Homework #3: ECE 461 / 661

Structured Text. Due Monday September 16th
(will accept any time before December 13th so you can use the Micro810 PLC's)

Note: For this assignment, you may use

- Allen Bradley Micro810 PLCs (check out one from ECE 201), or
- PLC Fiddle (https://www.plcfiddle.com/)

Transformer Short Logic

Write a Structured Text (Pascal) program to clear a fault on a transformer.

Press IN0:

- Transformer turns on.
- OUT0 turns on (normal operation)

Press IN1:

- Transformer turns off
- OUT0 turns off (stand-by mode)

Press and hold IN2:

- Short detected on the power lines
- OUT1 turns on (short detected while IN2 is held down)
- OUT0 turns off for 1.00 second, then turns on for 1.00 second.

If the fault is cleared (IN2 goes low), the transform remains on (OUT0 remains on)

If the fault remains after one on/off cycle (IN2 remains high), OUT1 turns off and on again (2nd try)

If the fault remains after two on/off cycles, OUT 1 turns off and on again (3rd try)

If the fullt remains ofter three on/off cycles,

- The transformer is turned off (OUT0 goes low)
- A fault indication light is turned on (OUT2 goes high and remains high)

Write and demonstrate the ladder-logic program for this