Tutorial 4- PLC

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Tutorial Problems

Practice problems for 2 hours of practice in Virtual Lab

- Tutorial 4 PLC
  - 4A - Basic PLC circuits
 - 4B - Cylinder sequencing with PLC control (two cylinders A+B+A-B-)

Tutorial 4A- Basic PLC Circuit

- Open Automation Studio 6.3 Educational software and create new default project

- Save it as Tutorial 4A- Basic PLC Circuit

- Drag the following components into the canvas
  - Double acting cylinder (Pneumatic)
  - 5/2 solenoid operated DCV
  - Pressure source
  - Exhaust
  - Rung (Ladder for AB PLC)
  - PLC Input Card (Electrical Control (JIC Control) → PLC Cards
  - PLC Output Card (Electrical Control (JIC Control) → PLC Cards
  - NO Push button (Electrical Control JIC)
  - Solenoid, 24V and 0V (2 nos.)
  - NC contact (Ladder AB PLC) and link it to IN0

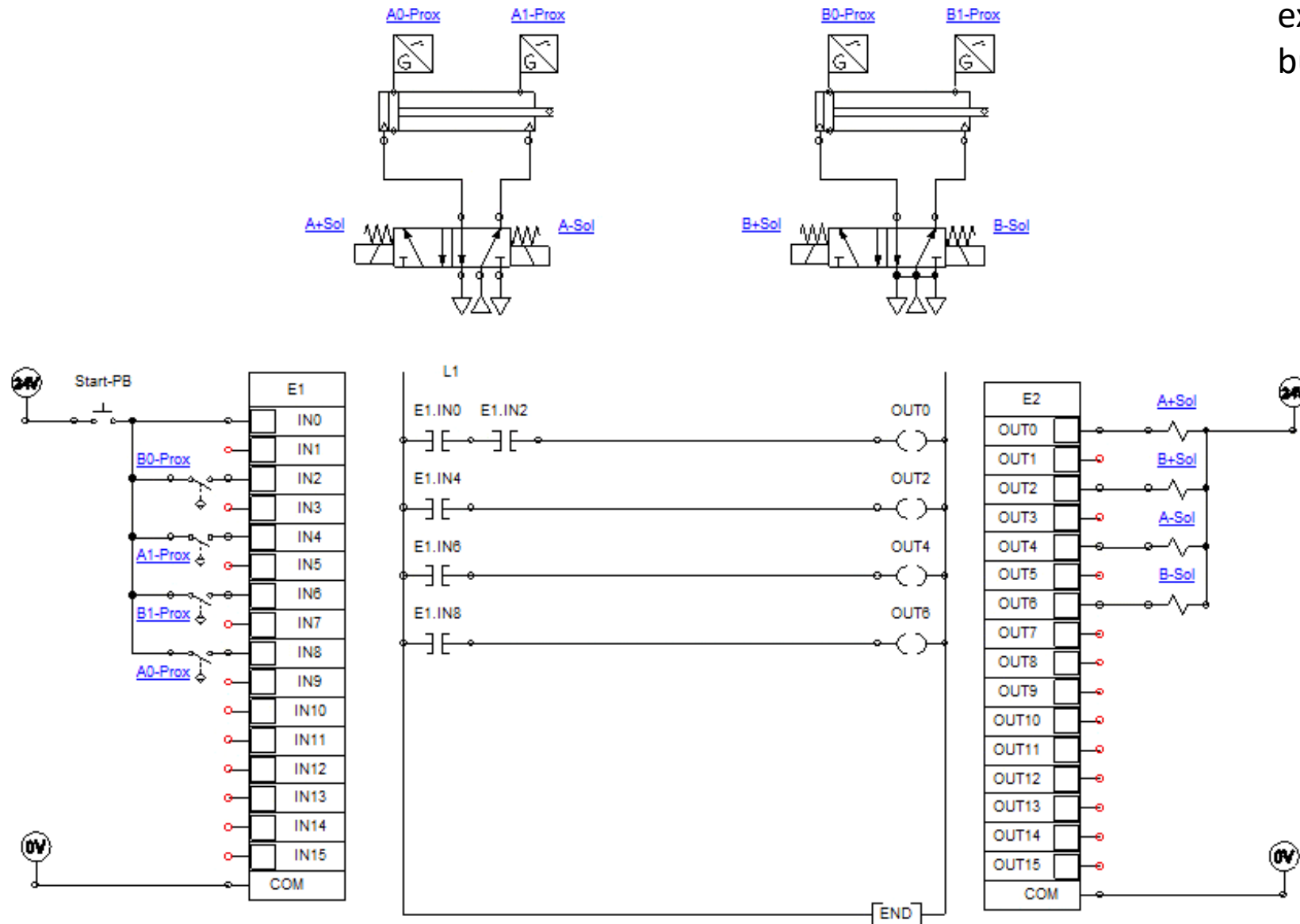- And connect it as shown in the figure
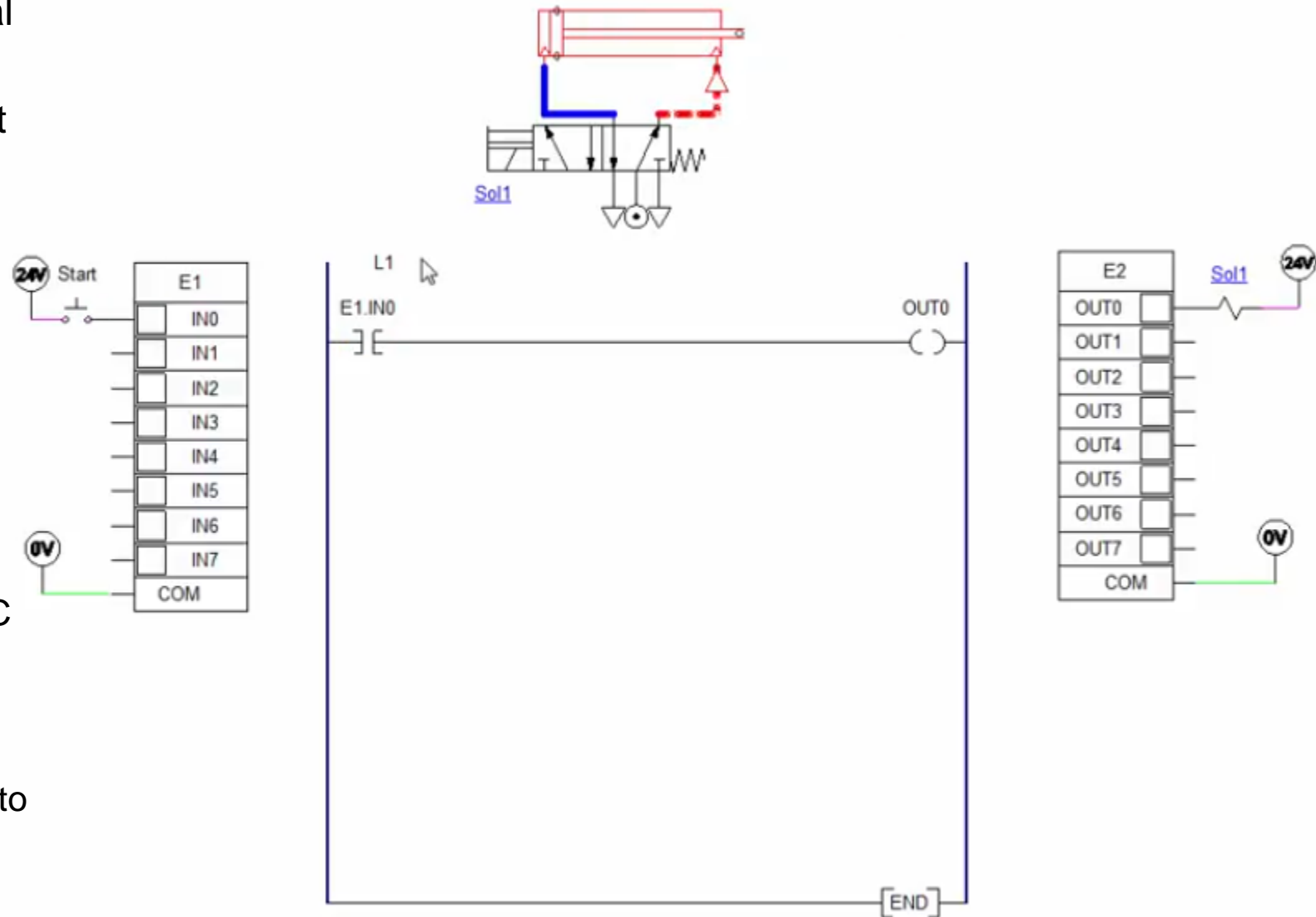
Tutorial 4A- Basic PLC circuit

- To make the circuit auto reverse after 3 seconds add the following in the canvas:
  - Pneumatic proximity sensor at the end of the cylinder
  - NO proximity switch in IN2 of the PLC input card. (Electrical Control JIC)
  - Add coil from Ladder AB PLC (Alias – C1)
  - Add NC contact (link with C1)
  - Add NC contact (link it with IN2)
  - Add Timer ON (Ladder AB PLC → Timers)
  - Add NO contact (Ladder AB PLC) and link it with DN

- Simulate the and check the circuit
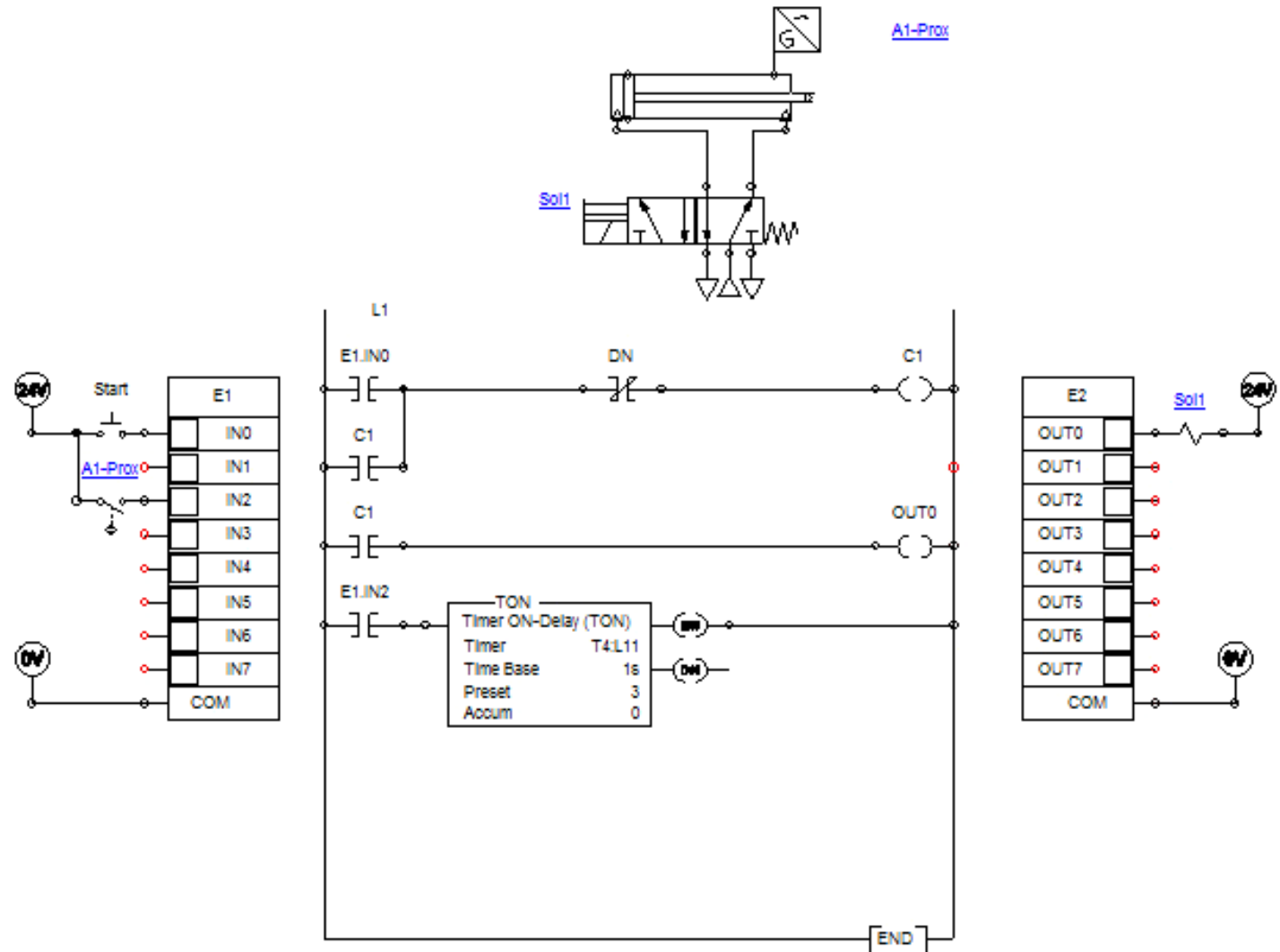
Tutorial 4A- Sequencing with PLC

Use the previous example and built this circuit

Thank you