

**explanation**

**first counter will count from 0 to 10**

**first counter output is given to second counter clock  
and it counts from 0 to 4**

**2nd counter is a Clock divider - circuitverse clock frequency 10Hz,  
required clock frequency - 1Hz .**

**The display should show within how many seconds milliseconds  
you have reacted**

**is connected to 2 to 4 decoder , so for every one second the  
decoder output will move to next pin**

**when first counter goes from 0 to a second goes from 0 to 1, so from red light to yellow light and similarly in next cycle from yellow to green**

**yellow light is connected to reset of the counter on top, the moment it goes off and green turns on it starts counting.**

**Counter - This counter should start when the go signal is high . It will count milli second in multiples of 100. Connect the reset to set**

**So that it resets as long as set is high. Once go signal becomes high , the counter will start counting from 0.**

**React button - the go signal and react button are connected to an and gate . When u press the react button when go is high the output of and gate will be high. This will be the control signal for your register.**

**Register - When the load is high it will load the counter data and store it**

**Stop - connect the 4th output pin of decoder to t flip flop , when the 4 pin goes high the output of t flip flop will be toggled(0 to 1). This output pin is connected to counter reset . So as long as t flip flop output is high the counter will be in reset state.**

**Master Reset - connect this reset button to all counter ,so that the circuit will restart once to press it.**

Note : make sure the bitwidth is same for an input and output pair.  
Eg: the decoder bitwidth here is 2 , so the counter bit width should also be 2