Alexandria University
Faculty of Engineering
Computer and Systems Engineering Department

CSE343 Embedded Systems
Assigned: Monday 20/02/2023
Due: Monday 27/02/2023

Lab Experiment 1

Lab Objectives

Study the digital input and output.

Manual Pedestrian Traffic Lights:

Pedestrian traffic lights allow any person who wishes to cross the road to press a button (switch) which triggers the trafic light system to change light into “green” and allow him to cross.

You are asked to simulate a similar system using your arduino kit, 2 LEDs, a push-button or a switch.

Normal operation is that only one LED is active (ON) at any moment. A LED stays on until the button is pressed and then both toggles.

If the switch or push button is pressed then the LEDs should invert their states instantly (The one that was (ON) becomes (OFF) and the one that was (OFF) becomes (ON)) and remain at these new states.

Every time the switch or push button are pressed the LED states must change instantly.

NOTES: You should consider using resistors and apply the debouncing code.

Delivery Policy

- Realize the Traffic Lights system using components (LEDs, switch, etc.…) and code.
- Each group must send a video showing the connections with the following action sequence:
    - During the first 4 seconds, the Red LED should be on.
    - At the 5th second, you should press the push button or switch.
    - Repeat the previous step at the 8th second.
    - You should submit a report including the code and your (.ino files).
    - Save the video in a readable format (.wmv, .mp4, etc..).
- **Assigned Date**: Monday 20/02/2023
- **Due Date:** Monday 27/02/2023 @ 23:59
- **Late delivery is not allowed.**

Good Luck