



UDACITY

egypt fwd
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Traffic Light control

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Traffic Light Control

1. System Description

The system is an on-demand traffic control system. It has two modes

- 1- Normal mode.
- 2- Pedestrian mode.

First mode is normal mode in which the car is allowed to pass as the pedestrian can't.

Second mode is pedestrian mode is an opsite to the normal mode which the pedestrian are allowed to pass as the cars cant.

2. System Design

2.1 System components

| component | QTY. |
|------------------|------|
| AVR Atmega32 | 1 |
| Green LEDs | 2 |
| Yellow LEDs | 2 |
| Red LEDs | 2 |
| 300 Ohm resistor | 6 |
| 10K Ohm resistor | 1 |
| Push Button | 1 |

Traffic Light Control

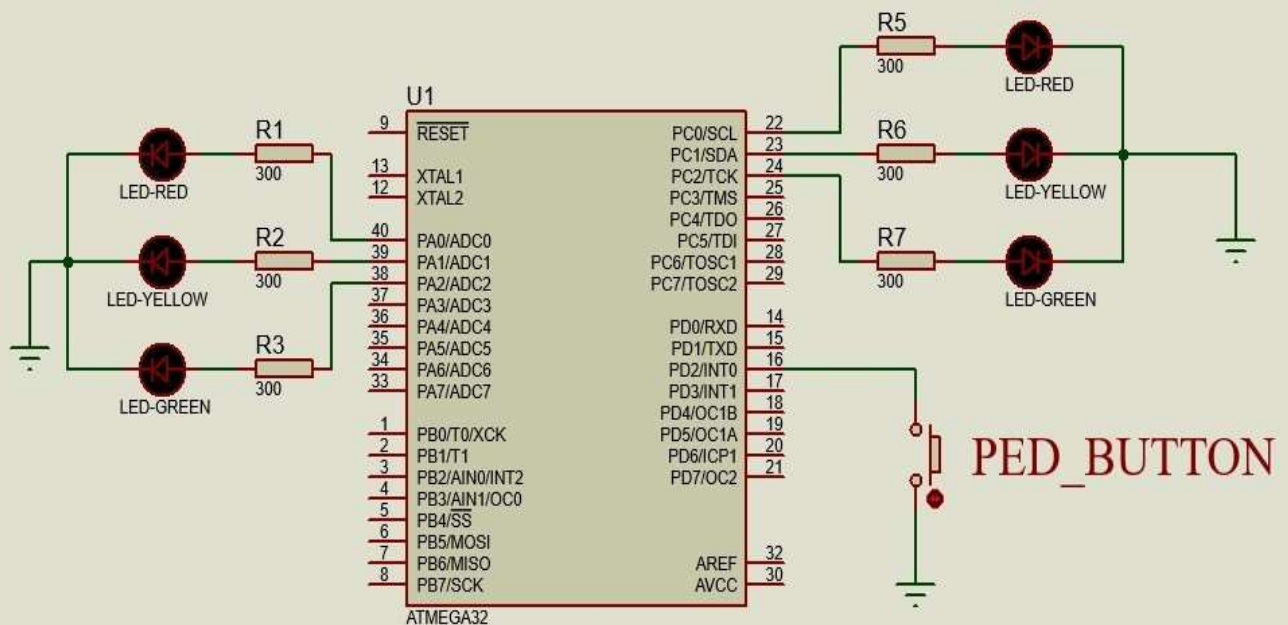
2.2 System Overview

The program has been tested on Proteus simulator. It should be used in traffic light control systems on streets with a pedestrian push button included to allow for full system functionality.

3. Proteus simulation

CAR_TRAFFIC_LIGHT

PED_TRAFFIC_LIGHT



4. System constraints

1. If the Pedestrian button is pressed while the car traffic light is red and the Pedestrian traffic light is green nothing happens. (Double pressed)
2. If the Pedestrian button is pressed with a long pressed it will be represented as one single pressed. (Long pressed)
3. If the button is pressed while the cars traffic is blinking yellow, both yellow LEDs will start blinking for another 5 seconds.
4. The green pedestrian LED will be turned on if and only if the red cars traffic is on.
5. Only when the red car traffic is active will the green pedestrian LED switch on.

5. Flow Chart Att.

