

PLC127 LAB 1.3: DATA COMPARISON

INSTRUCTION PART 2

Student Name: _____

Student ID: _____

LAB OUTCOMES:

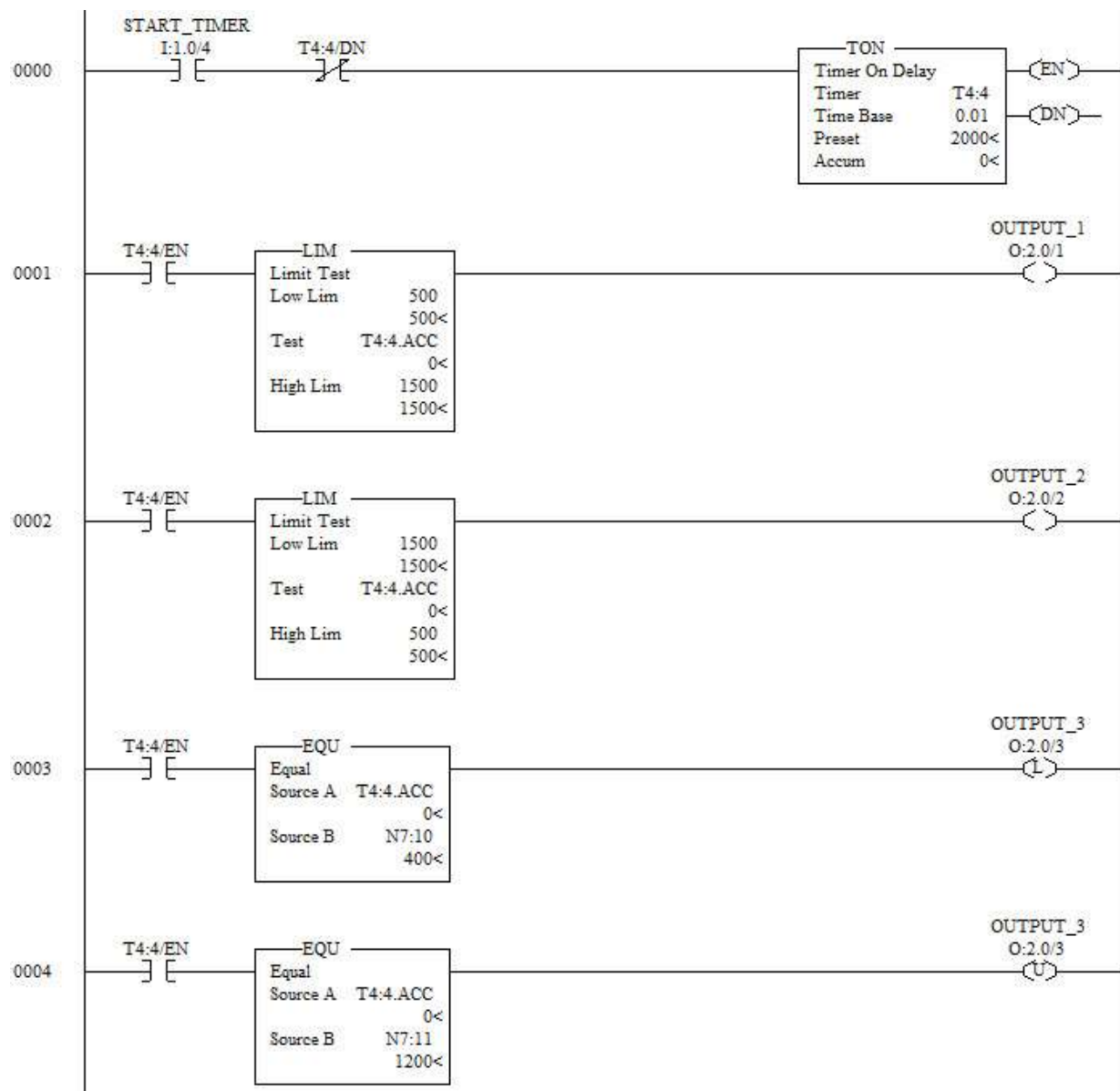
1. Explain the operation of an auto resetting timer program
2. Explain the operation of the LES, GRT, LEQ, and GEQ instructions
3. Explain the data values as constants, versus data values stored in a register (N word)
4. Explain how basic comparison instructions can be used together to control an output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

Do any outputs come on immediately?

3. When will **OUTPUT_1** come on?

Explain how this output responds (on/off time) within one time cycle (20 seconds).

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

How long will it stay on within one time cycle (20 seconds)?

5. When will **OUTPUT_3** come on?

How long will it stay on in one time cycle (20 seconds)?

6. Change the value in N7:10 to 250, and the value in N7:11 to 900.

When will **OUTPUT_3** come on?

How long will it stay on in one time cycle (20 seconds)?

Questions

1. What is the time cycle for the timer in lab?
2. Which rung will turn on its output when the timer accumulated value is between 500 and 1500?
Rung 001 or Rung 002?
3. Which rung will turn off its output when the timer accumulated value is between 500 and 1500? Rung 001 or Rung 002?

4. In Rung 003, what value in N7:10 will turn on OUTPUT_3 when the timer reaches 7 seconds?
5. When will a LIM pass power (be true) if the value in the Low Limit is a larger number than the value in the High Limit?

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: _____

DOL DISCLAIMER:

This product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).