Lab 2 – Logbook

By submitting this log, I acknowledge that all work is my own and I have not received any assistance other than what is noted below.

Date	**Acknowledgement**
Wednesday 3rd, 2024	We acknowledge that all the work below is ours, and only ours.

(List all group members)

Name 1: Shaan Banday

Student ID 1: 20993610

Name 2: Dharmik Ramlingam

Student ID 2: 21011845

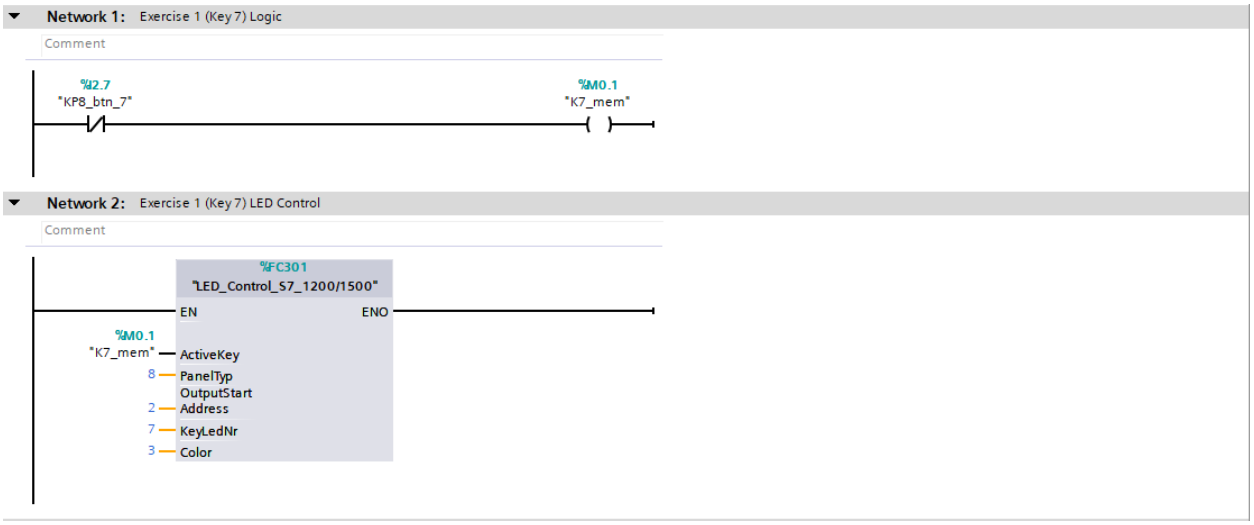
Name 3: Mirza Mughal

Student ID 3: 20938578

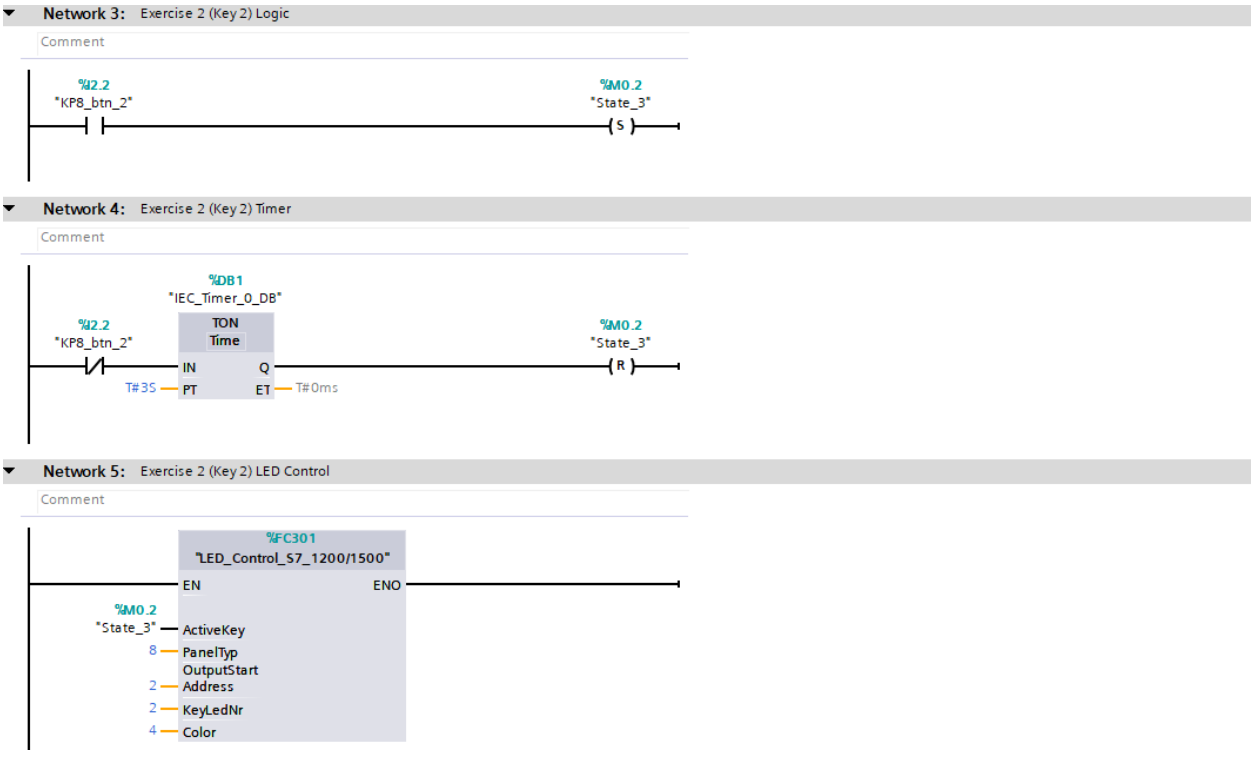
Date: Wednesday, July 3rd, 2024

Exercises

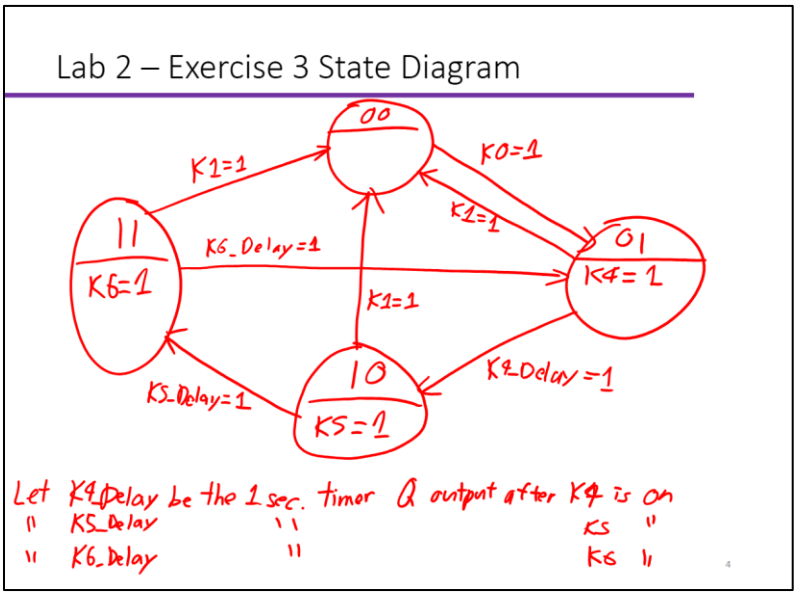
1. Paste here the screenshot of your ladder program from the TIA Portal for exercise 1.



2. Paste here the screenshot of your ladder program from the TIA Portal for exercise 2.

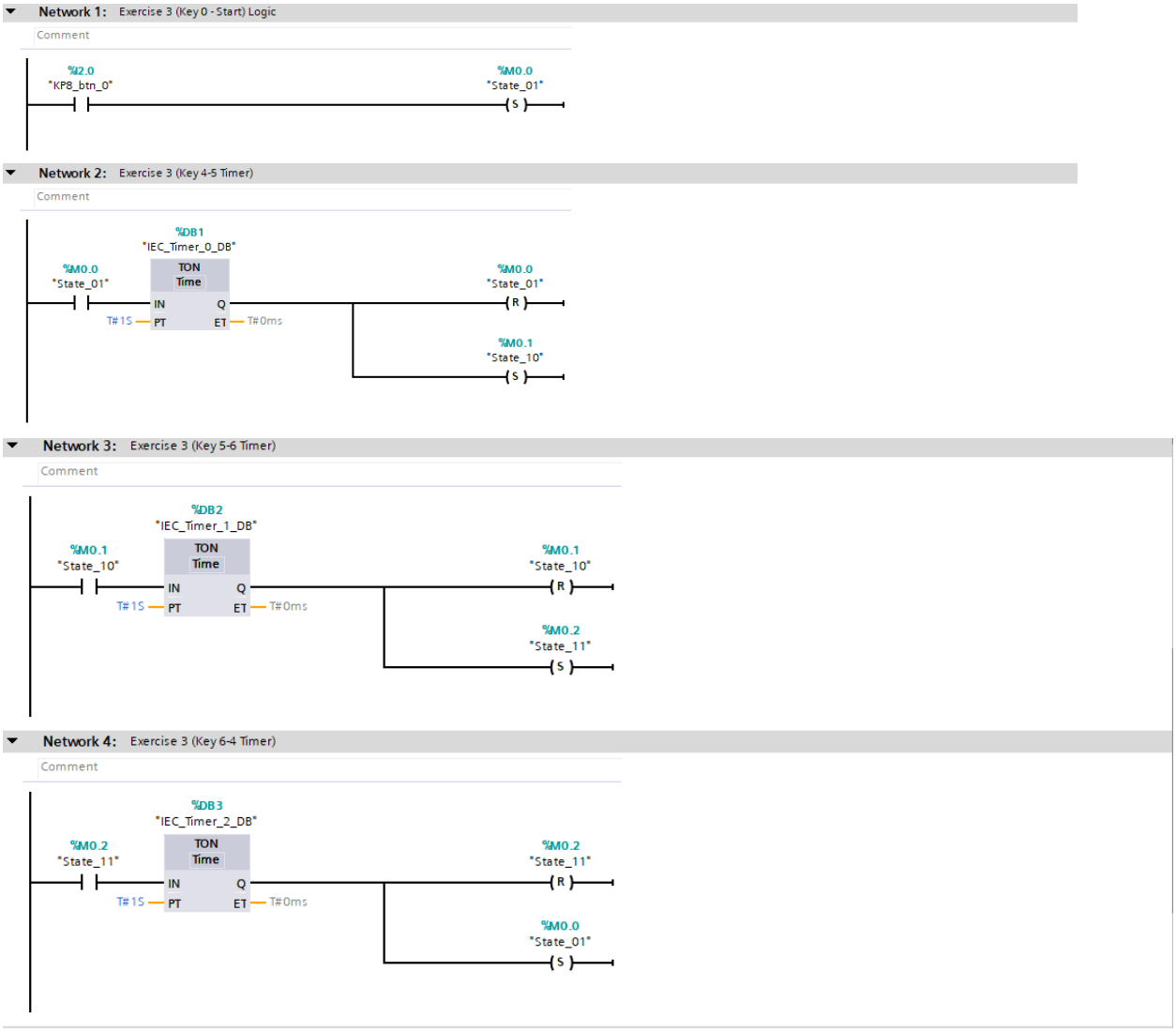


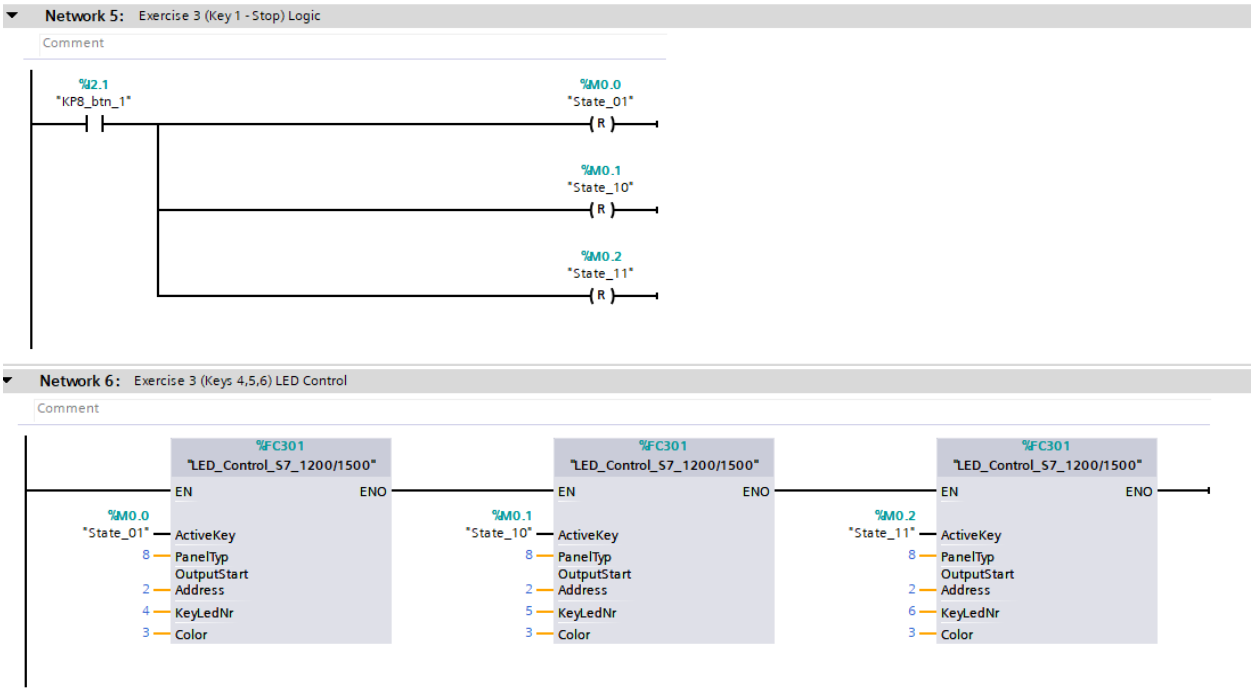
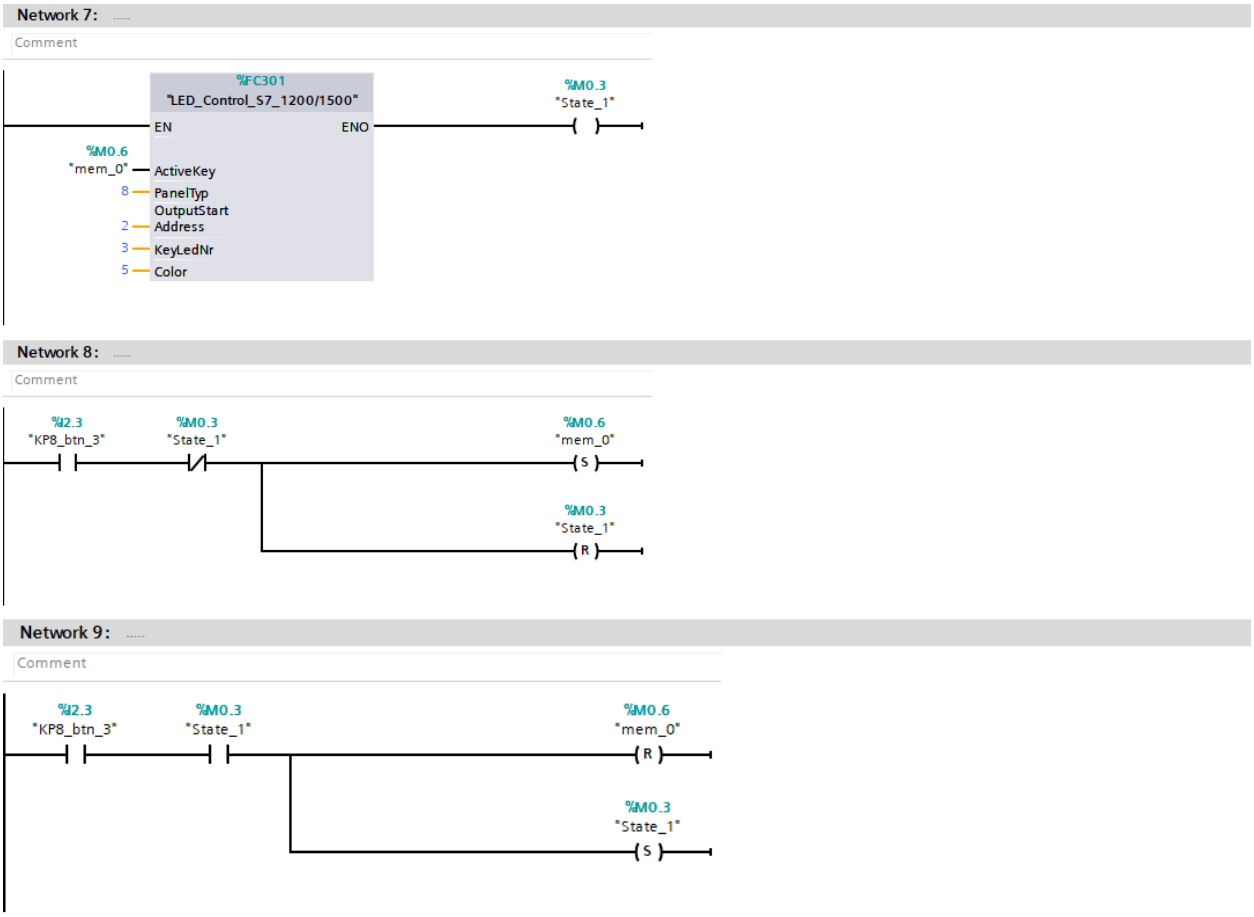
3. For exercise 3, provide:
   a. A screenshot/picture of the state diagram (the one that the TA developed during the tutorial or the one that you developed yourself, it has to be the one that you eventually implemented and verified on the PLC).



   b. Provide a short description of how the state diagram was conceived, and of its working principles.
      - There are 4 states: 00, 01, 10, 11
      - State 00:
        - All keys are off
      - State 01:
        - Key 4 lights up in green, rest of the keys are off
      - State 10:
        - Only key 5 is green, rest of the keys are off
      - State 11:
        - Only Key 6 is green, rest of the keys are off
      - Conditions to go from 00 to 01:
        - Press Key 0
      - Conditions to go from 01 to 10:
        - Wait 1 second
      - Conditions to go from 10 to 11:
        - Wait 1 second
      - Conditions to go from 11 to 01:
        - Wait 1 second
      - Conditions to go from any of 01, 10, or 11 to 00:
        - Press Key 1

c. Paste here the screenshot of your ladder program from the TIA Portal for exercise 3.





4. Paste here the screenshot of your ladder program from the TIA Portal for the bonus question.