High Level State Machine of Traffic Light Controller

- Stay in thruG state until sensor is activated
- Wait in pause state to see if sensor deactivates (right-turn-on-red)
- Then proceed through sequence, waiting in each state for specified time delay
- In each state, provide appropriate control signals for lights

The perceived way your assignment will work is as following:

1. Your design should be using controller as **sequential circuit and concept of data path**.
2. You have enough Dip-switches that will supply the control inputs (represent the cars and **RESET** of the machine).
3. One LED will be “On” to display the cars (up to 3) in the intersection or using 7-segment display unit to display the cars number (one digit only enough i.e. up to 9).
4. Two 7-segment display unit will display the Traffic Light Controller.
5. You need to assume your sensor time for the waiting of the cars (the value for minimum 3 seconds) also should make your assumption for each light (green, yellow, red) that should be not identical (i.e. each light has its own time to be on) as appeared in the High Level State Machine of Traffic Light Controller as delay1, delay2, delay3, and delay4.
6. The controller will reset manually and when rest is “ON”, one LED will be “ON” and the light will back to first state (Default- main road is green-).