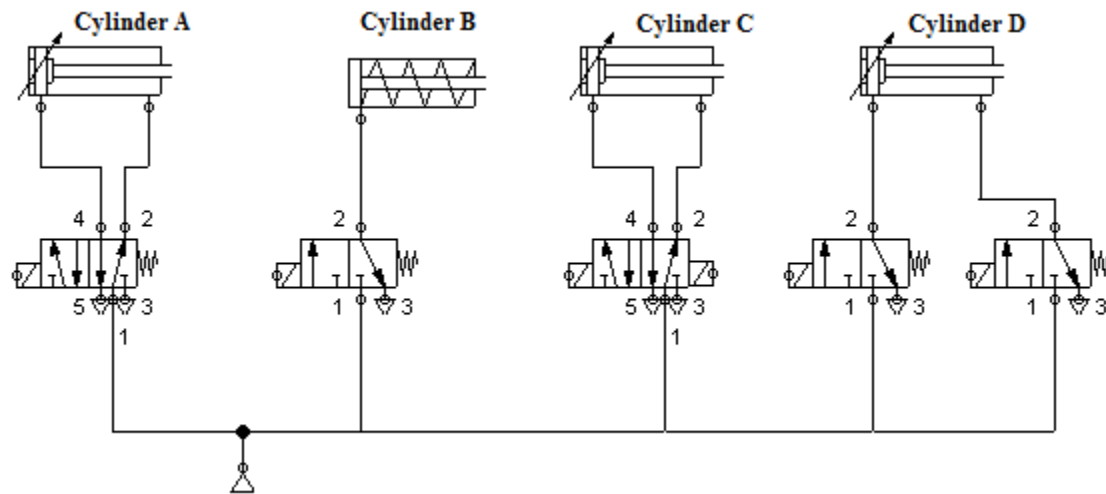


**Process 1**

For the system in the figure below, given the address in the next table, answer the following questions:



Hardware	Address	Hardware	Address
A is fully retracted	I0.0	Start	I1.0
A is fully extended	I0.1	Stop (NC)	I1.1
B is fully retracted	I0.2	Reset	I1.3
B is fully extended	I0.3	Cylinder A advances	Q0.0
C is fully retracted	I0.4	Cylinder B advances	Q0.1
C is fully extended	I0.5	Cylinder C advances	Q0.2
D is fully retracted	I0.6	Cylinder C retracts	Q0.3
D is fully extended	I0.7	Cylinder D advances	Q0.4
		Cylinder D retracts	Q0.5



Number	Level	Required Tasks
1.	Easy	If cylinder B is fully retracted and start is pressed the cylinder will extend for 2 seconds.
2.	Easy	If cylinder A is fully retracted and start is pressed the cylinder will wait 2 seconds then fully advance and retract.
3.	Easy	If cylinder C is fully retracted and start is pressed the cylinder will extend wait 2 seconds then retract.
4.	Medium	If cylinder A is fully retracted and start is pressed the cylinder will wait 2 second then it will fully extend, wait 3 seconds then retract.
5.	Medium	If cylinder A is fully retracted and start is pressed the cylinder will wait 2 second then it will extend. It will retract 3 seconds after stop is pressed.
6.	Medium	If cylinders A and B are fully retracted and start is pressed, the cylinders will advance and retract according to the following sequence: 1. B will fully advance, then 2. A will wait 2 second before it fully extend. 3. B will fully retract. 4. A will wait 2 second before it fully retract.
7.	Hard	If cylinders A and D are fully retracted and start is pressed, the cylinders will advance and retract according to the following sequence: 1. D will fully advance, then 2. A will wait 2 second before it fully extend. 3. D will fully retract. 4. A will wait 2 second before it fully retract.
8.	Hard	Solve this example in 3 different ways each time with different type of timer. If start is pressed and cylinder D is retracted, it will extend, wait 2 seconds then retract.