

# 4-Way Traffic Light System

This project will be submitted as partial requirement for the course Digital Logic Design

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## **Goal:**

This project will demonstrate people how traffic light system works for them. It will automate the tasks for them.

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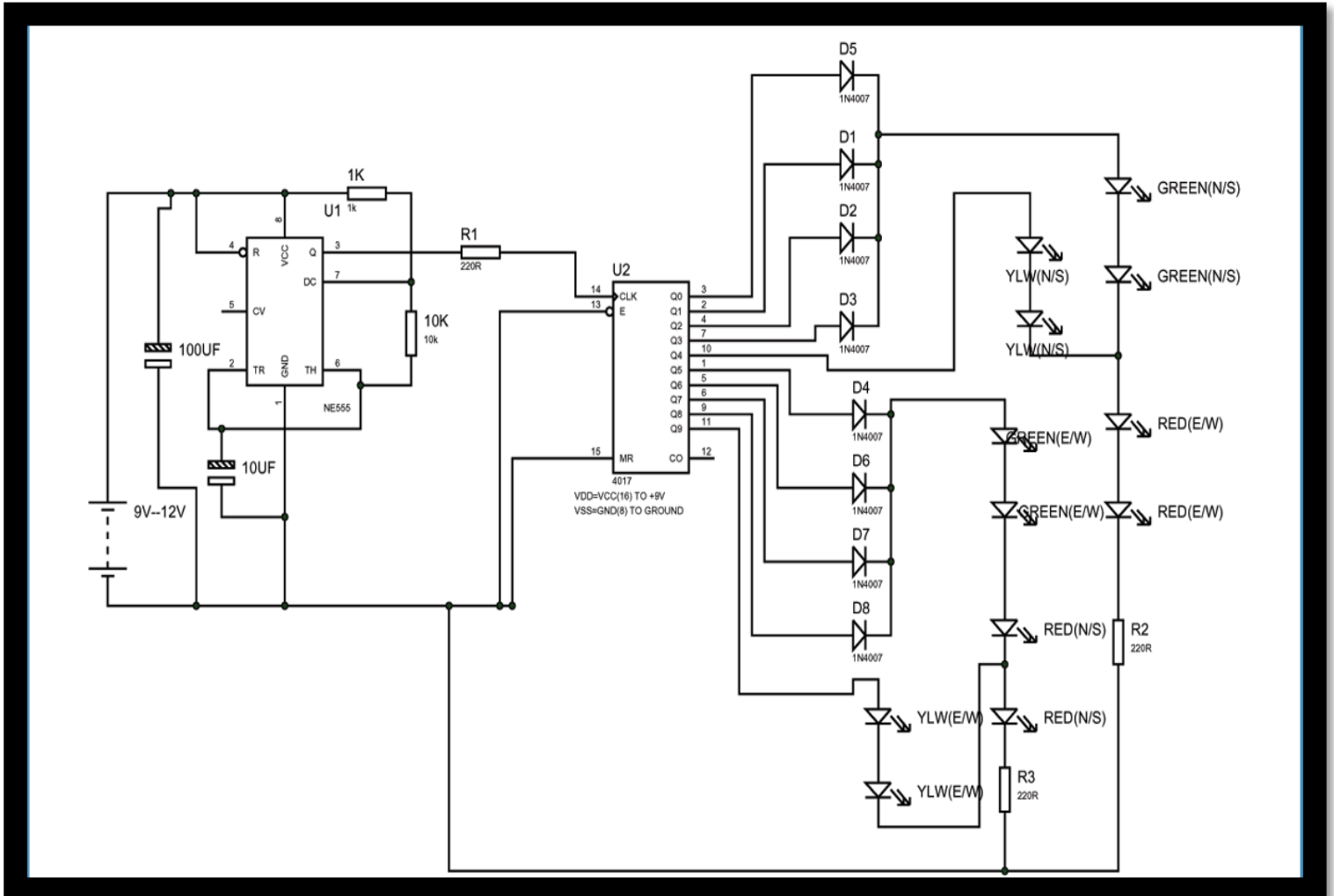
## **Description:**

In this **traffic light project**, we are going to design a circuit, to control traffic lights on a four-way signal. 555 Timer IC timer and a decade counter design this circuit. The timer generates pulses that are transmitted to the ten-stage decade counter. The ten stage DECADE COUNTER have a memory of TEN. It can count up to ten pulses. Therefore, for every peak at clock, the counter admits it as an event and remembers it. The number of events that counter memorized outputted by corresponding pin.

## **Components:**

1. Timer IC 555
2. Counter IC CD4017
3. Diode 1N4007 X 8 Nos. (**OPTIONAL**)
4. LED Green four Nos.
5. LED Yellow four Nos.
6. LED Red 4 Nos.
7. Resistor 1 K $\Omega$  = one, 220 $\Omega$  = three. (**Can Vary**)
8. Variable Resistor 20K $\Omega$ . (**Can Vary**)
9. Capacitor 10 $\mu$ F (**Can Vary**).
10. Battery 9V. (**We can use ETS 7000 for this purpose too**)

## Circuit Diagram:



### Description:

Four-way **traffic light circuit diagram using 555 Timer IC** is shown in the above diagram. The timer here generates pulses of period 100ms approximately. Therefore, the ON time is 50ms and OFF time is 50ms. This time duration can be changed by changing the capacitor value. Although streetlights have a shift time for 2minutes, here we are reducing the time for testing the circuit

☐ Accept

☐ Reject

**Course Teacher:** Miss Nimra Khan

**Signature:** \_\_\_\_\_



