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TRAFFIC LIGHT CONTROL SYSTEM

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ABSTRACT

Traffic Light Control System is a simple circuit that produces a signal of traffic light . It is important when we're using a road . This circuit is design to give an easy work to people when they drive vehicles on the road and also to pedestrian if they want to cross the road . The main part of this circuit is – EPROM 2716 , variables resistor , IC 555 , IC 74LS93 , IC 74LS123 , relay , voltage supply (power supply) .

In future , we are not using this circuit anymore to design a traffic light because now they already modified the circuit – not using the lamp but change it to light emitting diode (LED). It will reduce the maintenances . However , this circuit can also be applied for other application like for construction work , lift and etc .

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Introduction...

Traffic density on roads in big cities like Kuala Lumpur , Ipoh , Butterworth and so on has become so high that it requires a lot of planning for smooth flow of the traffic on the roads . Therefore , the traffic lights have been installed at almost all major traffic crossing in these cities.

Figure 1 shows two roads - one in North - South (NS) direction and the other in East - West (EW) direction . In this figure we have not shown the lights at the South and East ends . Lights at the South and East ends are similar to lights at North and West ends respectively . So , when the traffic for South to North is open green lamp no. 3 is on , the North to South traffic will also be open . In other words , the lights at the two opposite ends are connected in parallel .

The typical sequence of lights and the duration of each step , as observed at one major traffic crossing in Kuala Lumpur is given in Table 1 . The other part of the traffic control , which we may not be aware of , is also equally important for the smooth flow of the traffic on major roads , where one finds a road crossing after every hundred meters or so . This is called *synchronization* of various traffic lights through remote control . Here , the timings of various traffic lights at different crossing on one major road are adjusted in such a way that once the traffic finds *green* light on the major road , it should find green light at the next crossing too , if the traffic is moving at the recommended speed . The traffic control for the outer circle of Co naught Place of Kuala Lumpur is one such example as synchronized traffic light control .

The traffic light control system should also have the facilities to operate in the so - called *Hold Mode* . In this mode , the normal sequence of lights is discontinued and only yellow (or red) lights keep blinking to contain the traffic . The hold mode is normally used during late night hours or early morning hours , or when the traffic is to be controlled manually .