

EET165 Lab #7

Name: _____

Name: _____

Name: _____

Date performed: _____

Title: Control Instructions

Purpose: To teach the students how to use different control instructions, with this lab focusing on the subroutine.

Prelab: There is no prelab for this lab.

Procedure: Using the equipment and components provided in the lab, complete the lab as described.

Step 1: A piece of equipment can sometimes be used to produce more than one type of item. The PLC program for each item is called a recipe. To avoid having to load and reload new programs each time a new item is produced, each unique code is loaded into a subroutine, and the subroutine is selected with a selector switch or other input.

Step 2: Use switch I:1/7 to represent a selector switch. Normally, a selector switch could select one of 2, 3, 4 or more values. But due to the limitations of the lab equipment, I:1/7 will be used to select 1 of 2 recipes.

- Step 3:** When I:1/7 is off, call a subroutine that will do all of the following:
- Turn **off** lamp O:2/4 and lamp O:2/5.
 - Turn **on** lamp O:2/6 and lamp O:2/7.
 - Turn **off** lamp O:2/12 and lamp O:2/13.
 - I:1/12 and I:1/13 will do nothing.
 - When I:1/14 is on, O:2/14 is on and when I:1/14 is off, O:2/14 is off.
 - When I:1/15 is on, O:2/15 is on and when I:1/15 is off, O:2/15 is off.



- Step 4:** When I:1/7 is on, call a subroutine that will do all of the following:
- Turn **on** lamp O:2/4 and lamp O:2/5.
 - Turn **off** lamp O:2/6 and lamp O:2/7.
 - Turn **off** lamp O:2/14 and lamp O:2/15.
 - I:1/14 and I:1/15 will do nothing.
 - When I:1/12 is on, O:2/12 is on and when I:1/12 is off, O:2/12 is off.
 - When I:1/13 is on, O:2/13 is on and when I:1/13 is off, O:2/13 is off.



- Step 5:** I:1/6 will be an Emergency Stop. When the Emergency Stop is off:
- Turn off O:2/4, O:2/5, O:2/6, and O:2/7.
 - Turn off O:2/12, O:2/13, O:2/14, and O:2/15.
 - I:1/12, I:1/13, I:1/14, I:1/15, and I:1/7 will not do anything.



- Step 6:** When the program is working, call the instructor over and demonstrate the working PLC program. When the program is working correctly, the instructor will sign the lab below.

Signature: _____

- Step 7:** Print out the PLC program and attach it to the back of this lab.