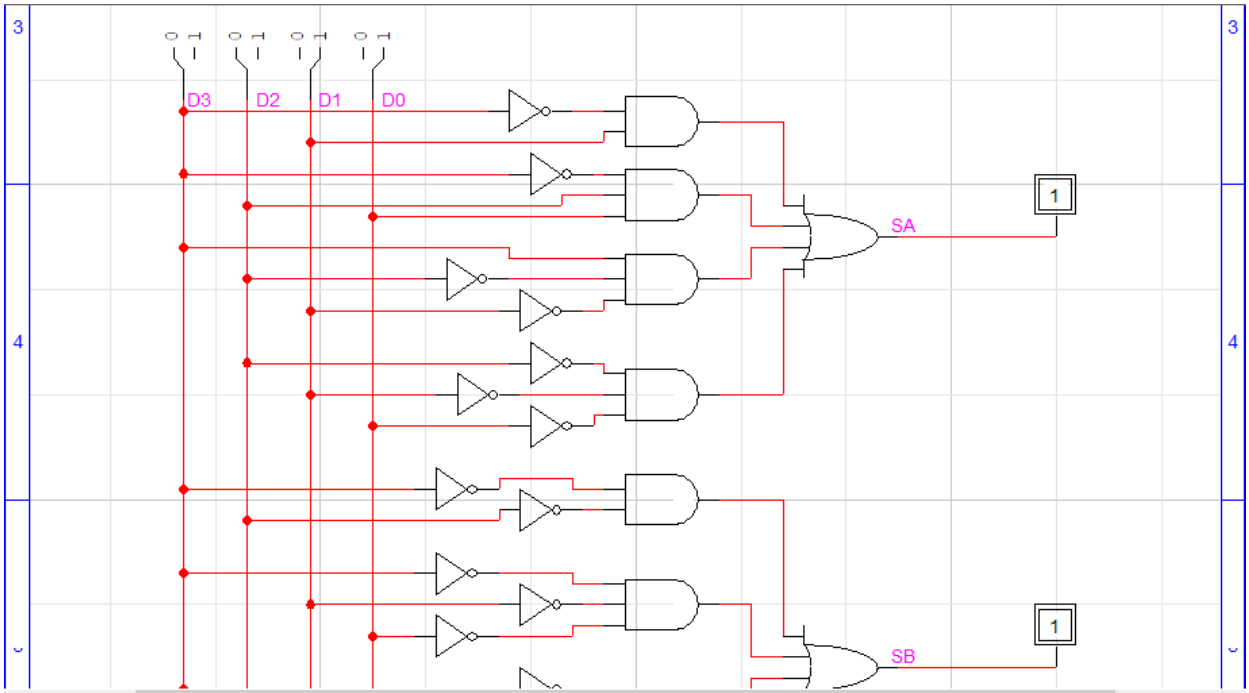

A
B
C
D
1
2
3
4
5
0
1
D3
D2
D1
D0
SA
SB
1
1

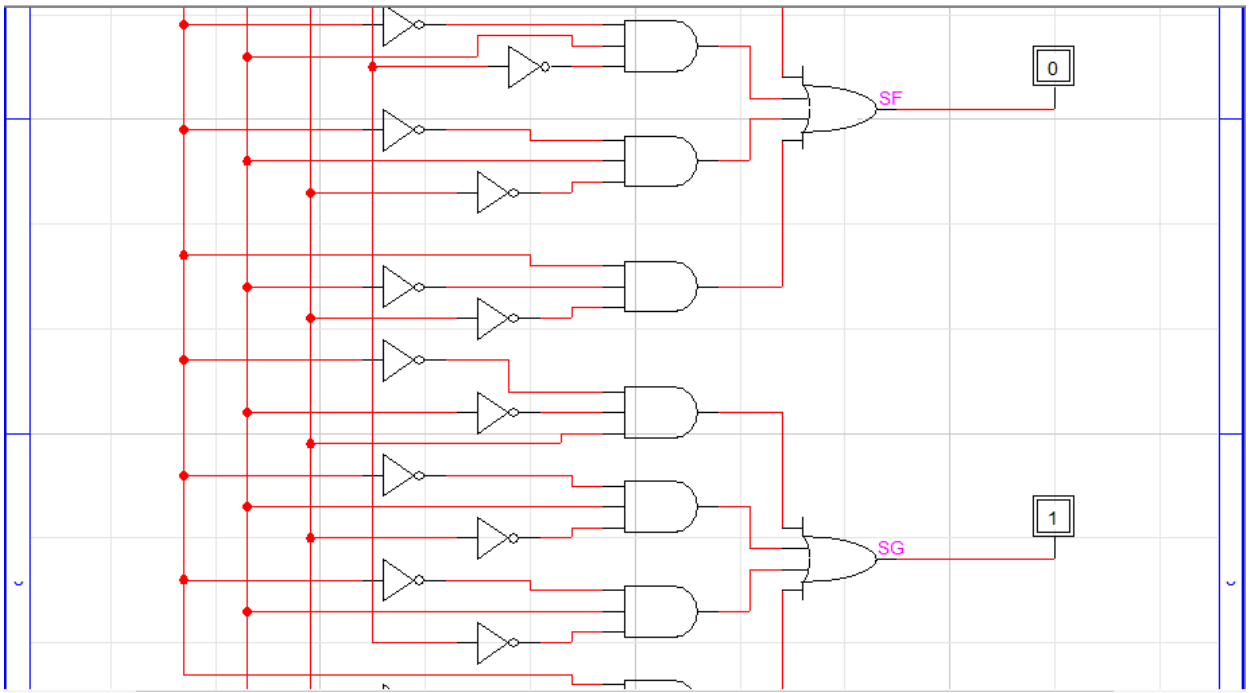


3. Simulate your LogicWorks circuit using binary switches on the inputs and binary probes for each output Sa, Sb, Sf and Sg. Set the switches so that you input 3. Take a screenshot

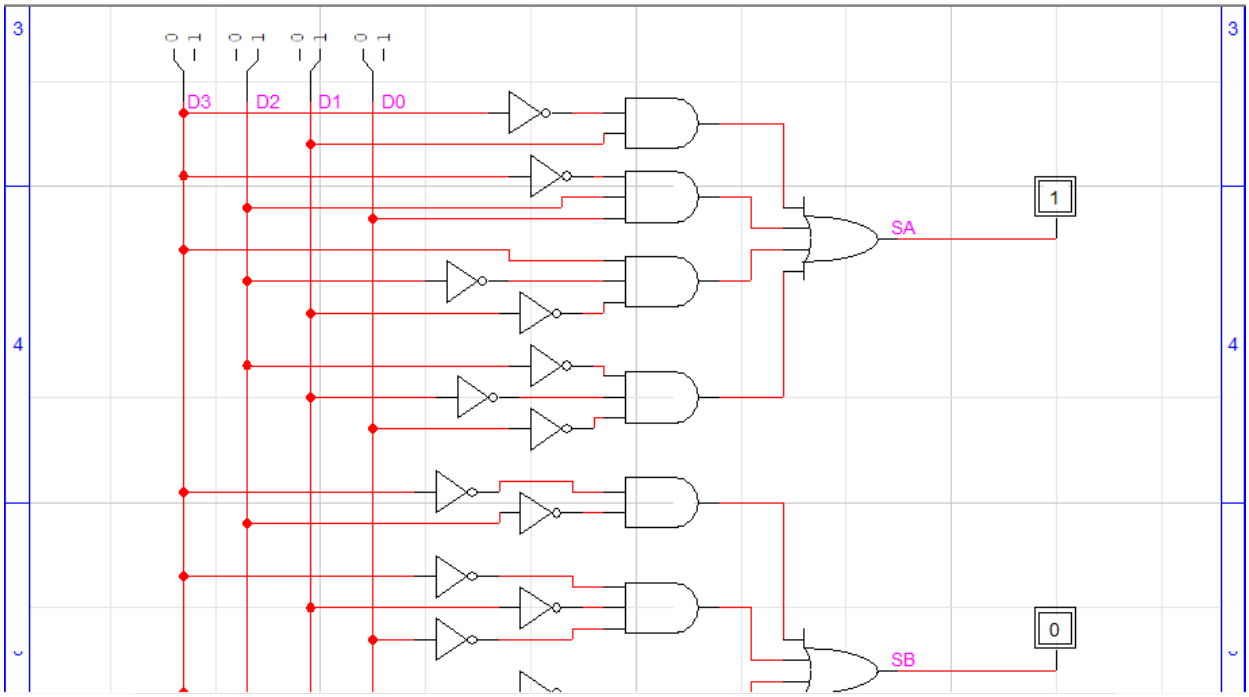
of the outputs. Set your switches to input 6. Take a screenshot of the outputs. Set your switches to input 8. Take a screenshot of the outputs. Submit your screenshots. (1 point)

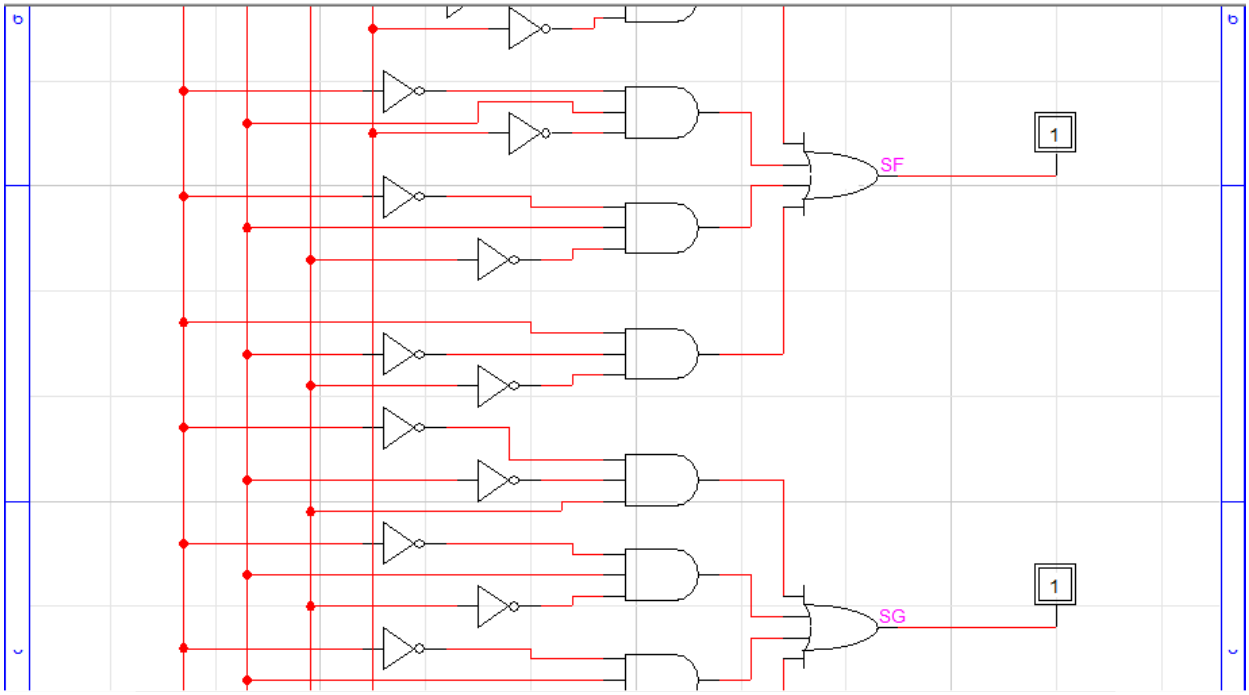
*Screenshots of the output for an input of 3:



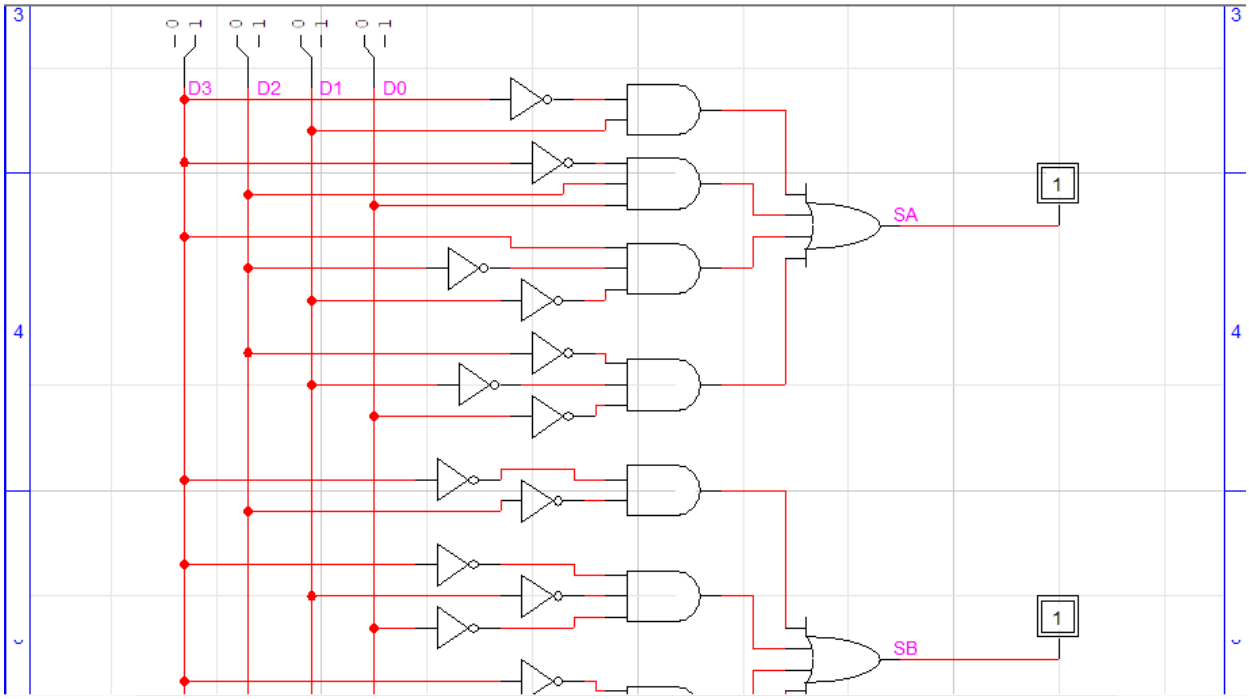


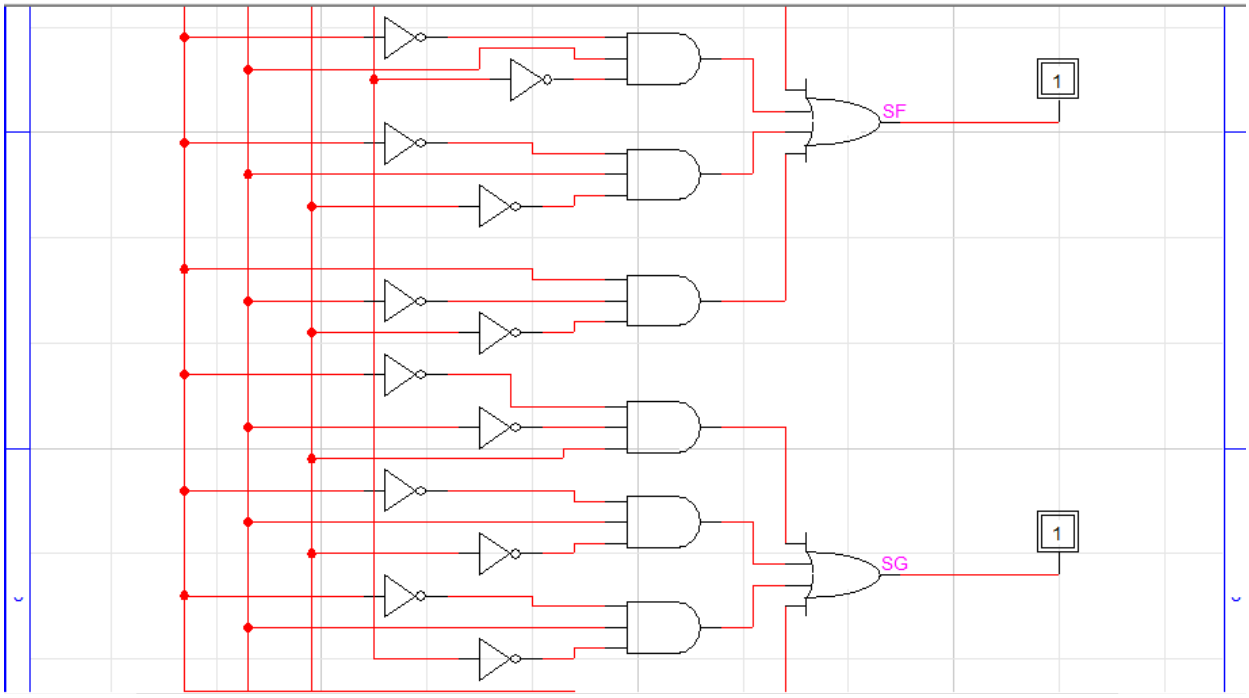
*Screenshots of the output for an input of 6:





*Screenshots of the output for an input of 8:


3
4
D3
D2
D1
D0
SA
SB
1
1


SF
SG
1
1