Random Number Generator

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Components used

TABLE 0
COMPONENTS USED

Component	Value	Quantity
Breadboard		1
Seven segment display	Common Anode	1
Decoder	7447	1
Flip Flop	7474	2
X-OR Gate	7486	1
555 IC		1
Resistor	1KΩ	1
Capacitor	100nF	1
Capacitor	10nF	1
Jumper Wires		

Block Diagram

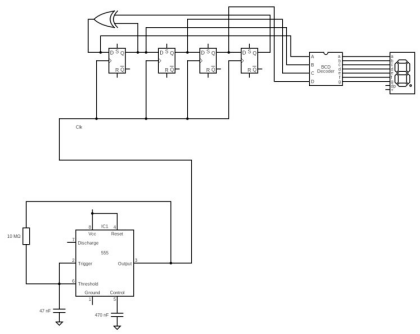

Figure 4: Block Diagram

Fig. 7. output

Procedure

1) We connected the 555 timer circuit according to the figure
2) Then we connected Clock output of 555 timer circuit to the clock signal of D-Flip flops
3) Now we make the circuit for shift registers using a 4 D-Flip flops (using two 7474 IC's)
4) Then we connected XOR gate (7486 IC) according to the figure
5) then we connected the decoder (7447 IC) and connected its A,B,C,D with Q_0,Q_1,Q_2,Q_3 respectively as per the figure
6) Then we connected The seven segmented display and then connected it with the dceoder (7447 IC) according to the table and the figure
7) We connected all the independent parts with each other and then connected the power source

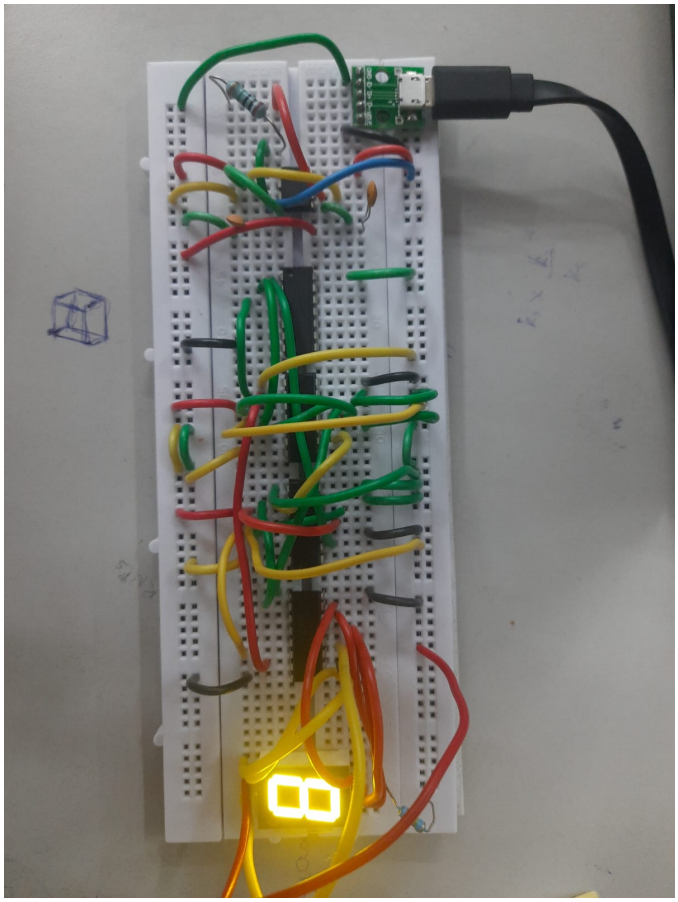

Fig. 7. output

Output

Random numbers were displayed on the digital screen in a certain frequency.

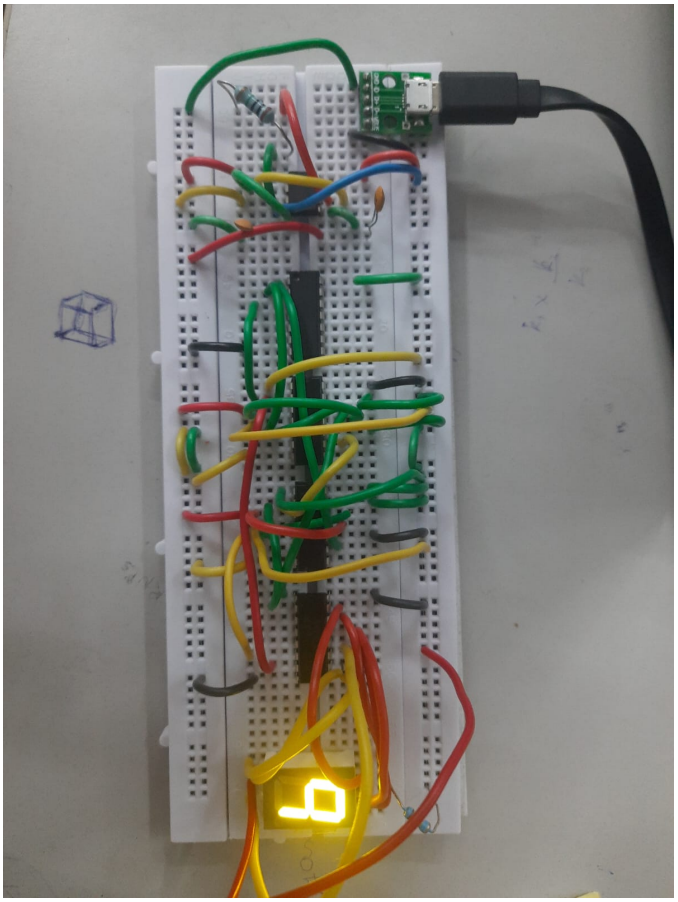

Fig. 7. output