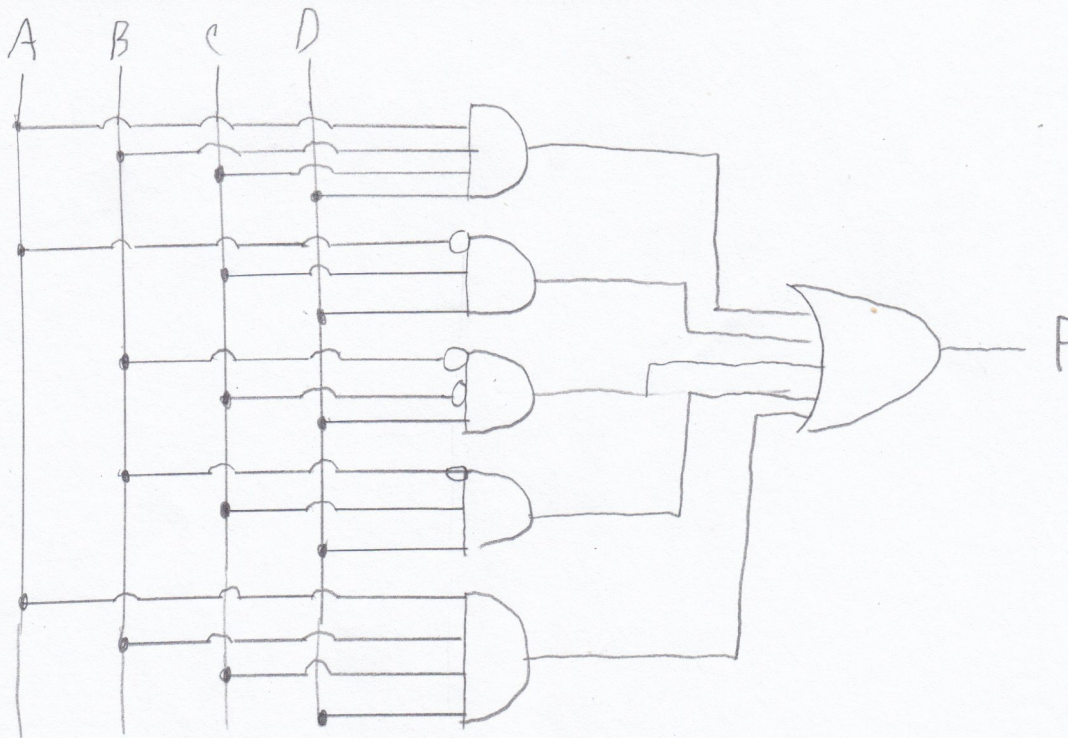


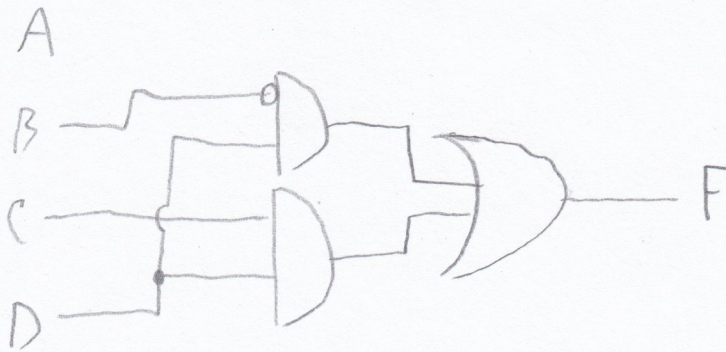
LAB Section: B

Your work to simplify: $F = ABDC + \bar{A}DC + \bar{B}D\bar{C} + \bar{B}DC + ACDB$	Boolean Algebra Rule Used
1. $F = ABCD + ABCD + \bar{A}CD + \bar{B}\bar{C}D + \bar{B}CD$	1. Commutativity
2. $F = ABCD + \bar{A}CD + \bar{B}\bar{C}D + \bar{B}CD$	2. idempotent
3. $= ABCD + \bar{A}CD + \bar{B}D(\bar{C} + C)$	3. distributivity
4. $= ABCD + \bar{A}CD + \bar{B}D(1)$	4. Complement
5. $= ABCD + \bar{A}CD + \bar{B}D$	5. identity
6. $= (DCAB + \bar{A}) + \bar{B}D$	6. distributivity
7. $= (DCB + \bar{A}) + \bar{B}D$	7. simplification
8. $= BCD + \bar{A}CD + \bar{B}D$	8. distributivity
9. $= D(BC + \bar{A}C + \bar{B})$	9. distributivity
10. $= D(C + \bar{A}C + \bar{B})$	10. simplification
11. $= D(C + \bar{B})$	11. absorption
12. $= DC + D\bar{B}$	12. distributivity
13. $= \bar{B}D + CD$	13. commutativity
$\bar{B}D + CD$	

Circuit #1: Original $F = ABDC + \bar{A}DC + \bar{B}D\bar{C} + \bar{B}DC + ACDB$



Circuit #2: Simplified F



Finally, write a list of things that you learned while doing this pre-lab:

- circuit diagrams take a long time to make
- gates are hard to draw well
- how to use printer with a different computer

the algebra was review from 1st year