

AI1110

GENERATING RANDOM NUMBERS

Hardware Assignment

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1 COMPONENTS

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	1Kilo Ohm	1
Resistor	1Mega Ohm	1
Capacitor	100nF	1
Capacitor	10nF	1
Wires		6
Micro USB		1

2 DESCRIPTION

- 1) The aim of our project is to generate random numbers.
- 2) We use 4 IC's here where
74 86IC functions as X-OR gate
74 74IC posses 2 flip flops in it
74 47IC functions as a decoder
555 IC helps to generate square pulses
- 3) First we take power supply through micro USB then we connect the high voltage and low voltage of the power supply to required IC's.
- 4) Here we use a 555 IC to generate a square pulse which is input for 4 flip flops which are in 74 74IC.
- 5) These flip flops generate random numbers in binary form using a X-OR gate(74 86 IC)
- 6) We use decoder(74 47IC) to convert the random numbers in binary form generated by fLip flops to output which is suitable to 7 segment display.
- 7) Anode of 7 segment display is connected to postive terminal of power supply.

3 OUTPUT IMAGE

These are the observations we find.

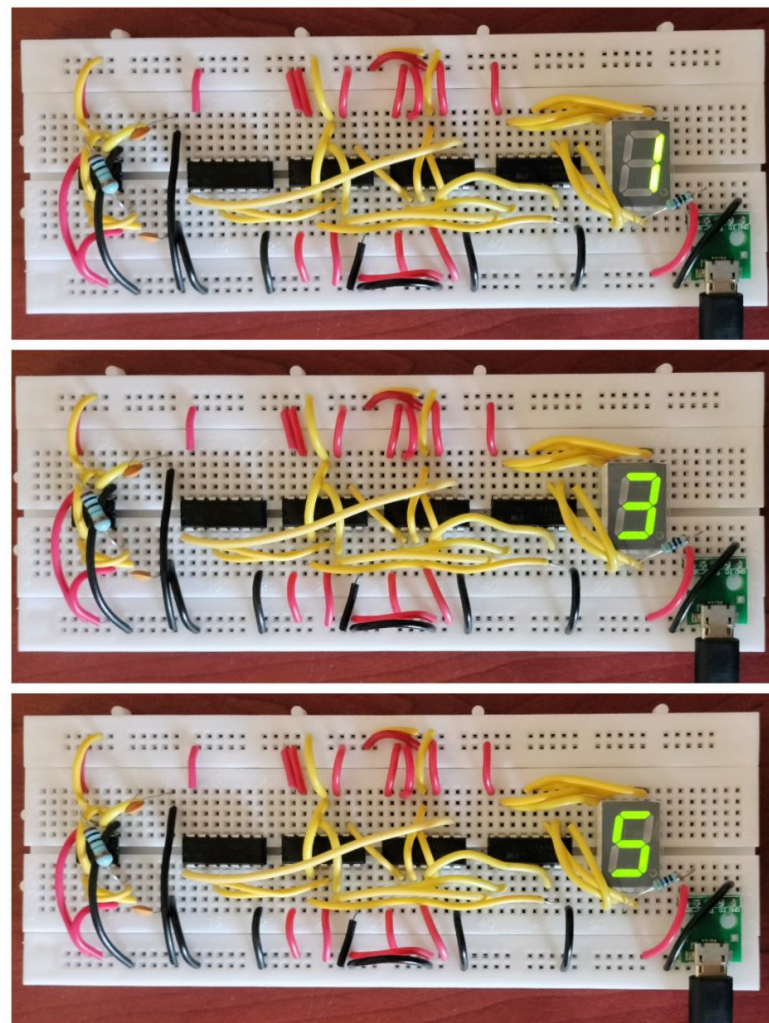


Fig. 7. Output Diagram

4 BLOCK DIAGRAM

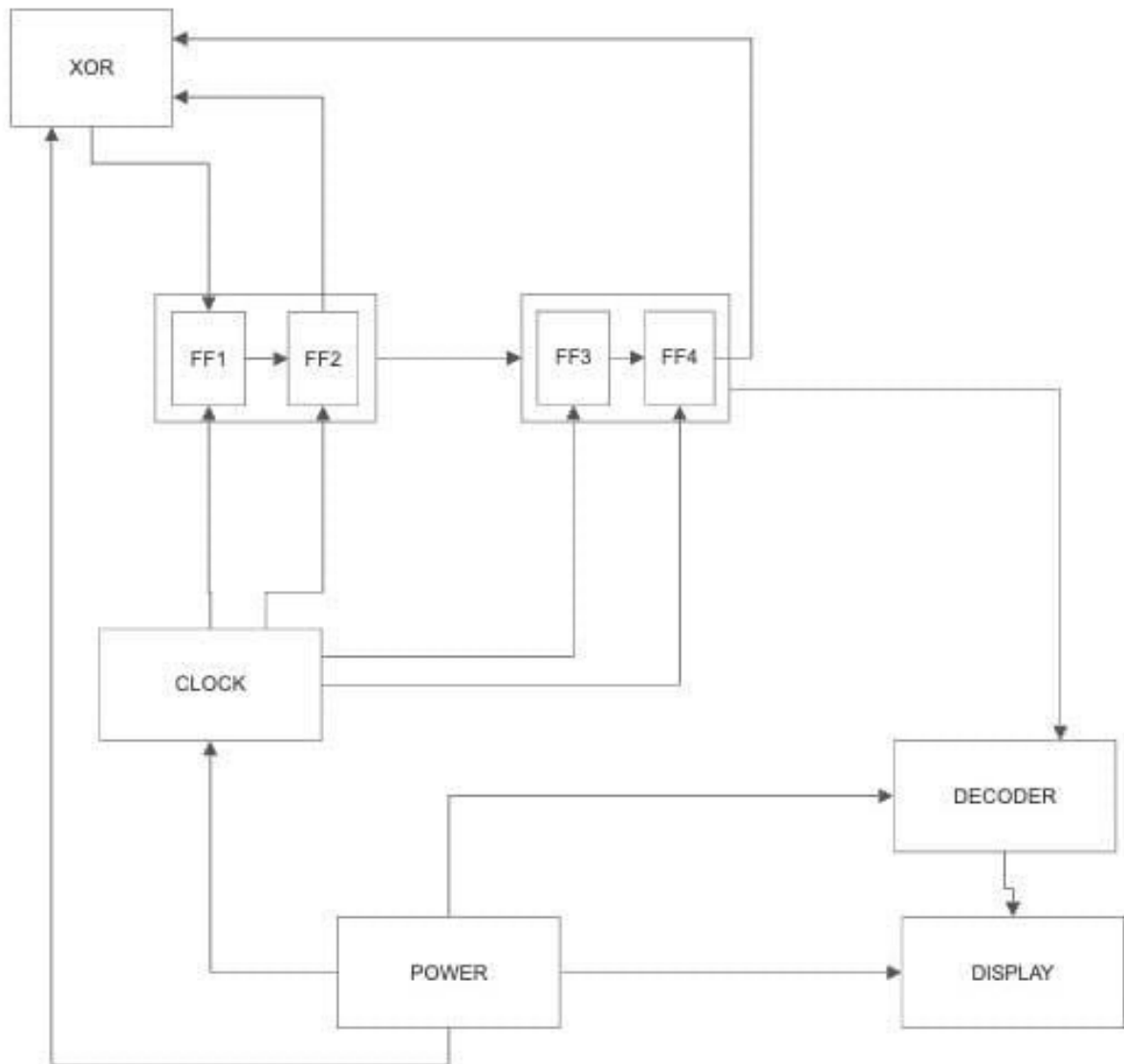


Fig. 7. Block Diagram