Random Number Geneeration Using Shift Registers

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Aim

To design and create a circuit, which dispalys a series of random numbers,on a seven segment display.(Frequency of display depends upon the components used.

Components Used

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

TABLE 0
Components used

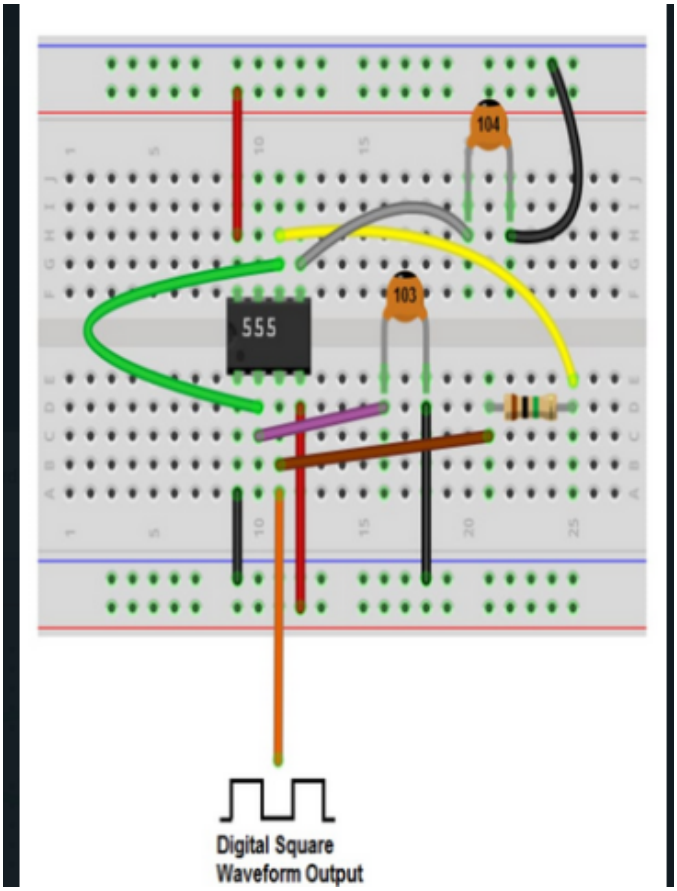

Fig. 1. CLOCK circuit diagram of breadboard

Description

1) Build the CLOCK circuit as shown below.
2) The wave form output of clock circuit is used as input in the flip-flop circuit containing two 7474 IC's, one XOR gate and one decoder.
3) Both the circuits are then connected with a seven segment display in which output is shown. Random numbers will appear on the display.

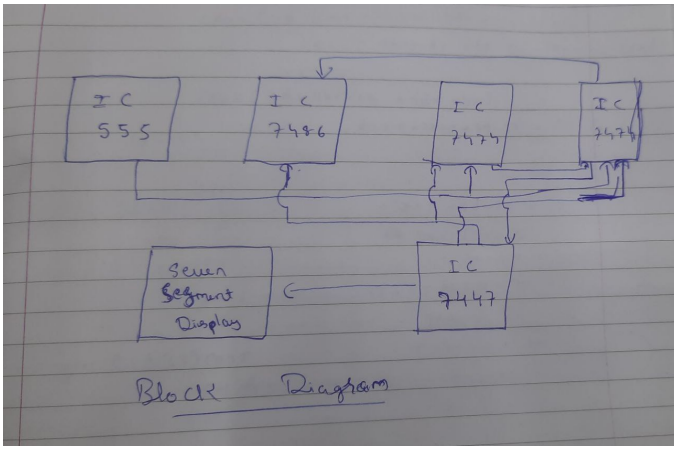

Fig. 3. Block Diagram

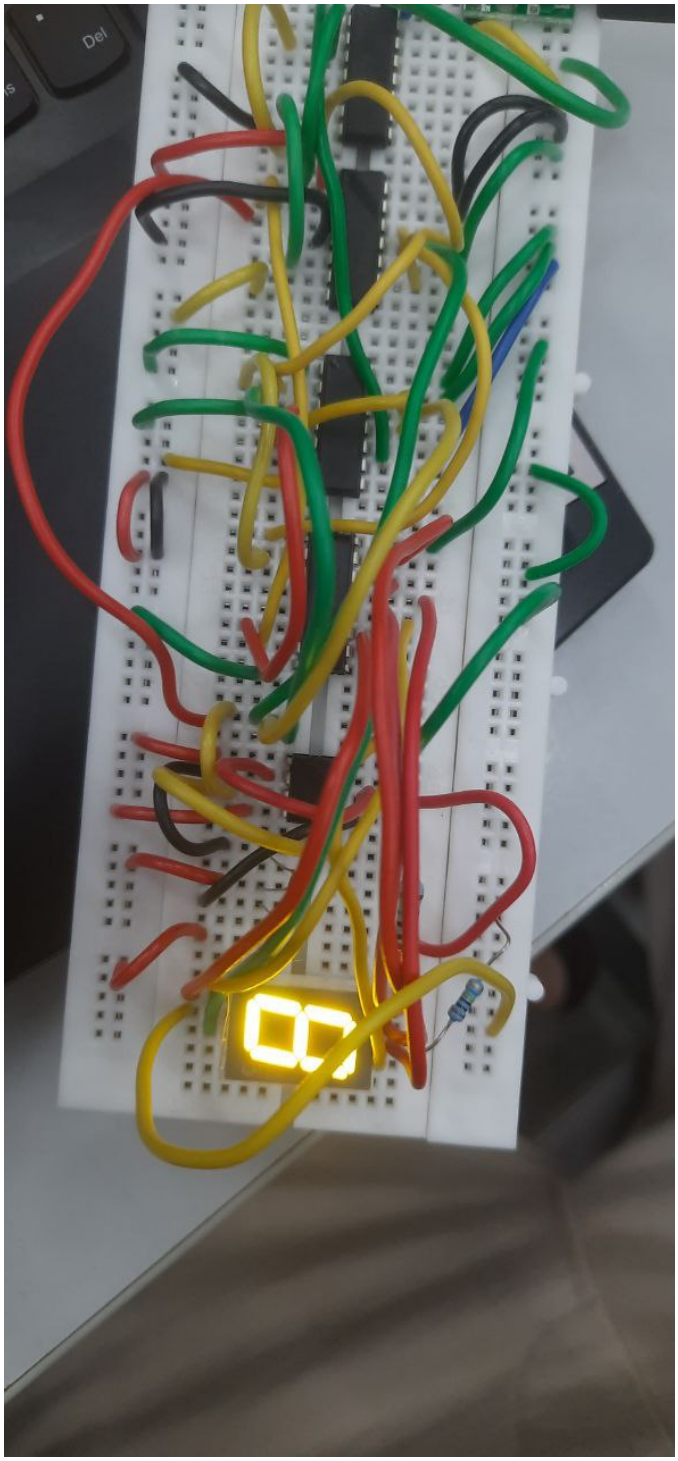

Fig. 3. Output 1

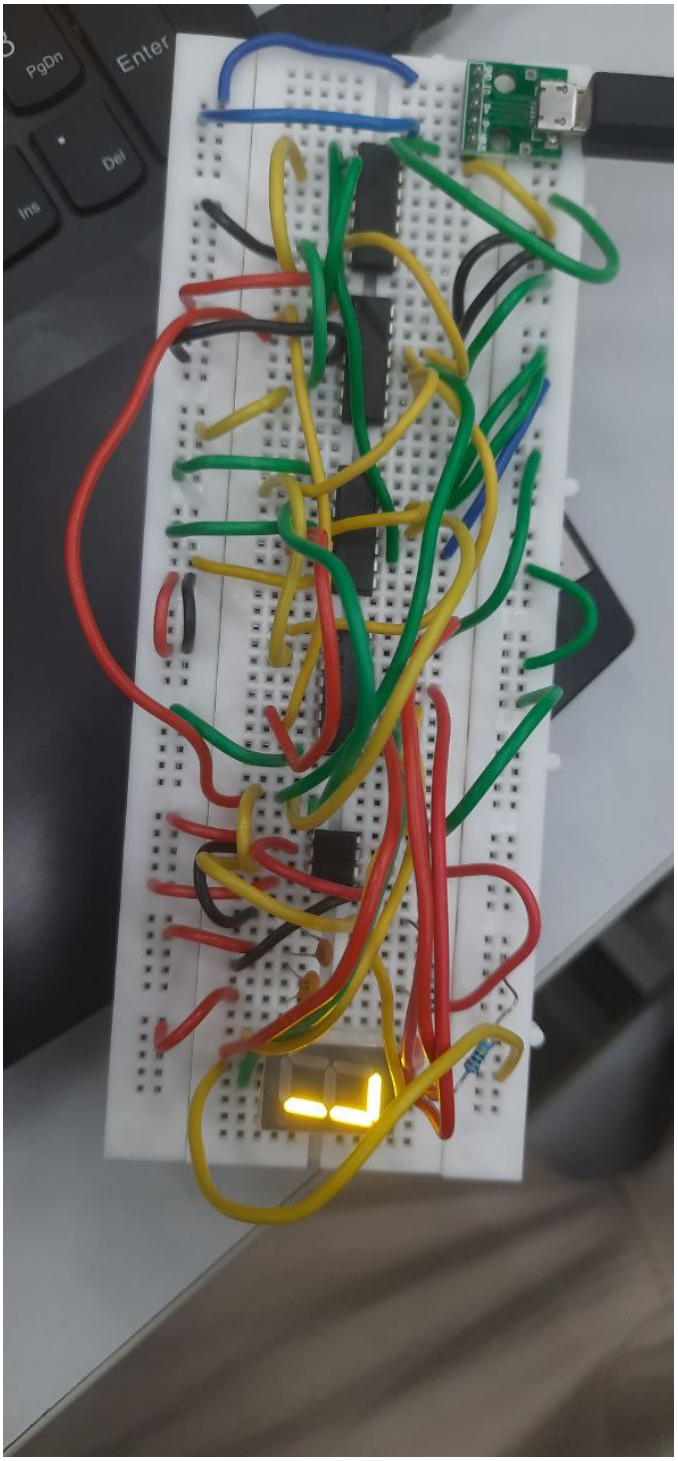

Fig. 3. Output 2