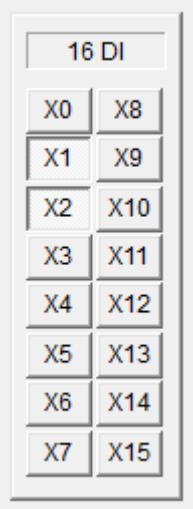
Pine Car Derby Simulation

(1)

Put the PLC in STOP mode.

(2)

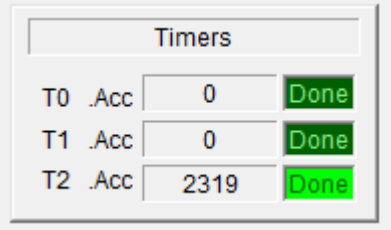


Energize X1 and X2. These are the always on Photo Eyes embedded at the finish line of each lane.

(3)

Put the PLC back into RUN mode. Your digital outputs should show only Y0 energized. The output powers a small electro magnet that keeps the starting gate closed. Toggling X0 de-energizes the magnet, allowing gravity to propel the cars through the starting gate.

(4)



Go ahead and toggle X0 to begin the race's timer. Shown here the race is currently at 2.319 seconds.

(5)

When you feel a sufficient amount of time has passed, toggle either X1 or X2. Shown here is someone toggling X2. This means that lane 2's car crossed its respective photo eye first. Output Y2 is shown energized and it is powering that lane's strobe light. It will do a fast flash until the track is reset with X3.

Notes

The HMI provided with this program is capable of starting the race and resetting the track, but you will still have to manually toggle either X1 or X2 to determine a winner. Furthermore, the winning time is stored in address MHR2. The HMI will display the winning time.