COURSE – PLC AND SCADA **COURSE CODE – 18INT52**

Experiment Number – 4
Duration - 2 Hours

Title of Experiment –

1. Understanding of Function of using Timers to Control the Single Way Traffic control
2. Functions of Compare Block to make Light ON/OFF at different counts.
3. Showing Indications i.e. Class room is full or empty using compare blocks.

Objective of the Experiment

The students are required to understand the following –

- Functioning of Timers / Compare Blocks

Intended Learning Outcomes : At the end of the experiment the student should be able to do

1. PLC Programming – Using Timers for Traffic Control / Using of Compare Block with Up counter / Up-Down Counter

Software/Equipment/Tools Required:

PC, PLC Software,

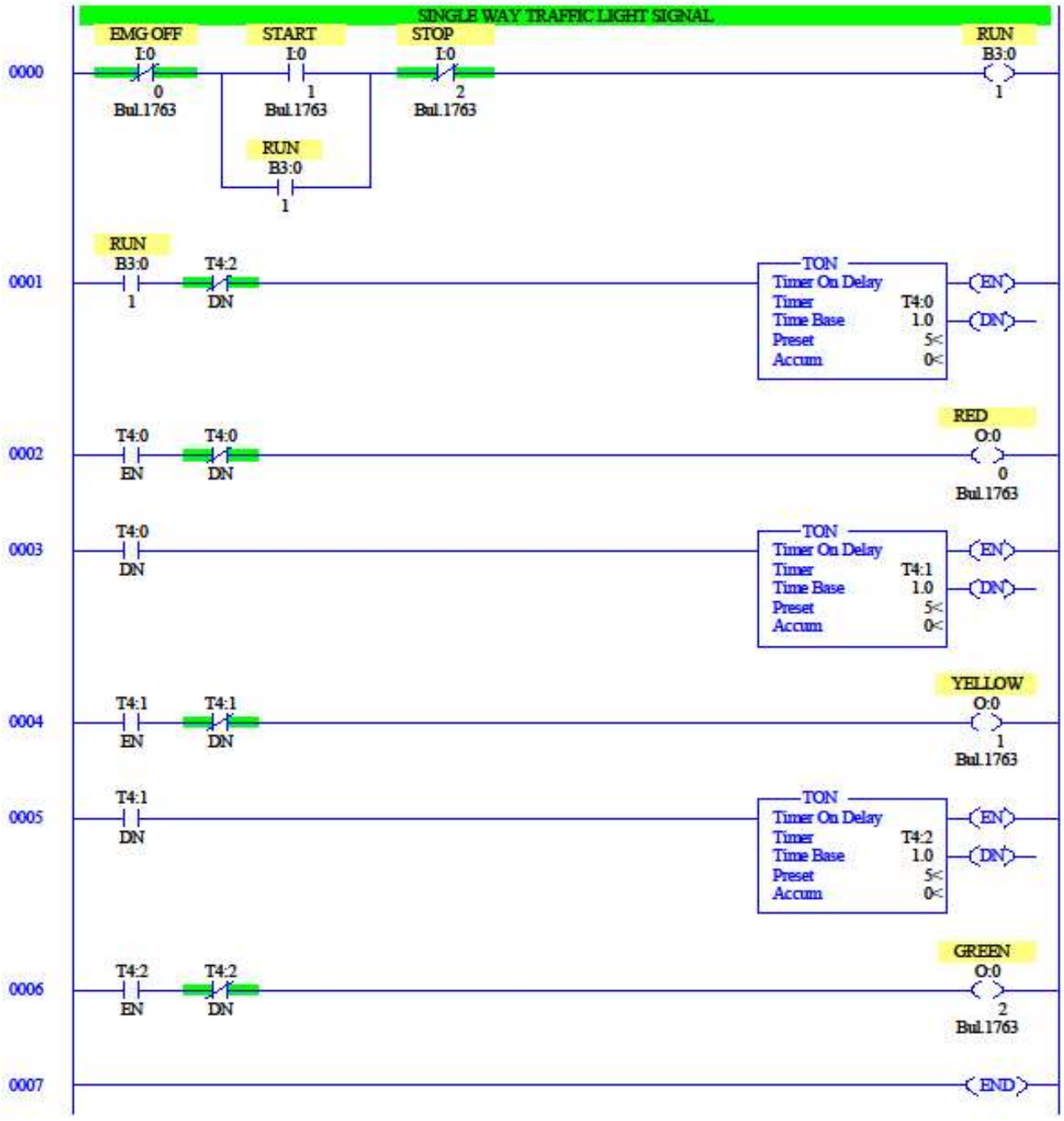
Problem 1 –
Single Way Traffic Control

- Start the single-way traffic signal cycle by pressing the Start Push Button.
- Red Light gets ON, Timer 1 for 30 Seconds to Stop.
- Yellow Lights ON, Timer 2 ON for 5 Seconds To Ready.
- Green Lights ON, Timer 3 ON for 25 Seconds to GO.
- Continue the cycles as per the above sequence till we press the Emergency OFF or Stop Push Button.

Write the Ladder Programme -

SINGLE WAY TRAFFIC SIGNAL CONTROL_1

LAD 2 - --- Total Rungs in File = 8

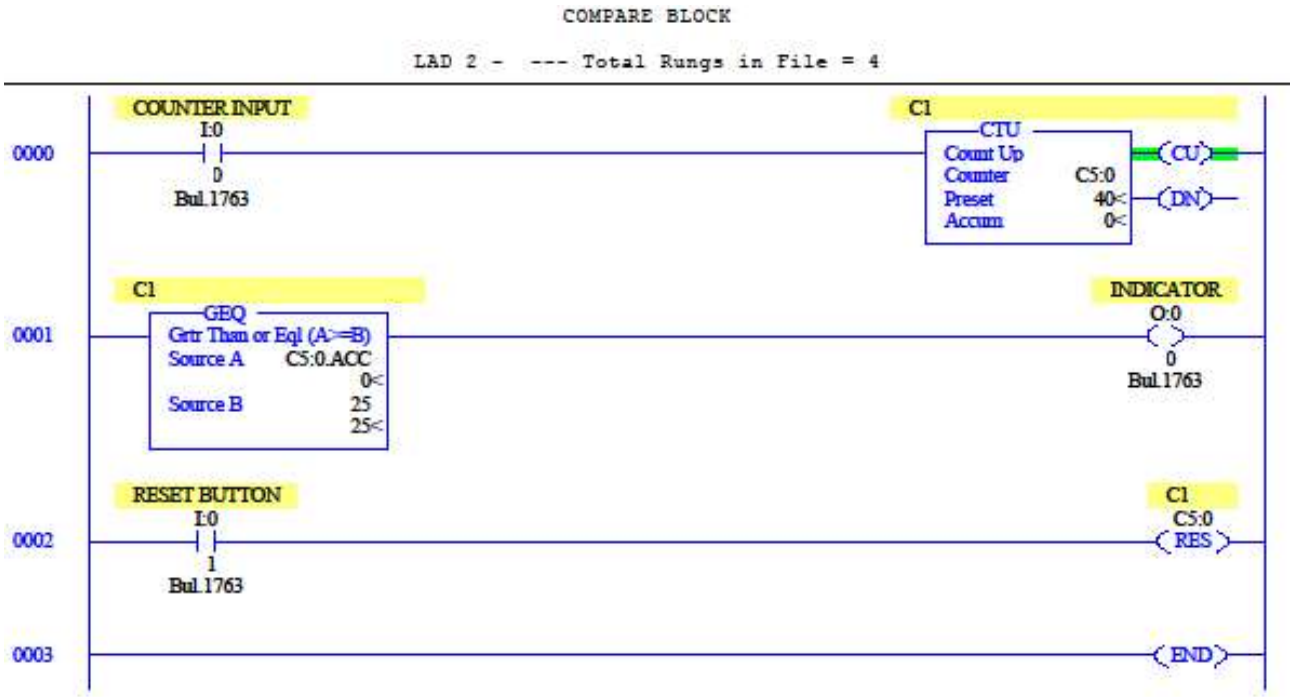


Problem 2

Compare Block:

An indicating Lamp should get ON when the counter reaches 25 counts. The light then gets off when the counter is equal to 40 counts. Rest the counter by reset button.

Write the Ladder Programme -

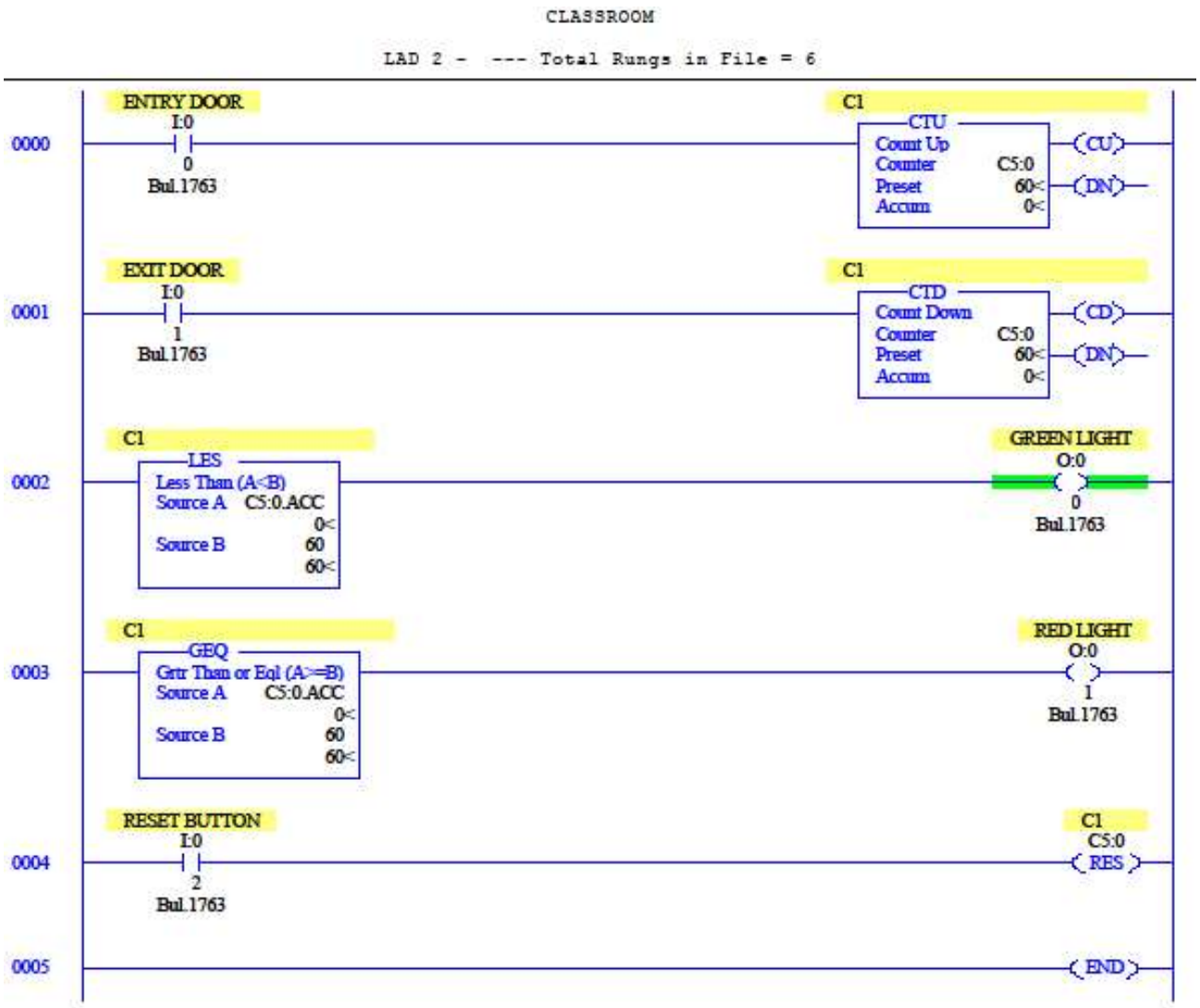


Problem 3

A classroom has a capacity of a maximum of 60 students. There are two doors, one for Entry and the other for Exit. When the number of students in the classroom is less than 60, the Entry door has a Green light on it remains ON. When the number of students is 60 or more, the Red light goes ON and turns OFF the green light. The red light indicates that the classroom has reached its maximum capacity.

A comparator block must used to compare the count value with the given maximum capacity of 60.

Write the Ladder Programme -



Precautions: Students must use proper type and range of the meters. They must show the wiring connections before switching the supply on.

Conclusion/Critical Observation: Students learn the following

1. Basic PLC Programming – Compare Blocks