

**NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES, ISB**

**Semester Project**

**DLD, Lab**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |
| --- |
| **Name: Muhammad Usama Umar**  **ID: 19i-0403**  **Date: June 01, 2020**  **Submitted to: Mam Parisa Salma** |

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

4 Way Traffic Signal Simulation

Abstract

As the quantity of street clients continually increments and assets gave restricted, wise traffic signal controller is an extremely significant necessity. Consequently, the need emerges for reenacting and improving traffic control calculations to more readily suit this expanding request. In any case, a few impediments to the utilization of clever traffic control exist. Maintaining a strategic distance from automobile overloads for instance is useful to both condition and economy like an abatement in every one of postponement, number of stops, fuel utilization, poison discharges, and so forth., yet improved traffic-stream may likewise prompt an expansion popular Optimization of traffic light exchanging builds street limit and traffic stream, and can forestall traffic blockages. The fluffy controller will consistently inquiry the traffic conditions so as to conclude whether to broaden or end a present stage. The work shows that supplanting the customary traffic control framework by fluffy based traffic control framework can significantly lessen traffic blockage delay.

**Purpose:**

The basic idea behind this design is to avoid the collision of vehicles by providing appropriate signals to different directions for a limited time slot, after which the next waiting drivers will be given same treatment. In this way, a cycle will be established which will control the traffic.

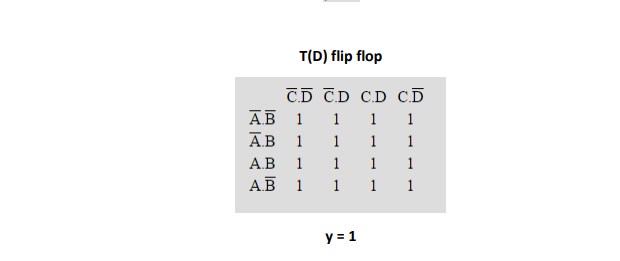
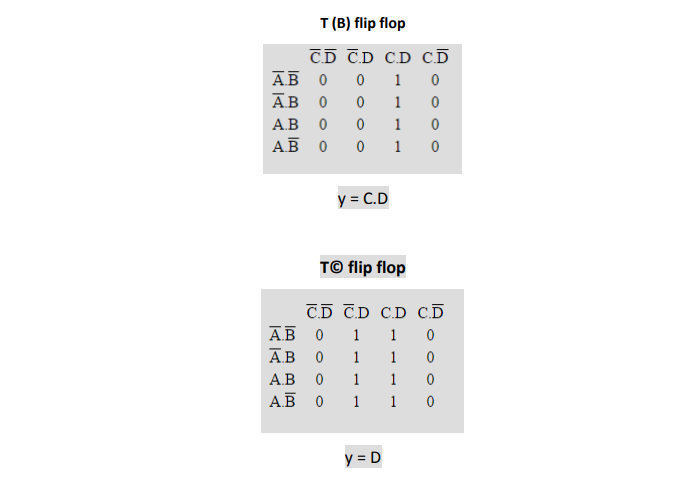
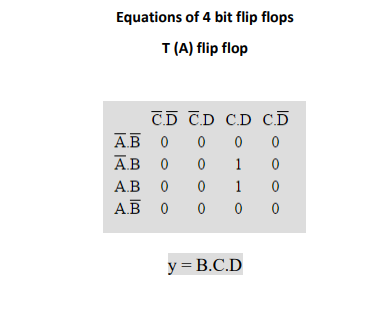
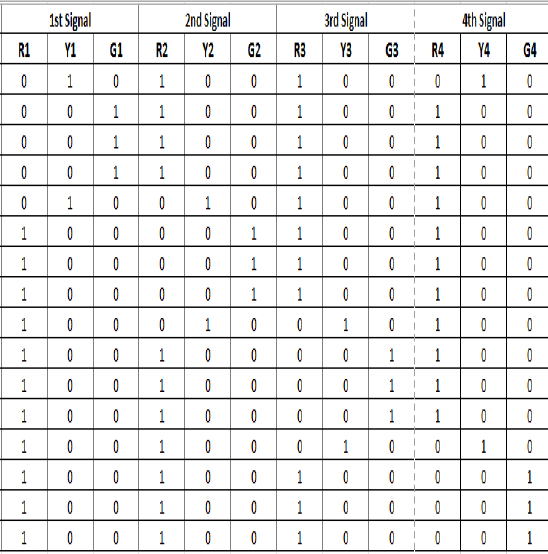
**Equipment:**

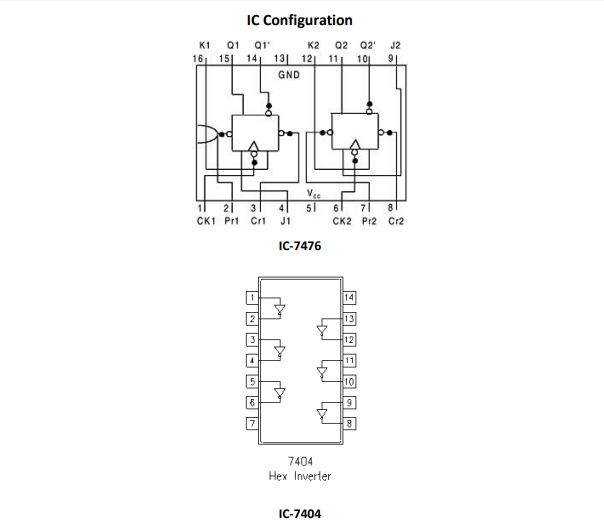
* 4 bit counter (IC-7476 is being used for this purpose as T-flip flop)
* Basic Gates (IC-7408, IC-7486,IC-7404,IC-7432)
* Clock
* LED’s (Red, Green, Yellow)
* Resistors (100 ohm)
* Traffic Lights

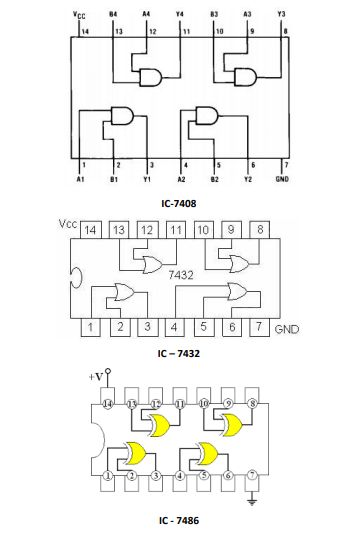
**Working:**

For timing purpose or pulse generation, 555 timer IC is being used. As the flip flops are synchronous circuit and clock is being used so we will use 555 timer as a pulse. 4 bit counter will be designed and after it outputs for each signal will be designed on the basis of time delay and other requirements.

First I designed the truth table of 4 bit counter using T-flip flop. I will be using IC – 7476 (JK- flip flop) by shorting both ports of JK.

****

****

****

