Hardware Asssignment Report
Random Number Generation using Shift Registers

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COMPONENTS.

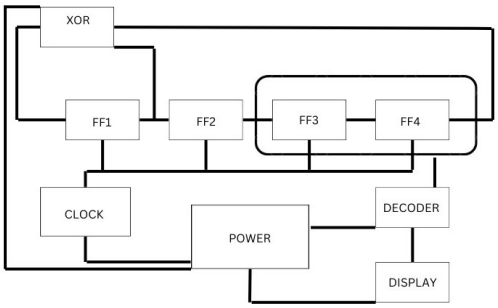
Components	Value	Quantity
Breadboard		1
Seven Segment Display	Common Anode	1
Decoder	7447	1
Flip Flop	7474	2
X-OR GATE	7486	1
555 IC		1
Resistor	1KΩ	1
Resistor	1MΩ	1
Capacitor	100nF	1
Capacitor	10nF	1
Jumper Wires		3

TABLE 0

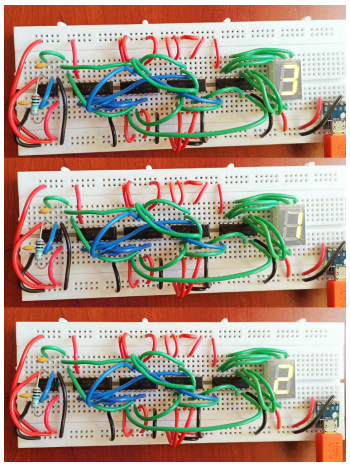
DESCRIPTION.

1) Giving power supply to Breadboard through connecting USB to micro USB board and give VCC(+5V) power supply and ground the respective rails in breadboard.
2) Generated clock using 555 timer by using two capacitors (10nF,100nF) , one resistor 1MΩ and jumper wires.It will the convert regular pulse into Square pulse.
3) Made a circuit using one Decoder(7447) used to covert binary input into specific output pattern, one X-OR gate(7486) and two D-Flip flops(7474) used to store a single bit of information.
4) Connected the Clock output of 555 timer circuit to Clock signal of D-Flip flops.
5) And make connections between the seven segment display and decoder. A seven segment display is a electronic display that can show numerical digits (0-9) and some additional characters.

BLOCK DIAGRAM.



Observation.



Random Variables are observed in a A seven segment display, it is showing random numbers between (0-9) and some additional characters