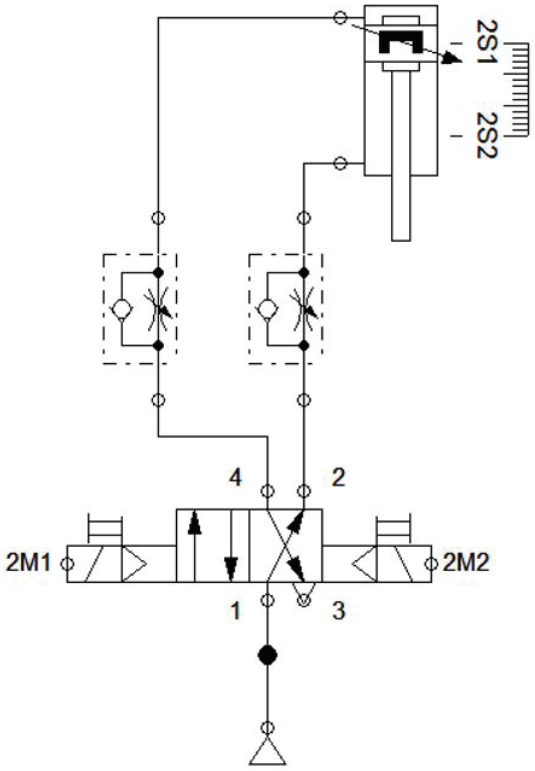
# Creating Logic Programs for the Handling Station

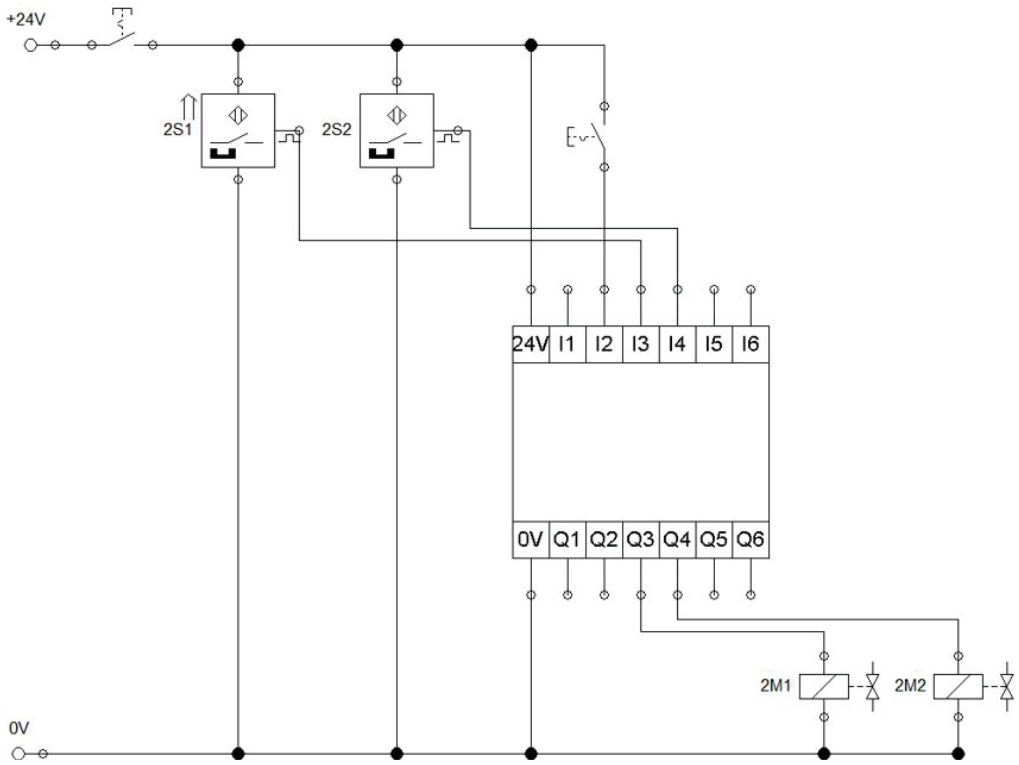
In this activity, you will create a logic program using one of the solenoid valves that moves the vertical cylinder on the Handling station.

## Instructions

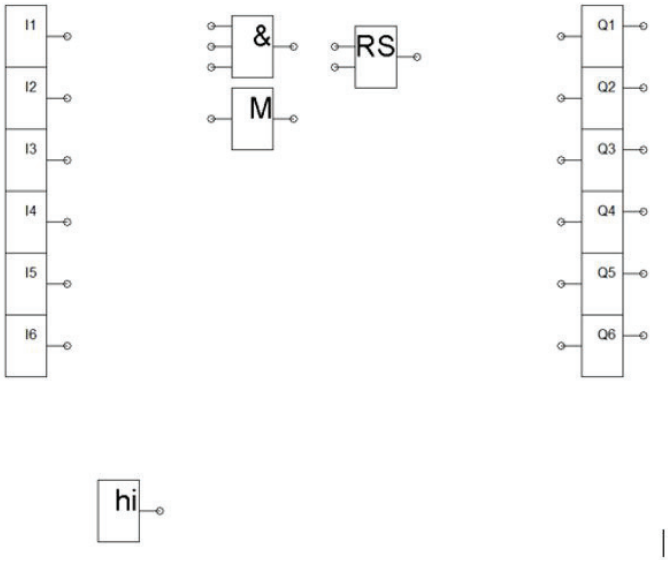
1. Launch FluidSIM.
2. Click File → New to create a new drawing.
3. Locate the required components from the Component Library and drag and drop each onto the stage to create the following pneumatic circuit. Label the components as indicated.




4. Create the electrical circuit and label the components.




5. You're going to create the logic program in steps so it's easily understood. Open the Logic module window. Drag and drop the following components, as shown:




For the first step in this sequence, let's focus on the following inputs and output:

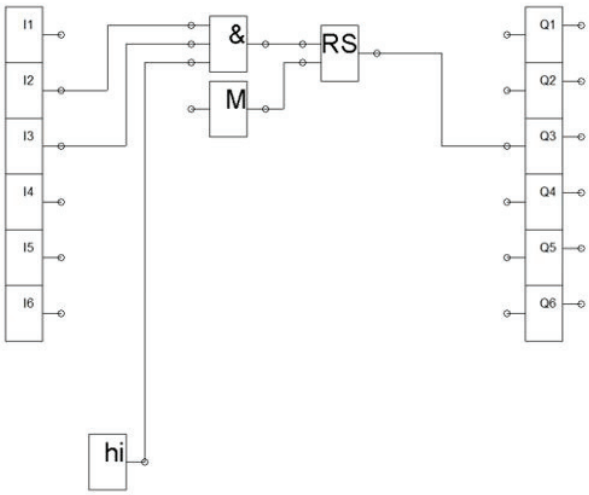
- Inputs: pushbutton (I2) and sensor 2S1 (I3).
- Output: solenoid valve 2M1 (Q3).


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6. Step 1 activates the cylinder when the piston is in its initial position and the pushbutton is pushed. Using this information for Step 1, connect the components. Consider the following:

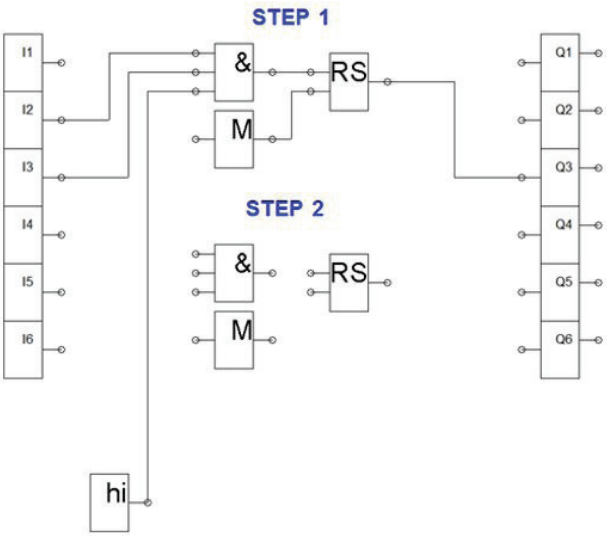
    - Ignore the input to the Buffer component for this step.
    - The Hi component will be used as the third input for the AND component.

The completed program for Step 1 should look similar to the following:



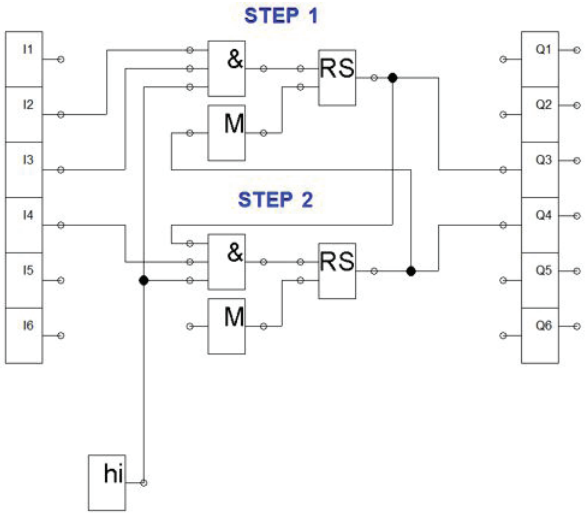

7. Next, place the components for Step 2. This step in the sequence has two inputs and one output:

    - The inputs are the output of Step 1 and the sensor 2S2 (I4).
    - The output is the solenoid valve 2M2 (Q4).

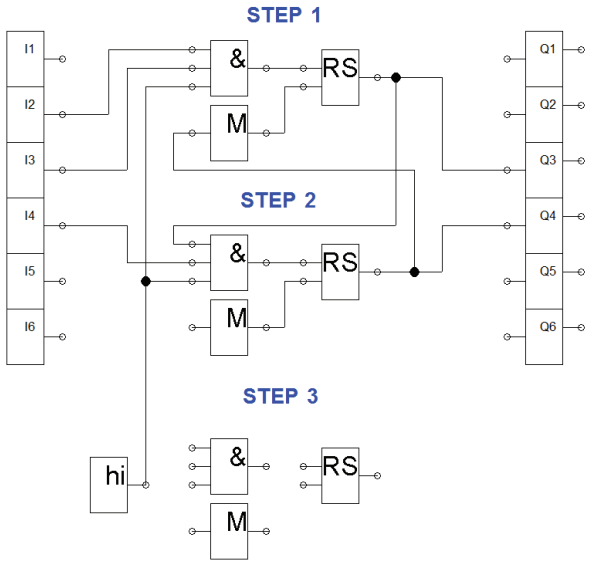


8. Step 2 activates the cylinder when the piston is in its extended position and resets Step 1. Using this information for Step 2, connect the components. Consider the following:
    - Ignore the input to the Buffer component for this step.
    - The Hi component will be used as the third input for the AND component.
    - Hint: The output of Step 2 should reset the Latching Relay in Step 1.

The logic program, so far, should look similar to this:




9. Place the components shown for the third step.





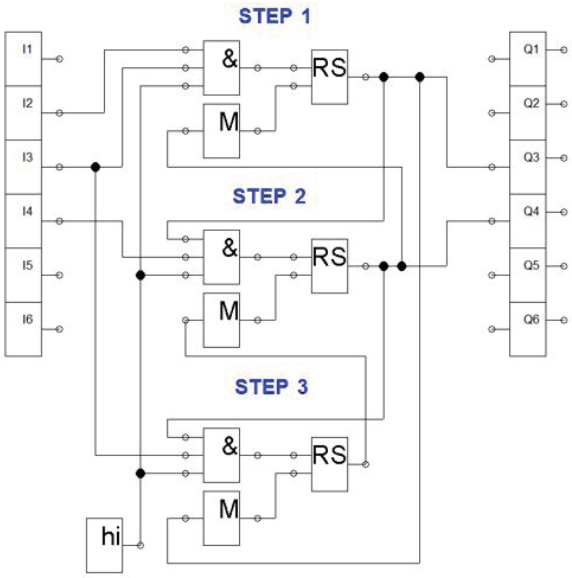
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Step 3 has two inputs and functions as follows:

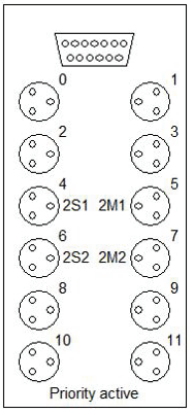
- The inputs are the output of Step 2 and sensor 2S1 (I3).
- Step 3 in this sequence is resetting Step 2.
- To complete the sequence, Step 1 must also reset Step 3.

10. Using this information, connect the Step 3 components. Consider the following:
    - The Hi component will be used as the third input for the AND component.
    - Hint: The output of Step 3 should reset the Latching Relay in Step 2.

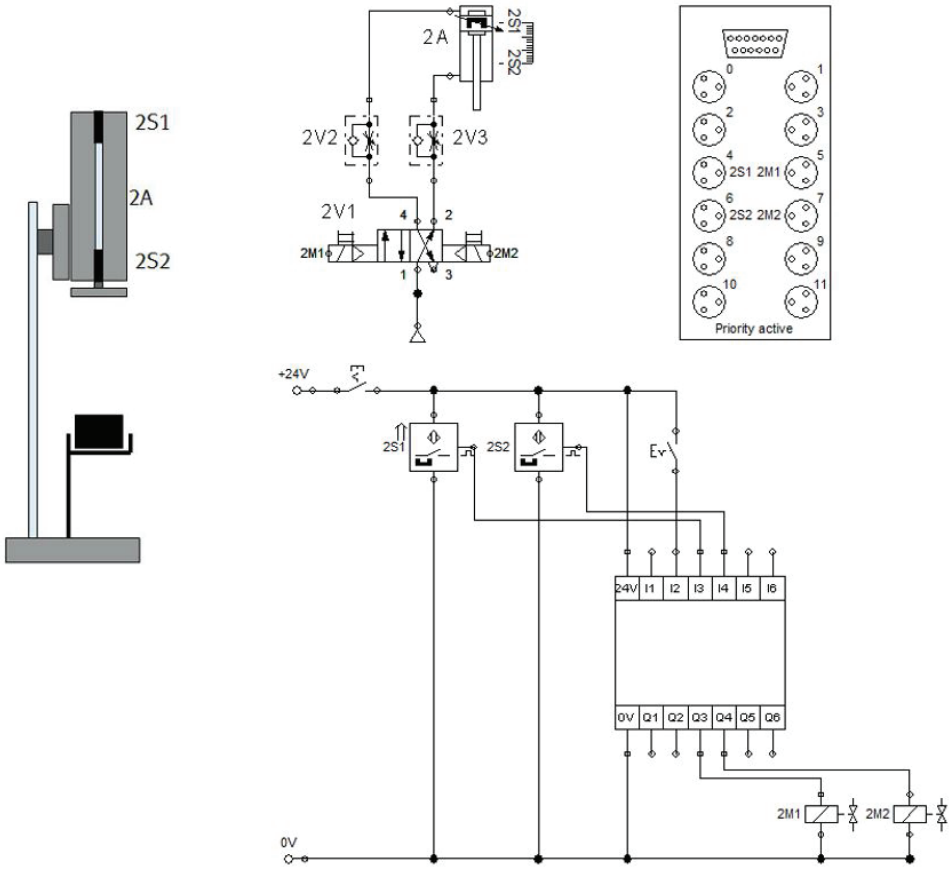
The logic program should look similar to this:




11. In order to test your program using the Handling station, make sure the input and output components are connected to the Multi-pin distributor as follows:



Your final FluidSIM logic circuit for your sequence program should be similar to this:




12. Save your circuit, then simulate it.

13. When you are ready, run your program using the Handling station.

14. Exit FluidSIM.

You now have the skills necessary to develop sequence programs to run with the Handling station. You can apply this knowledge to your projects.


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