Digital Electronics

Final Project

Submitted By:

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Submitted To:

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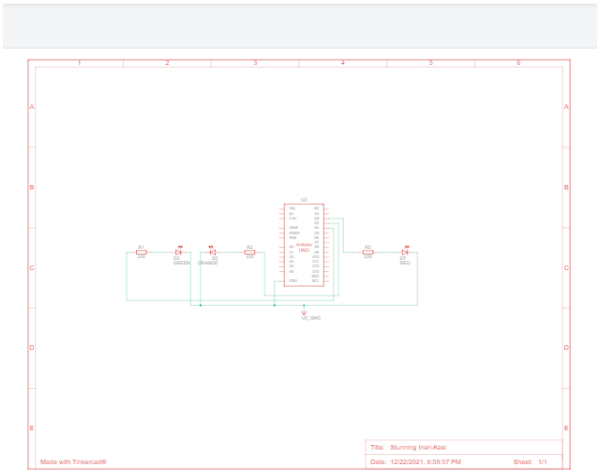
Project Title: Arduino Traffic Light

Description: The project is a simple representation of traffic light controller and hence no other extra components are used. We need three LEDs of Red, Orange and Green colors at each intersection. ... All the LEDs are connected to the Arduino UNO's digital I/O pins through respective current limiting resistors of 220 Ω. 1. All the pins have to be set as OUTPUT at the beginning of the sketch 2. The green LED (on pin 4) is switched on for 3 seconds (green LED will be the first to light up) then it is switched off 3. When the green LED is switched off, orange LED is switched on for 1 second then it is switched off again 4. When the orange LED is switched off, red LED is switched on for 3 seconds then it is switched off again 5. These instructions must run again and again in the loop()!

Equipements:

1. Arduino Uno.
2. Breadboard.
3. LED.
4. Registor.

Circuit Diagram:



Advantages: Advantages of traffic signals are as follows:

1. Traffic signals help for movement of traffic securely without any collision.

2. They can reduce the number of accidents on roads like pedestrian accident and right-angle collision of two cars.

3. Signals can increase the capacity of traffic handling at the intersection.

4. The traffic signals help for the safe movement of slow-moving traffic by interrupting heavy traffic at regular intervals.

5. The indications of the signals can be seen easily in foggy weather or at night time. Without signalling system, it is very difficult to control traffic by the traffic policeman at night or in foggy weather or on a rainy day.

. Traffic control by signals is accurate and economical as compared to traffic police control.

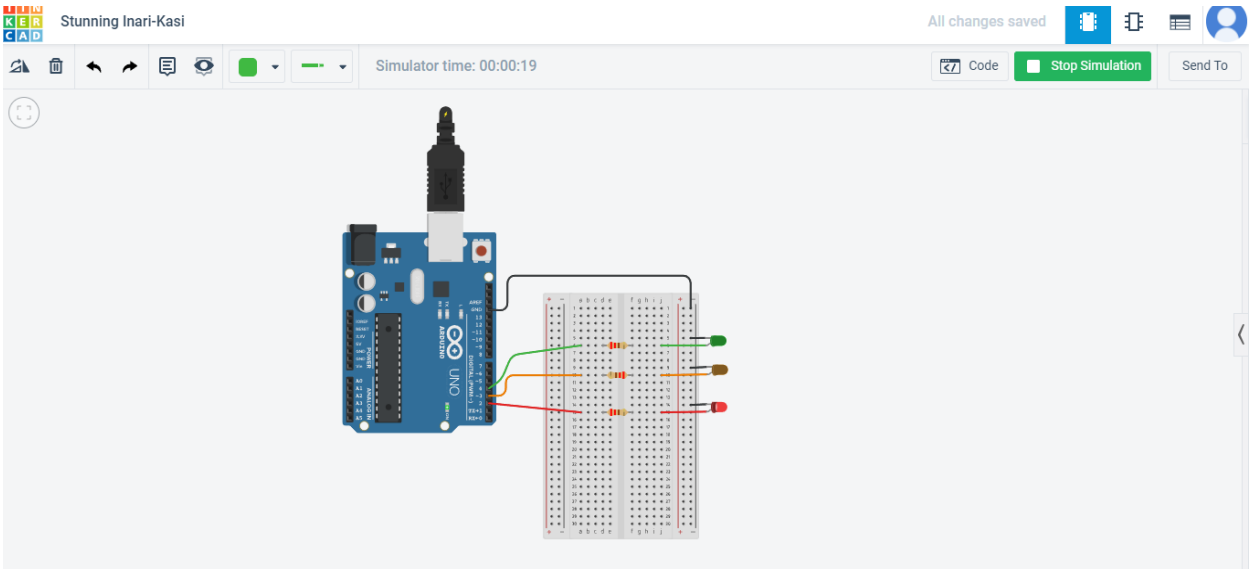
7. Under favourable conditions, they provide for continuous motion of traffic along a specified path.

Disadvantages: Disadvantages of traffic signals are as follows:

1. They delay the traffic by stopping the vehicles at the intersection during peak hours.

2. During signals breakdown, there are serious and wide-spread traffic difficulties during peak hours

Project:



Video Link:

https://drive.google.com/file/d/1rmVlOxrgHJR_ri5hQ8o24nfElldqoo05/view?usp=sharing