

# PLC129 LAB 1.1: COMPACTLOGIX DATA COMPARISON INSTRUCTION

Student Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

## LAB OUTCOMES:

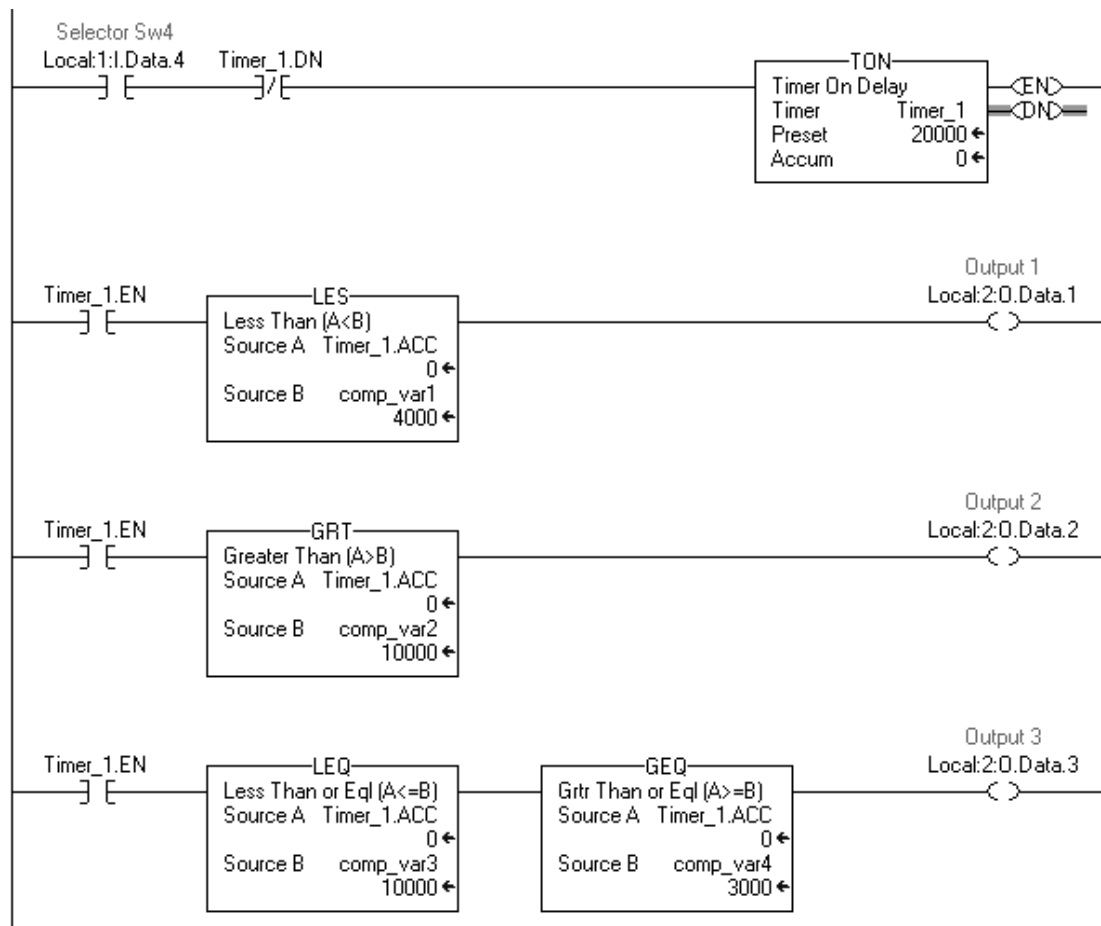
1. Explain the function and operation of the basic comparison instructions
2. Explain the function and operation of the compare (CMP) instruction
3. Interpret the logical operators and statements within the CMP instruction
4. Explain the operation of the MEQ instruction
5. Explain the operation of a ladder routine containing compare and comparison instructions

## LAB PROCESS:

Download the project "Compact\_Module\_1\_EX1\_cmp\_mvm.ACD file, go online and put the CompactLogix into RUN mode.

### Part 1





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

2. Turn on the “Selector Sw4” input  
What outputs come on immediately?

How long do the outputs stay on?

3. When will Output 1 come on?

How long will it stay on?



4. When will Output 2 come on?

How long will it stay on?

5. When will Output 3 come on?

How long will it stay on?



6. When will Output 4 come on?

How long will it stay on?

What is the value of `comp_var1`?

7. At rung 5 is Output 7 on or off? Explain.

8. At rung 6 is Output 6 on or off? Explain.



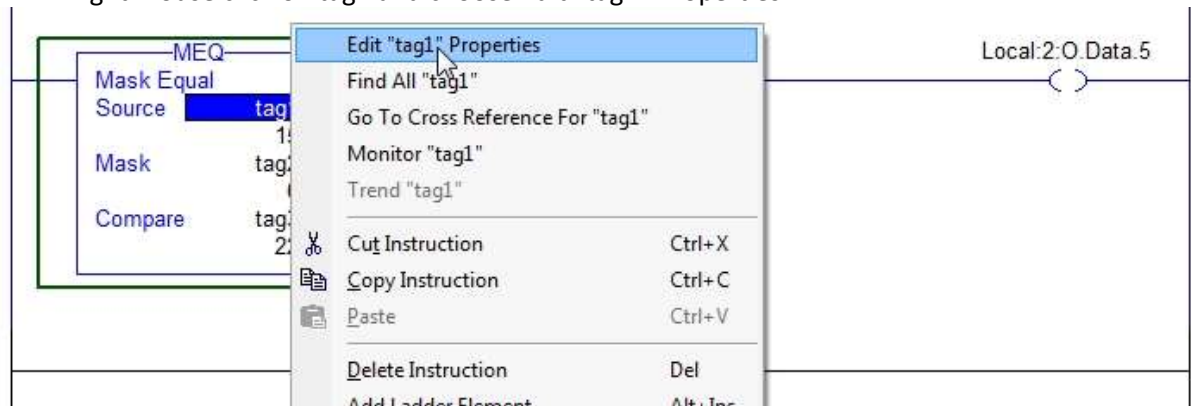


9. At rung 7 is Output 5 on or off? Explain.

Hint: Change tag1, tag2, and tag3 style property to Binary.

Step 1

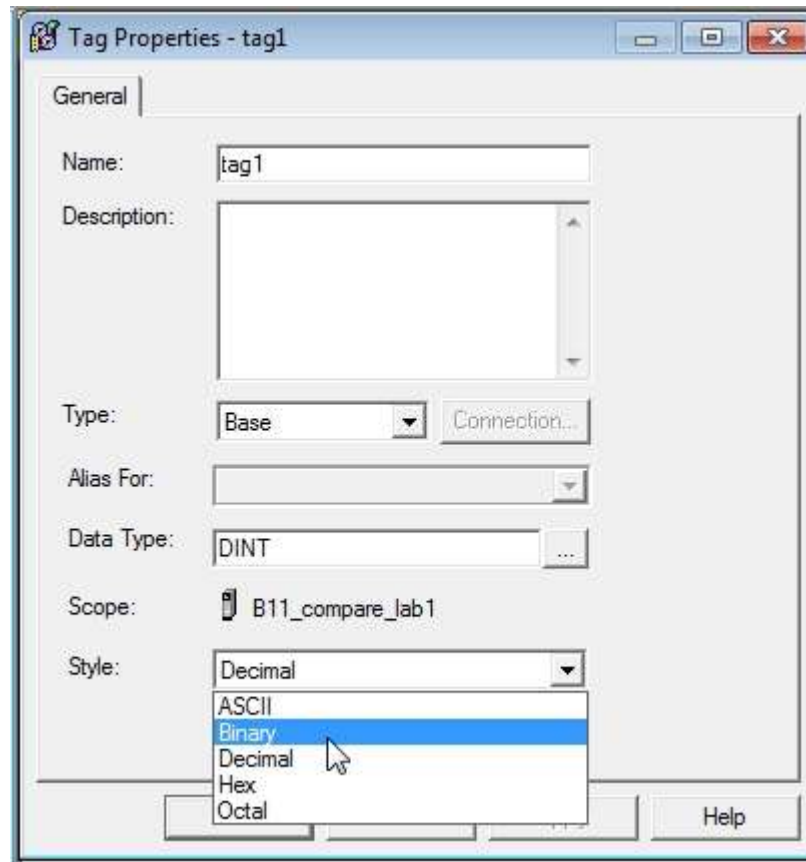
Right mouse click on tag1 and choose Edit "tag1" Properties





Step 2

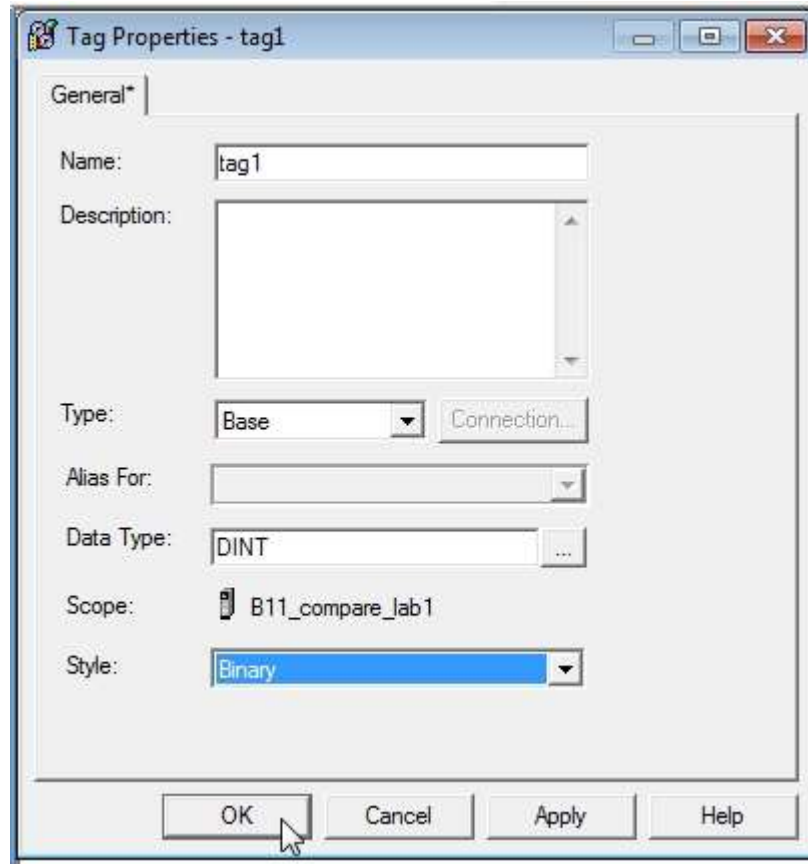
Select Binary from the Style Selection Box





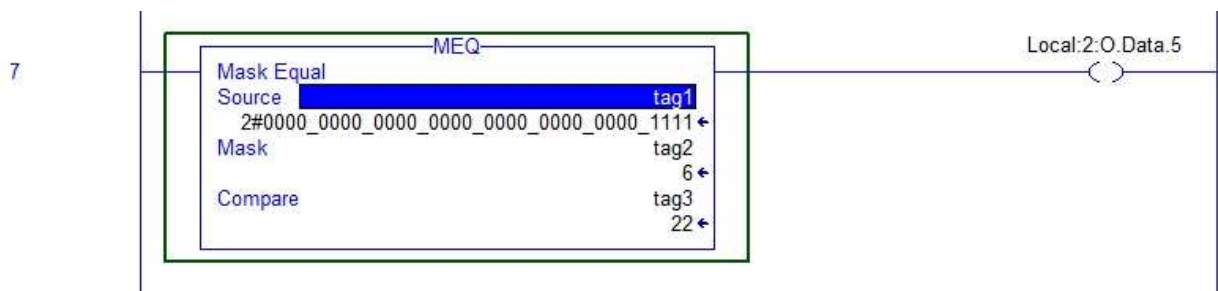
Step 3

Click the OK button



Step 4

Tag1 data will appear as Binary style on Ladder instruction



Step 5

Convert tag2 and tag3 to Binary style and do a bit by bit comparison with the bits that align with the one bit's in the "Mask"



*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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