**Bachelor of Engineering (Honours) in Software and Electronic Engineering**

**GMIT Department of Electrical and Electronic Engineering**

**Year 1**

**Industrial Automation**

**Gabriel Farragher 2022**



# Student Details:

* Date: January – April 2022
* Module: Industrial Automation
* Student Name:
* Student Number:
* Lecturer: Gabriel Farragher
* Document: Lab Reports

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# Lab 7 Ex 1 Sequence Programming Continued:

Specification: The Mitsubishi PLC controls an 8-segment sign with the following sequence:

WELCOMEE

**PLC I/O Addresses:**

**Input Schedule:**

* **X1 DI01 iStart\_PB**

**Output Schedule:**

* **Y0 DO00 oBorder**
* **Y1 DO01 oW\_Letter**
* **Y2 DO02 oE1\_Letter**
* **Y3 DO03 oL\_Letter**
* **Y4 DO04 oC\_Letter**
* **Y5 DO05 oO\_Letter**
* **Y6 DO06 oM\_Letter**
* **Y7 DO07 oE2\_Letter**

**[Note: Save PLC software file as: GX W2 L7 Ex 1 GF]**

**Using LL/FBD write the sequence for the following:**

1. Sequence begins when Switch DI01 [X1] is turned On.
2. The Border and the letter W immediately on.
3. E1 on for the next 5 seconds then Off,
4. L on for the next 5 seconds then Off,
5. C on for the next 5 seconds then Off,
6. O on for the next 5 seconds then Off,
7. M on for the next 5 seconds then Off,
8. E2 on for the next 5 seconds then Off,
9. Then all letters including border flash for 10 seconds.
10. Then the sequence repeats. The sequence will continue until the Sequence Switch DI01 switch is turned Off.

Develop a commented Sequence program for the above.

**Save PLC file as:** **GX W2 L7 Ex 1 GF A**

**Here is some help on where to begin:**

A picture containing graphical user interface

Description automatically generated

**Note:** M8002 is a special memory bit Mitsubishi PLCs use, and **pulses once** at **power up** or when **you turn simulation on**. It is used to reset or bring any **sequence back to the start.**

