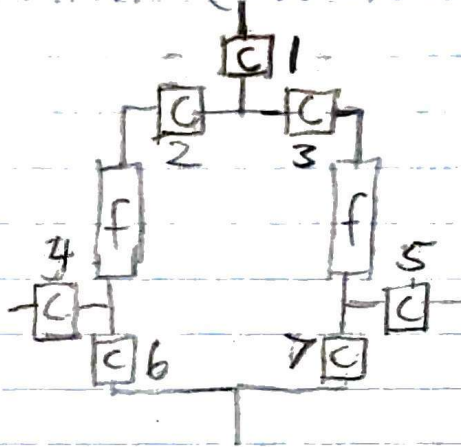# Solenoid Configurations
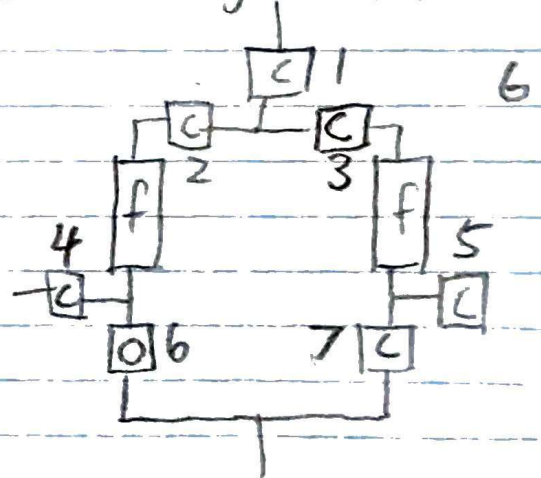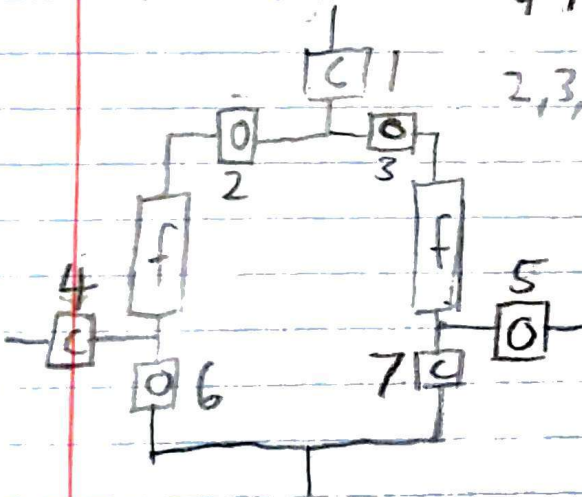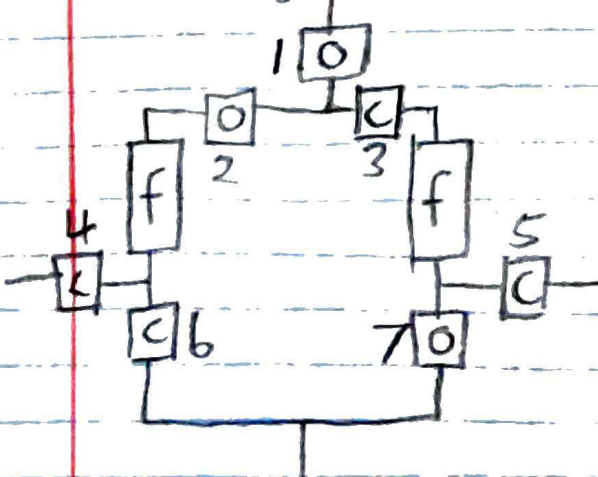### C: close   O: open   f: filter

1st configuration (closed/starting)

2nd Configuration (prep left)   3rd Configuration (fill left)

2,3,5,6

6

4th Configuration (pump left)
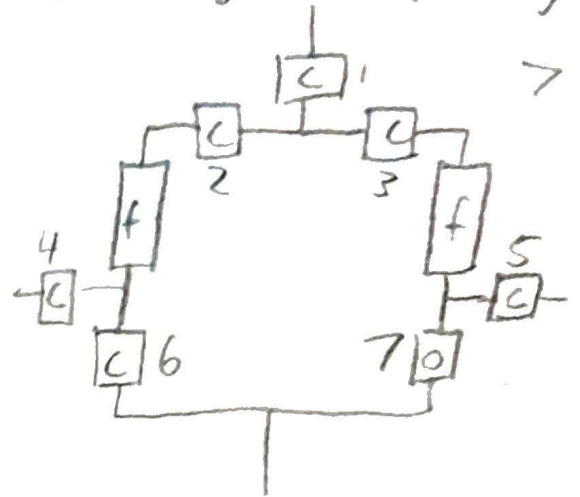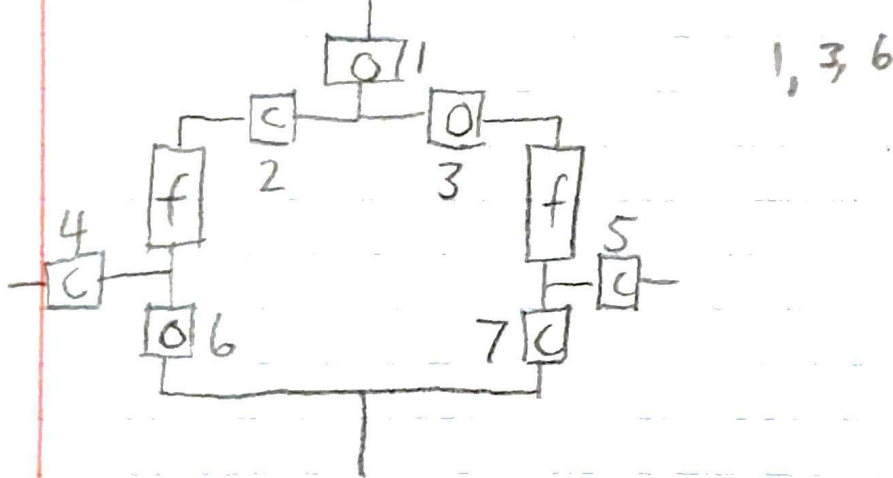
1,2,7

f: filter
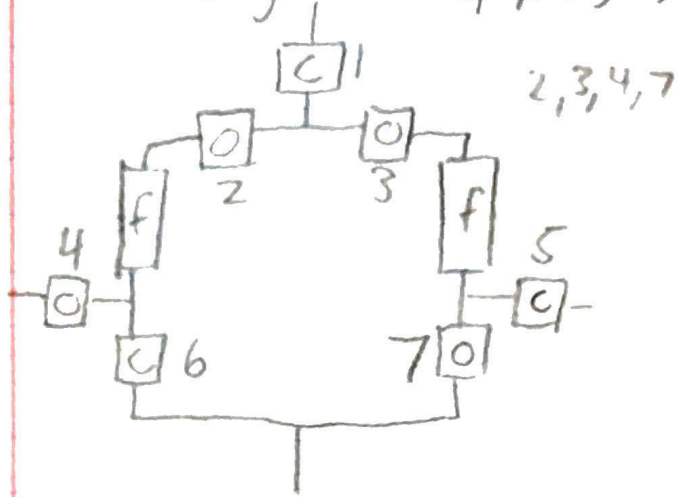
5th Configuration (prep right)   6th Configuration (fill right)

2,3,4,7

7th Configuration (pump right)

1,3,6

Configuration Procedures and Orders

1. When Off, in configuration 1.
2. When On, loops through, in order, 2nd to 7th configuration, and keeps repeating.

Solenoid Wiring Configurations

Config #	Solenoid # 1	2	3	4	5	6	7
1	C	C	C	C	C	C	C
2	C	O	O	C	O	O	C
3	C	C	C	C	C	O	C
4	O	O	C	C	C	C	O
5	C	O	O	O	C	C	O
6	C	C	C	C	C	C	O
7	O	C	O	C	C	O	C

Solenoids: (open = true, close = false, when sending current

2 ∩ 3 ∩ 5 ∩ 6   4
    6   1
1 ∩ 2 ∩ 7   3   ← count
2 ∩ 3 ∩ 4 ∩ 7   4   for current
    7   1   draws
1 ∩ 3 ∩ 6   3   .75A/1 count
                                 at 12 V

Solenoid Control Groups (after anding everything)

6
7
1
2
3
4
5

No multiplegroups, must use 7 control pins for solenoids.

Electrical Wiring

8× 10SQ045 Diodes

8× N-Channel Mosfet (IRF520N)   8× 1MΩ Resistor

UNO

Button

GND   GND

2 3 4 5 6 7 8 9 10 11 12 13

- 12 V +
Source

Pump

Solenoid 1

Solenoid 2

Solenoid 3

Solenoid 4

Solenoid 5

Solenoid 6

Solenoid 7