

Four Labs (5 pts/ea)

- 1: Lab 2.1 Introduction to Ladder Logic pg 32-36 of Hybrid Text
  
- 2: Lab 7.1 The Traffic Intersection pg 52-56 – (all from Hybrid Text)
- or Lab 7.2 The Cash Register pg 57-58
- or Lab 8.1 Integer Math pg 61-62
- or Lab 8.1a Using only contacts and coils, add two integer numbers found in two integer numbers. Counts may be 8 bit, 16 bit or 32 bit in length.
- or Lab 8.1b Using only contacts and coils, subtract one integer number from another integer.
- or Lab 8.2 PWM and RAMP pg 63-67
  
- 3: Robotic Program
  
- 4: Cognex Program

The four labs above plus a written description of your project for the second half of the semester are due Thursday Oct. 16, at end of class period.

Second Half Projects Include:

Project combining Robot, PLC and Camera

Project combining three items including one, two or three PLCs with other items

Project combining a Safety PLC with one additional item

A journal with several of the Festo labs completed

A partial solution of the Rubiks Club

An alternate Project Pre-approved by Instructor

You may change projects after starting a project but finding it not acceptable – need approval

Assignment:

Week 1

Control.com > Education > under Advanced Textbooks – Fundamentals of Industrial Robots

Write a half page review of something you previously did not know about robots.

Week 2

Problems from Bit of Digital Text

Pg 55

2-31

2-34

Pg 117

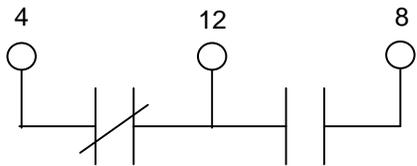
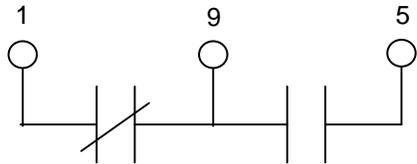
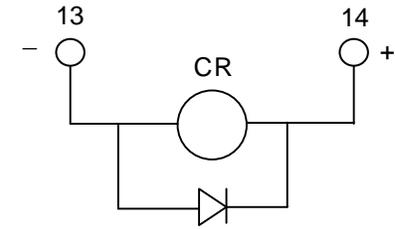
3-14

Pg 188

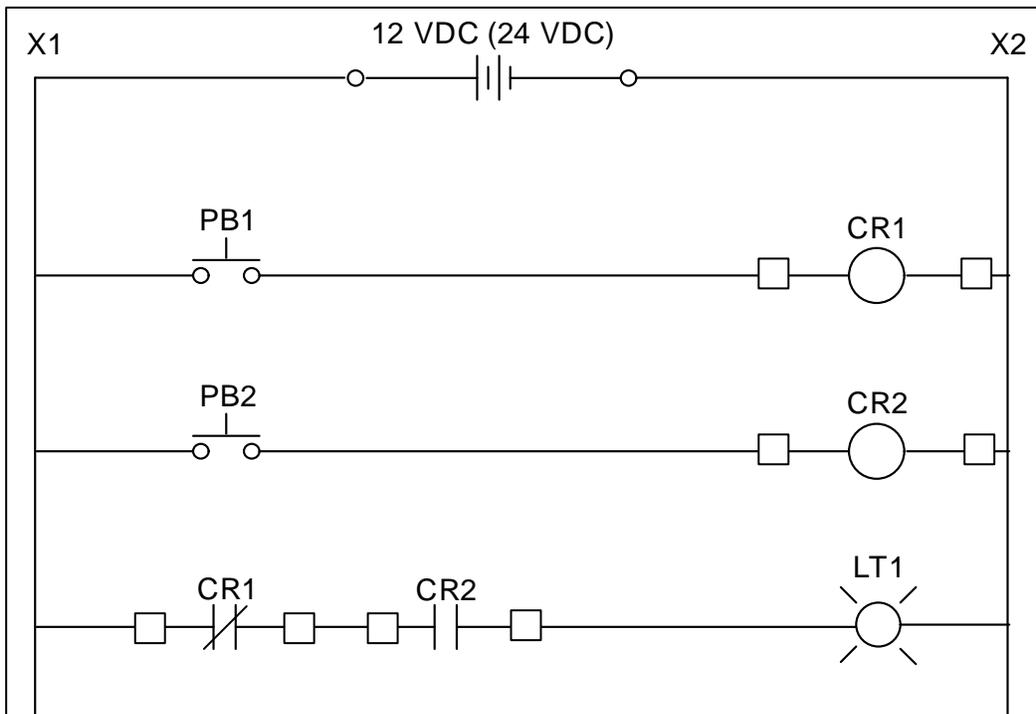
4-10

4-11

Week 3



Fill in all terminal designations for both Control Relays below (fill in boxes with numbers corresponding to the terminals listed above):

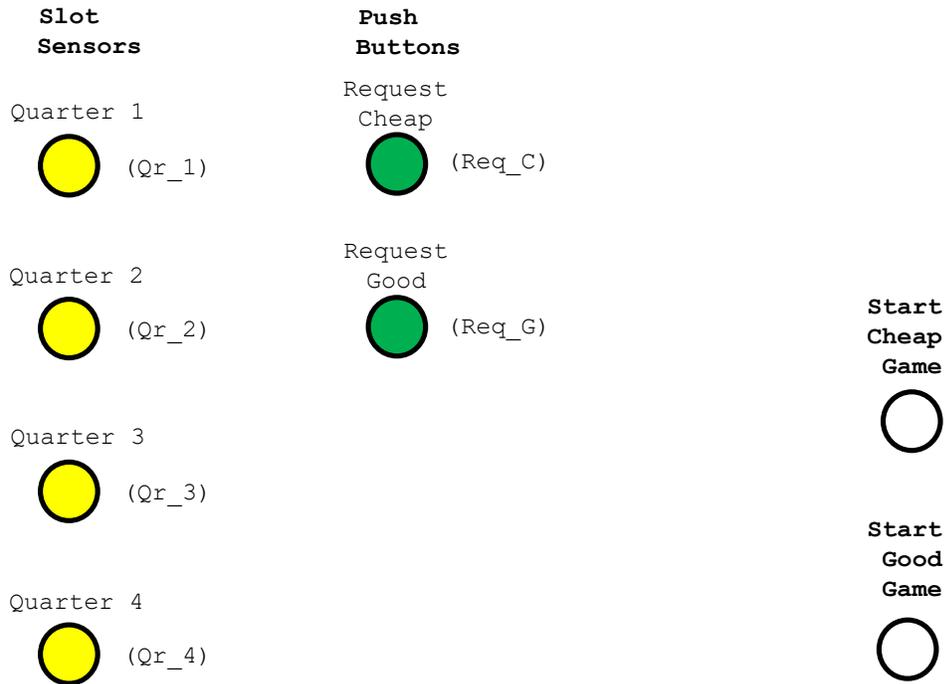


Week 4

No Assignment

Week 5

The attached buttons and coin slot sensors are part of an arcade game. Two games are in the same arcade box. One is a cheap game and one is a good game. If the player inserts quarters in any three of the four slots marked quarter 1 through quarter 4, and pushes the **Request Cheap** button, the cheap game starts. If the player puts quarters in all four of the quarter slots and pushes the **Request Good** button, the good game starts. Program rungs to energize a coil for starting the cheap game and a coil for starting the good game. The cheap game does not start if all four quarter slots are filled. Assume all state assignments for the slot sensors and buttons are equal to 1.



Week 6