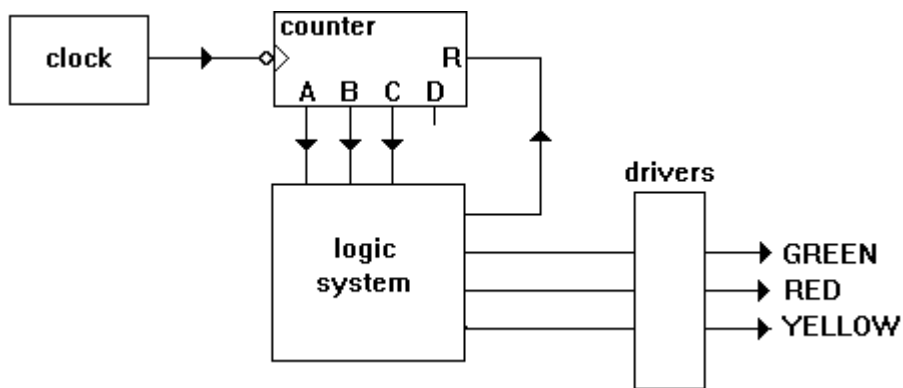


### Designing continuous sequencers

1. Design a sequencer which has three LEDs of different colour which obeys this state table. Each state lasts for 2 s. Use only NAND gates.

state	LEDs which glow
0	none
1	red
2	red, yellow
3	red, yellow, green



2. Assemble a relaxation oscillator with a 40106 NOT gate, a 100  $\mu\text{F}$  capacitor and a 47 k $\Omega$  resistor. Monitor its output with a CRO. Adjust the resistor value until the oscillator has a period of about 2 s.
3. Assemble the rest of your design. Verify that it operates as specified.
4. Now adjust your circuit so that it produces the sequence shown in this table. Each state should last for 5 s.

state	LEDs which glow
0	red
1	green
2	yellow