PLC 210 Hands-On Assessments: Module 2

Student Name: __________________________   N# _______________  Date: __________

This hands-on assessment requires that each student successfully demonstrates each of these tasks to the instructor’s satisfaction. There is no grade for this assessment. Prior to taking this assessment, the student must pass (minimum of 80%) the Knowledge and Application Assessment. The student cannot proceed to the HOA for the next module without completing this HOA.

Create a Project File called HOA_Module_2.ACD using the RSLogix 5000 software. Use the components on the demo board for the required processor and I/O hardware information in the project file. Leave all processor and I/O module’s Properties at the Default settings.

Program the following Ladder Diagram in MainRoutine
Note: All tags that do not reference an input device are DINT Data Type tags.
Note: Be specific in answering questions on the status of Dest values. Saying only that bits are 1 and / or 0 is not a sufficient answer. Explain why the bit value is 1 and / or 0

Download the project file HOA_Module_2.ACD to the CompactLogix demo. Ensure all demo inputs are OFF / False – Selector Switches turned to left. Place processor in RUN mode

Note: SS6 will put a zero (0) in the Dest locations for Instructions on Rung 0, 1, 2.

1. At Rung 0, What are the bit values for tag3? 
   What is the output instruction on Rung 0? 
   Press PB1 at Rung 0 
   What is the decimal value of tag3? 
   Which bits have changed values in tag3?
1. Explain why the bits have changed values:
   ____________________________________________
   ____________________________________________

2. At Rung 1, What are the bit values for tag4?
   ____________________________________________
   What is the output instruction on Rung 1?
   ____________________________________________
   Press PB2 at Rung 1
   ____________________________________________
   What is the decimal value of tag4?
   ____________________________________________
   Which bits have changed values in tag4?
   ____________________________________________
   Explain why the bits have changed values:
   ____________________________________________
   ____________________________________________

3. At Rung 2, What are the bit values for tag5?
   ____________________________________________
   What is the output instruction on Rung 2?
   ____________________________________________
   Press PB3 at Rung 2
   ____________________________________________
   What is the decimal value of tag5?
   ____________________________________________
   Which bits have changed values in tag5?
   ____________________________________________
   Explain why the bits have changed values:
   ____________________________________________
   ____________________________________________

4. At Rung 4, What are the bit values for tag10?
   ____________________________________________
   At Rung 4, What are the bit values for tag11?
   ____________________________________________
   What is the output instruction on Rung 4?
   ____________________________________________
   Turn SS7 to the right.
   ____________________________________________
   What is the decimal value of tag11?
   ____________________________________________
   Which bits have changed values in tag11?
   ____________________________________________
   Explain why the bits have changed values:
   ____________________________________________
   ____________________________________________

5. At Rung 5, What are the bit values for tag20?
   ____________________________________________
   At Rung 5, What are the bit values for tag21?
   ____________________________________________
   What is the output instruction on Rung 5?
   ____________________________________________
Turn SS5 to the right.

What is the decimal value of tag21? ______________________
Which bits have changed values in tag21? __________________
Explain why the bits have changed values: ______________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

At Rung 3, toggle SS6 to put a zero (0) in the Dest locations for Instructions on Rung 0, 1, 2.
Ensure SS6 is OFF – left position
At Rung 0 – change the tag1 value to 32767
change the tag2 value to 14

6. At Rung 0, What are the bit values for tag3? ______________________
What is the output instruction on Rung 0? ______________________
Press PB1 at Rung 0
What is the decimal value of tag3? ______________________
Which bits have changed values in tag3? ______________________
Explain why the bits have changed values: ______________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

7. At Rung 1, What are the bit values for tag4? ______________________
What is the output instruction on Rung 1? ______________________
Press PB2 at Rung 1
What is the decimal value of tag4? ______________________
Which bits have changed values in tag4? ______________________
Explain why the bits have changed values: ______________________
____________________________________________________________________
____________________________________________________________________

8. At Rung 2, What are the bit values for tag5? ______________________
What is the output instruction on Rung 2? ______________________
Press PB3 at Rung 2
What is the decimal value of tag5? ______________________
Which bits have changed values in tag5? ______________________
Explain why the bits have changed values:__________________________________
____________________________________________________________________
____________________________________________________________________

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.