SOMAIYA VIDYAVIHAR UNIVERSITY
K J Somaiya College of Engineering

K. J. Somaiya College of Engineering, Mumbai-77

(A Constituent College of Somaiya Vidyavihar University)

Department of Electronics Engineering

Somaiya TRUST

Course Name:	**Sensors in Augmented and Virtual Reality**	**Semester:**	**IV**
Date of Performance:		**Batch No:**	**B2**
Faculty Name:	**Ms. Megha Sharma**	**Roll No:**	**16010121110**
Faculty Sign & Date:		**Grade/Marks:**	

Experiment No: 7

Title: Implementation of logic gates using Pneumatic Actuators

Aim and Objective of the Experiment:
To learn working of Pneumatic actuator using shuttle and two pressure valve

COs to be achieved:
CO3: Understand advanced sensors and actuators used in Virtual reality hardware **CO4: Understand advanced sensors and actuators used in Augmented reality** **CO5: Interface sensors and actuators to AR and VR systems**

Theory:

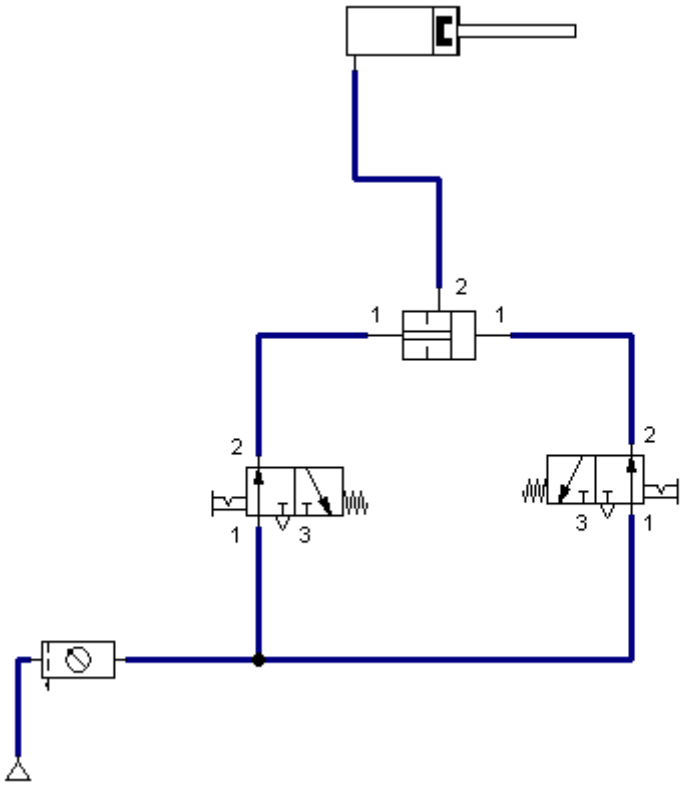
Pneumatic systems used in industry are commonly powered by compressed air or compressed inert gases. A centrally located and electrically-powered compressor powers cylinders, air motors, pneumatic actuators, and other pneumatic devices. A pneumatic system controlled through manual or automatic solenoid valves is selected when it provides a lower cost, more flexible, or safer alternative to electric motors, and hydraulic actuators.

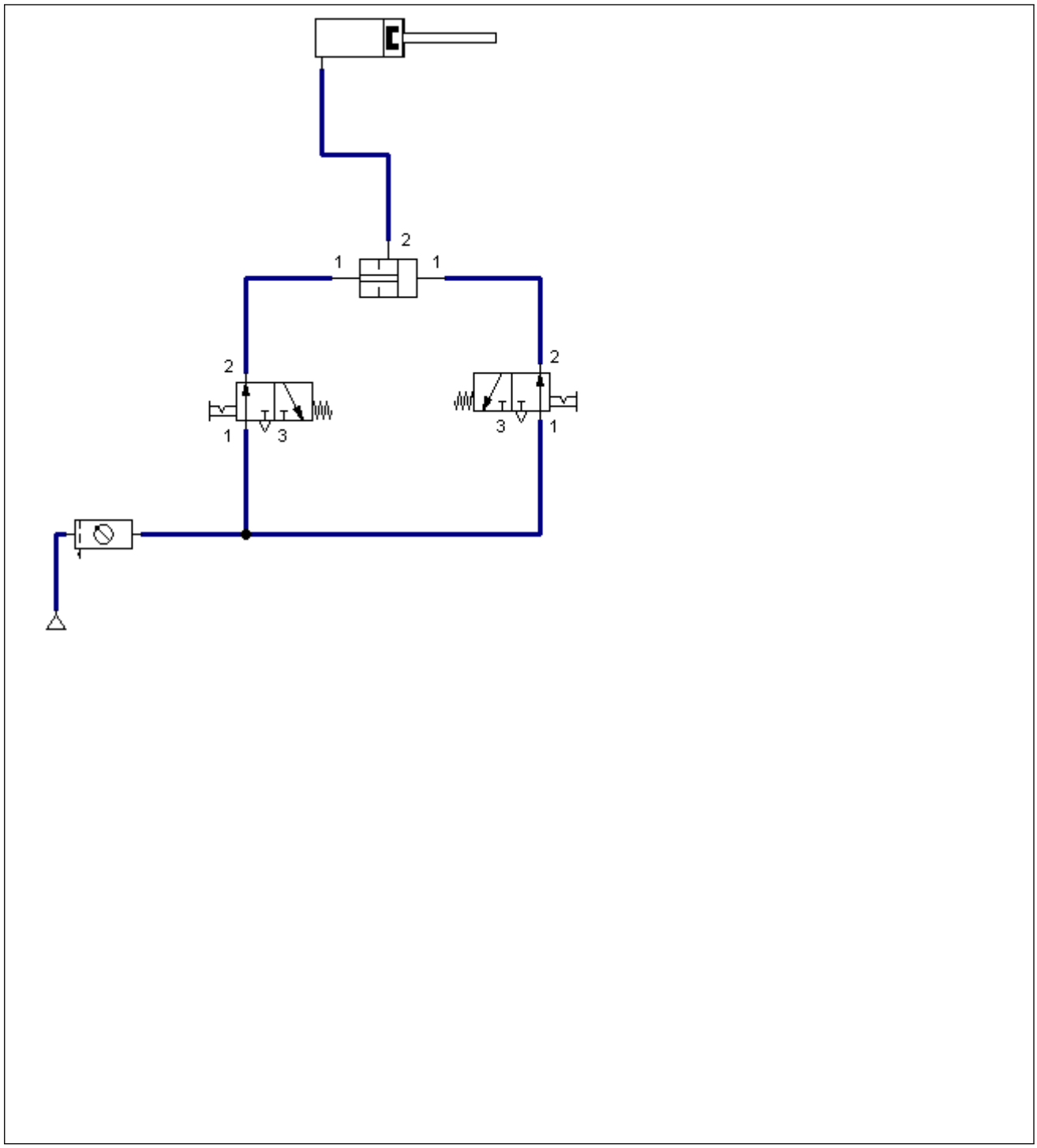
Pneumatic systems in fixed installations, such as factories, use compressed air because a sustainable supply can be made by compressing atmospheric air. The air usually has moisture removed, and a small quantity of oil is added at the compressor to prevent corrosion and lubricate mechanical components.

AND Gate

Parts (Bottom to up) :

1.Air Compressor
2. Air Service unit
3. 3/2 Directional Valve
4. Flow control valve(Forward and reverse path)
5. Single acting cylinder
6. Shut off valve

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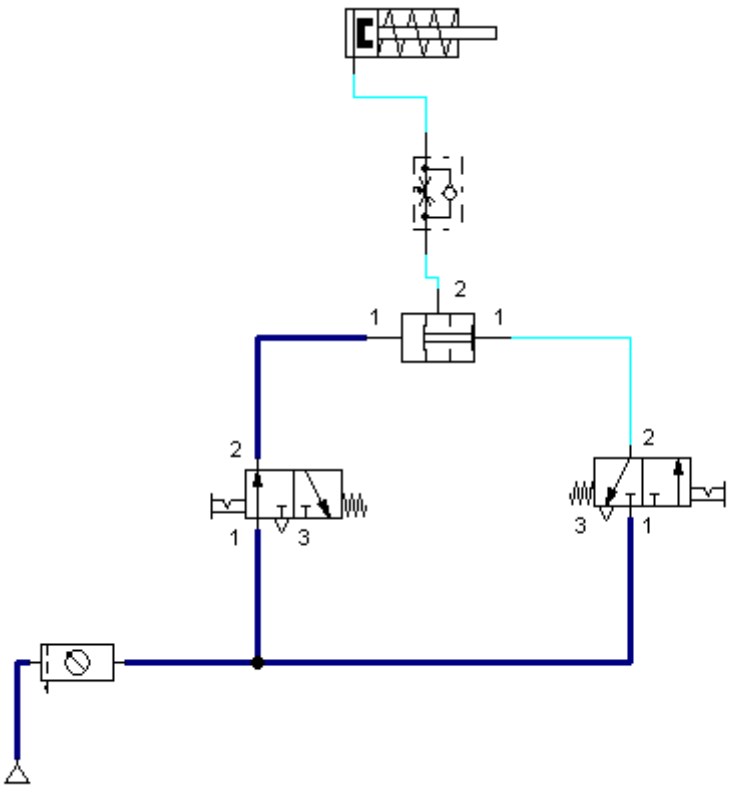
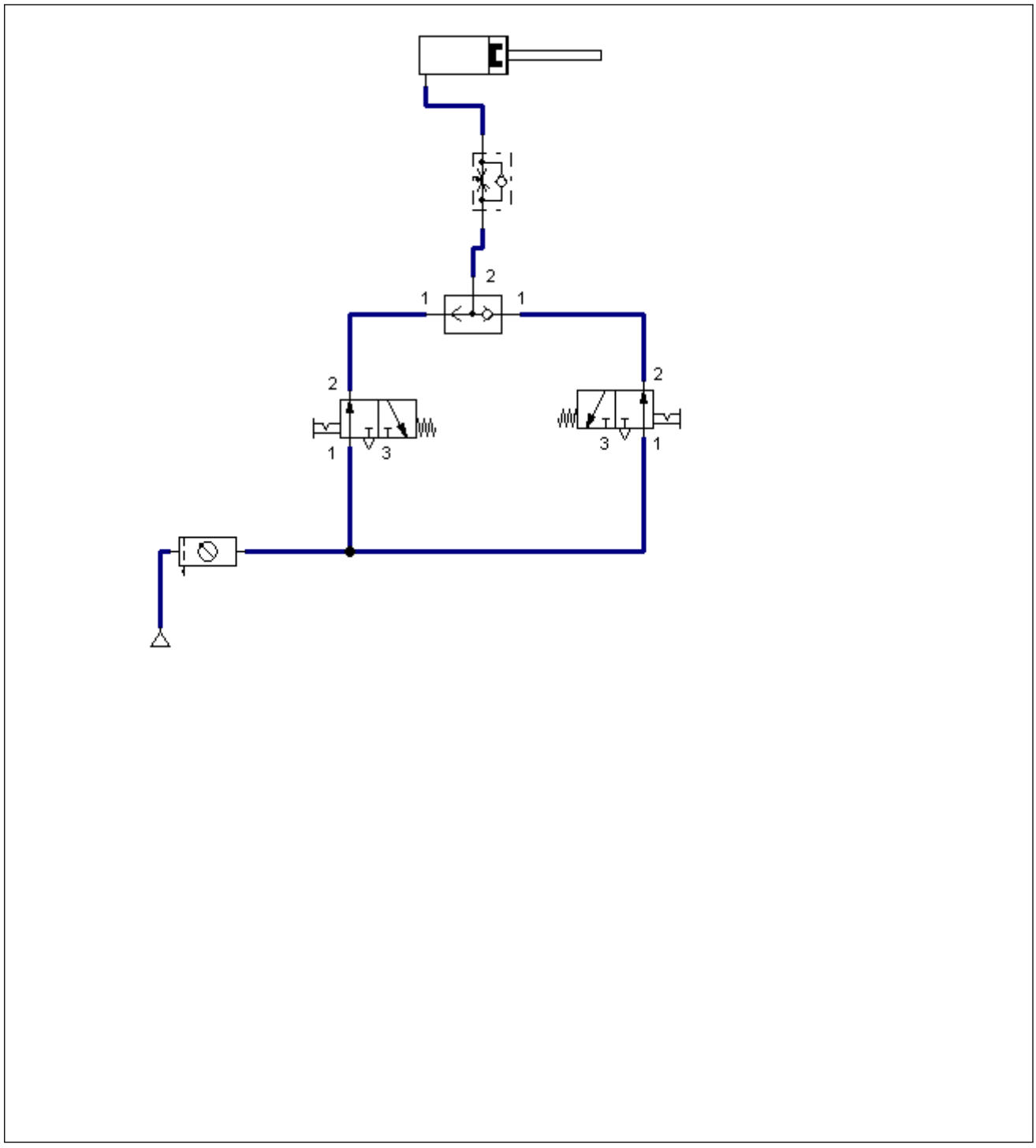


OR Gate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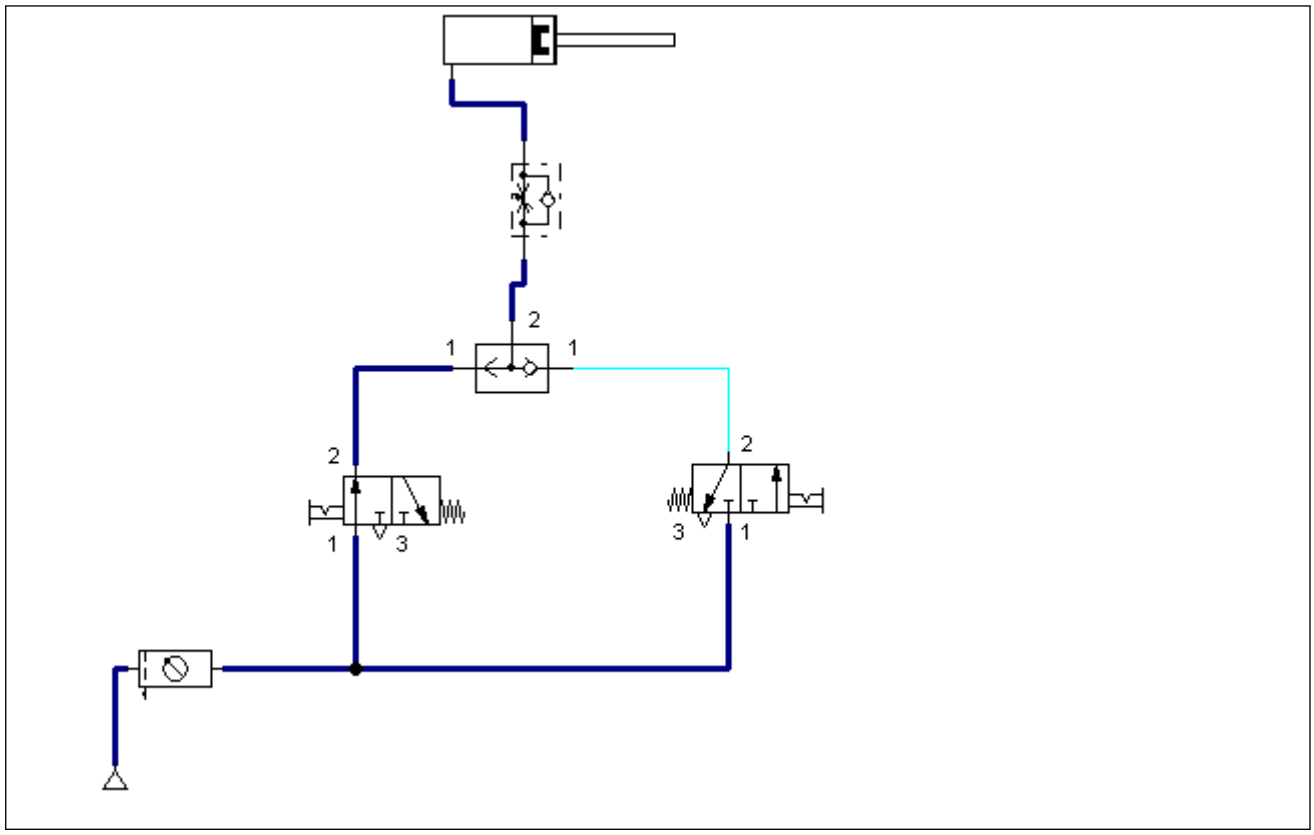
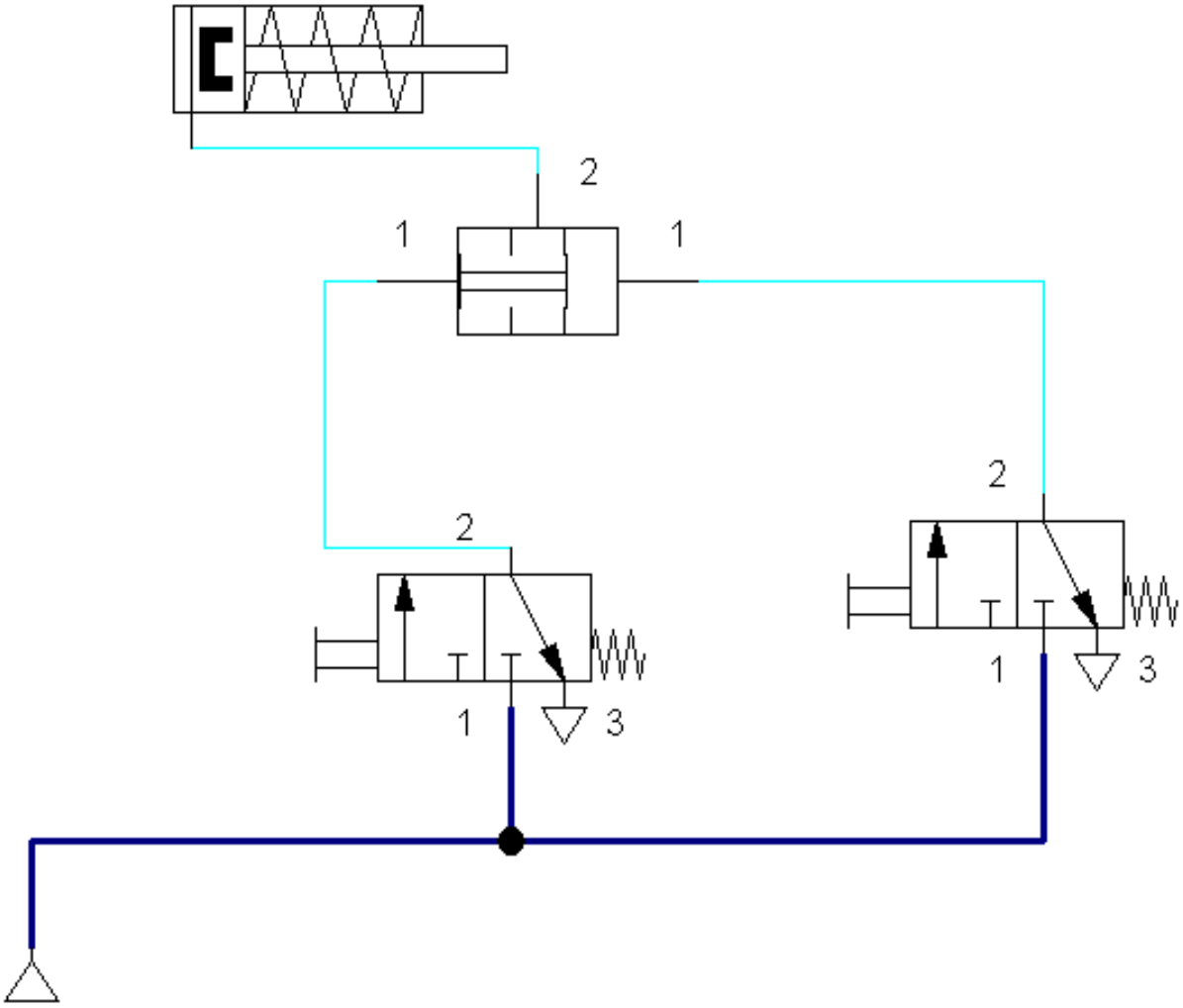


Stepwise-Procedure:
Connect Pneumatic Circuit as per diagram

Results:

Post Lab Subjective/Objective type Questions:



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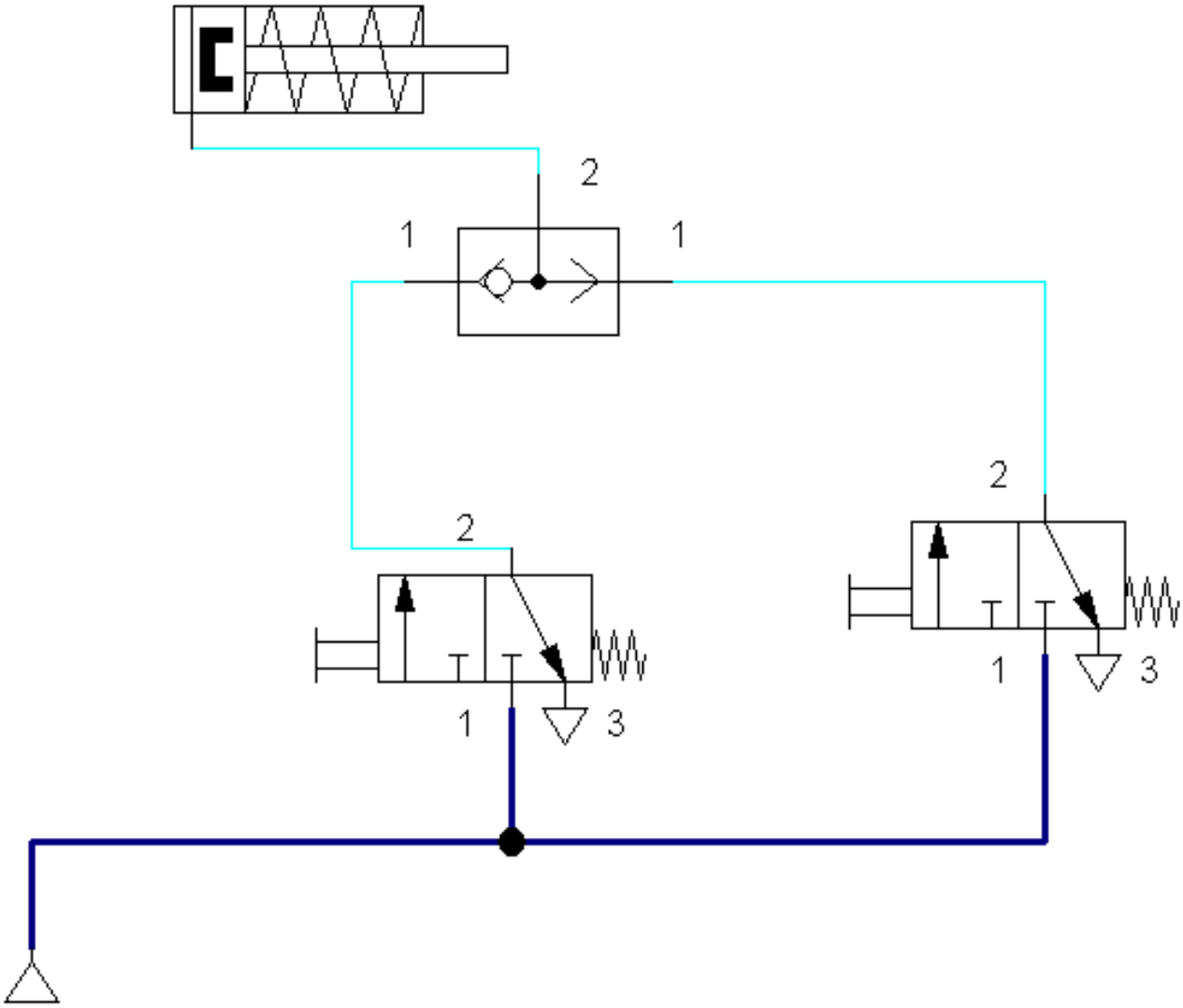
Signature of faculty in-charge with Date:

Roll No: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