

PLC129 LAB 2.2: COMPACTLOGIX BIT INSTRUCTIONS

Student Name: _____

Student ID: _____

LAB OUTCOMES:

1. Explain the operation of Bit Field Distribution instructions
2. Explain the operation of the AND instruction
3. Explain the operation of the XOR instruction
4. Demonstrate how to implement Bit distribution instructions

LAB PROCESS:

Create a program that will perform the processes explained in part 1. Save the program using a name that you can easily remember. Download the program to the PLC and place the processor in RUN mode.

Part 1

1. Rung 0 will contain an “Normally Open” contact tied to **Local:1:I.Data.1**
2. The first rung will contain an AND instruction with the following settings:
Source A – tag1
Source B – tag2
Destination – tag3
Tag1 value is 11
Tag2 value is 7
Tag3 value is 0
3. Rung 1 will contain an “Normally Open” contact tied to **Local:1:I.Data.2**
4. Rung 1 will contain an OR instruction with the following settings:
Source A – tag1
Source B – tag2
Destination – tag4
Tag4 value is 0

5. Rung 2 will contain an “Normally Open” contact tied to **Local:1:I.Data.3**
6. Rung 2 will contain an XOR instruction with the following settings:
 - Source A – tag1
 - Source B – tag2
 - Destination – tag5
 - Tag5 value is 0
7. Rung 3 will contain an “Normally Open” contact tied to **Local:1:I.Data.6**
8. Rung 3 will contain 3 CLR instructions
 - First CLR instruction – Destination – tag3
 - Second CLR instruction – Destination – tag4
 - Third CLR instruction – Destination – tag5
9. Rung 4 will contain a “Normally Open” contact tied to **Local:1:I.Data.7**
10. Rung 4 will contain a BTB instruction
 - Source – tag10
 - Value – 2031617
 - Source Bit - 16
 - Destination – tag11
 - Value – 0
 - Destination Bit – 0
 - Length – 4
11. Rung 5 will contain a “Normally Open” contact tied to **Local:1:I.Data.5**
12. Rung 5 will contain a BTB instruction
 - Source – tag20
 - Value – 122
 - Source Bit – 1
 - Destination – tag21
 - Destination Bit – 4
 - Length - 3

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:

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