

PLC127 LAB 1.2: DATA COMPARISON INSTRUCTION

Student Name: _____

Student ID: _____

LAB OUTCOMES:

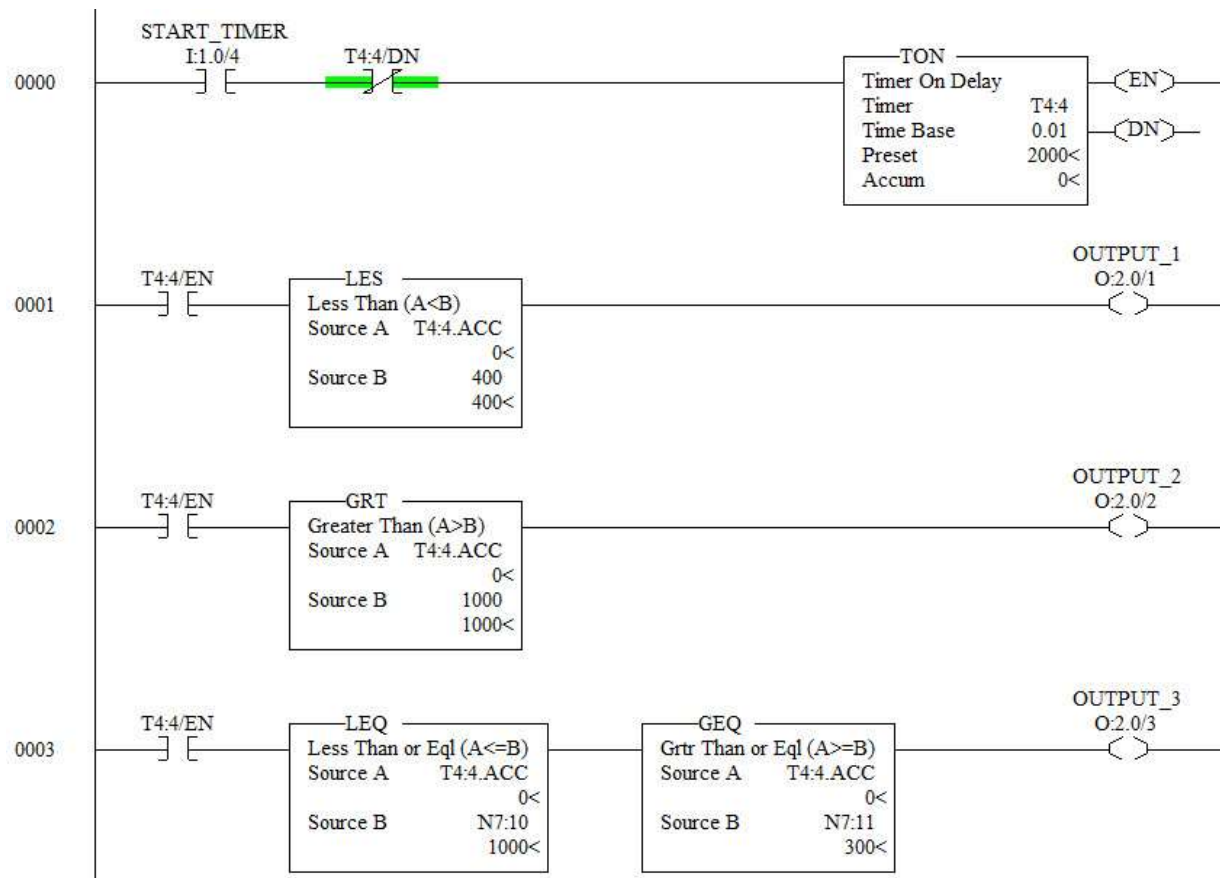
1. Explain the operation of an auto resetting timer program
2. Explain the operation of the LES, GRT, LEQ, and GEQ instructions
3. Explain the data values as constants, versus data values stored in a register (N word)
4. Explain how basic comparison instructions can be used together to control an output
5. Explain how multiple comparison instructions can be used together to control an output

LAB PROCESS:

Write the program as shown in part 1 and then save it to the hard drive of the computer. You will then download the program to the SLC-500 processor. Once that it is complete you will go online with the SLC-500 and place the processor in RUN mode.

Part 1

1. Key in the following program and save it to the hard drive. Name the project something you will be able to easily remember.



2. Once the input is turned on, what happens to the timer after it times out?

3. Turn on the “**START_TIMER**” input.

What output(s) come on immediately?

How long do the output(s) stay on?

4. When will **OUTPUT_2** come on?

How long will it stay on within one time cycle?

5. When will **OUTPUT_3** come on?
How long will it stay on within one time cycle?
6. Change the Timer Preset to make the timer time for 22.5 seconds
7. What data file will the timer preset be stored in?
8. What causes the timer to continue timing, then reset, and start timing again?
9. What would have to be changed in order to have OUTPUT1 come on at 5 seconds?
10. Change the value in N7:10 to 1200. How does this change the operation of OUTPUT_3?

Questions

1. Explain how rung 000 works in the above program.
2. What is the reason for using XIC T4:4/EN in rungs 001, 002, and 003?
3. What is the advantage of using the value in N7:10 instead of a constant in the LEQ in rung 003?

4. Can the value in N7:11 be changed while online?
5. What value would need to be put into the TON preset for a time delay of 22.5 seconds?
6. How would OUTPUT_3 respond (within one time cycle – 20 sec.) if a value of 700 was put into N7:10, and a value of 200 was put into N7:11?
7. If the START_TIMER input is turned off, can any outputs be on? Explain.
8. What would the user need to do if they are online, and needed to change the source B value in the LES in rung 001, to a value of 550?

The outcomes of this exercise (listed on page 1) specifies the skills that the Student must demonstrate to the Instructor. Once the Instructor is satisfied with the demonstration of Knowledge & Skills by the individual student, they will sign this document (for the student), then enter a 100% into the Hands-On Lab grade in Sakai.

I verify that this student has completed all of the requirements of this Hands-On Assessment:

Student Name: _____

Faculty Signature: _____ Date: _____

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