PLC 210 Hands-On Assessments: Module 3

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

Note: Be specific in answering questions on the status of Dest and array values.
    Saying only that tags are a particular value is not a sufficient answer.
    Explain why the tags are of a particular value

Download the project file HOA_Module_3.ACD to the CompactLogix demo.
Ensure all demo inputs are OFF / False – Selector Switches turned to left.
Place processor in RUN mode

___ 1. At Rung 0, what is the value of tag30?_________________________________
    What is the output instruction on Rung 0?___________________________
    Toggle SS7 at Rung 0 to the right
    What is the value of tag30?___________________________
    Toggle SS7 at Rung 0 to the left
    What is the value of tag30?___________________________
    Toggle SS7 at Rung 0 to the right
    What is the value of tag30?___________________________
    Is the output instruction on Rung 0 True or False?____________________
    Explain:________________________________________________________
    ________________________________________________________________
    ________________________________________________________________

___ 2. At Rung 1, what is value for tag10?______________________________
    What is value for tag11?________________________________________
    What is value for tag12?________________________________________
    What is the output instruction on Rung 1?___________________________
    Toggle SS6 at Rung 0 to the right
    What is the decimal value of tag12?______________________________
    Explain the Dest value based on the Source and Mask data:
3. At Rung 2, what is value for tag 1? ________________
   What are the element (tag) values of the Dest array?
   [0] __________________________
   [1] __________________________
   [2] __________________________
   [3] __________________________
   [4] __________________________
   [5] __________________________
   [6] __________________________
   [7] __________________________
   [8] __________________________
   [9] __________________________

   What is the output instruction on Rung 2? ________________
   Toggle SS4 at Rung 2 to the right
   What are the element (tag) values of the Dest array?
   [0] __________________________
   [1] __________________________
   [2] __________________________
   [3] __________________________
   [4] __________________________
   [5] __________________________
   [6] __________________________
   [7] __________________________
   [8] __________________________
   [9] __________________________

   Explain why the element (tag) have changed values: __________________________
   __________________________
   __________________________
   __________________________

4. At Rung 3, Name of the Expression array? __________________________
   At Rung 3, what are the element (tag) values of the Expression array?
   [0] __________________________
At Rung 3, Name of the Dest array? 

At Rung 3, what are the element (tag) values of the Dest array?

What is the output instruction on Rung 3?

What is Data Type tag2?

What DINT tags are included with tag2?

What BOOL tags are being used by the FAL instruction?
Hint: View right-side of the FAL instruction

What is the Mode setting for the FAL instruction?

Explain the purpose of the Mode setting:
At Rung 4, Name of the Source array?______________________

At Rung 4, what are the element (tag) values of the Source array?
[0]__________________________
[1]__________________________
[2]__________________________
[3]__________________________
[4]__________________________
[5]__________________________
[6]__________________________
[7]__________________________
[8]__________________________
[9]__________________________

At Rung 4, Name of the Dest array?______________________

At Rung 4, what are the element (tag) values of the Dest array?
[0]__________________________
[1]__________________________
[2]__________________________
[3]__________________________
[4]__________________________
[5]__________________________
[6]__________________________
[7]__________________________
[8]__________________________
[9]__________________________

Note: Monitor the FAL’s instruction EN and DN bits as PB2 is being pressed
At Rung 3, press PB2 ten (10) times.
When does the EN go True?__________________________
When did the DN go True?__________________________
What is the Position value when the DN bit goes True?__________________________
Explain why the DN bit change values: ________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. At Rung 3, what are the element (tag) values of the Expression array?
[0]__________________________
At Rung 3, what are the element (tag) values of the Dest array?

[0]________________________________________
[1]________________________________________
[2]________________________________________
[3]________________________________________
[4]________________________________________
[5]________________________________________
[6]________________________________________
[7]________________________________________
[8]________________________________________
[9]________________________________________

At Rung 3, explain the values of the elements (tags) in the Dest array:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

At Rung 4, what are the element (tag) values of the Source array?

[0]________________________________________
[1]________________________________________
[2]________________________________________
[3]________________________________________
[4]________________________________________
[5]________________________________________
[6]________________________________________
[7]________________________________________
At Rung 4, what are the element (tag) values of the Dest array?

[0] _______________________
[1] _______________________
[2] _______________________
[3] _______________________
[4] _______________________
[5] _______________________
[6] _______________________
[7] _______________________
[8] _______________________
[9] _______________________

At Rung 4, explain the values of the elements (tags) in the Dest array:
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

5. What do the instructions at Rung 5 do when SS5 is turned ON – to the right

Explain: ____________________________________________________________
____________________________________________________________________
____________________________________________________________________

To run through the HOA exercise again
Ensure all selector switches are OFF – turned to left
Toggle SS5 ON then OFF – turn to right then left.
Return to start of HOA
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