

7474 Decade Counter

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I. ABSTRACT

This paper shows how to use the 7474 D-Flip Flop ICs in a sequential circuit to realize a decade counter using arduino uno.

II. COMPONENTS

The required components list is given in Table: I., seven segment display is shown in Fig.1, IC 7447 diagram is shown in Fig.2 and 7474 D-Flip Flop pin diagram is shown in Fig-3.

Components	Value	Quantity
IC	7447	1
IC	7474	2
seven segment display		1
Arduino	UNO	1
Jumper Wires		50
Breadboard		1

TABLE I

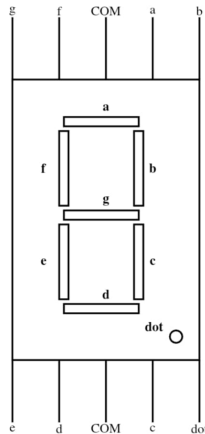


Fig. 1.



Fig. 2.



Fig. 3.

III. PROCEDURE

- 1) Make the connections of arduino, 7447 and two 7474 IpCs according to Fig-4.

	INPUT				OUTPUT				CLOCK		5V			
Arduino	D6	D7	D8	D9	D2	D3	D4	D5	D13					
7474	5	9			2	12			CLK1	CLK2	1	4	10	13
7474			5	9			2	12	CLK1	CLK2	1	4	10	13
7447					7	1	2	6						16

Fig. 4.

2) Block diagram of Decade Counter.

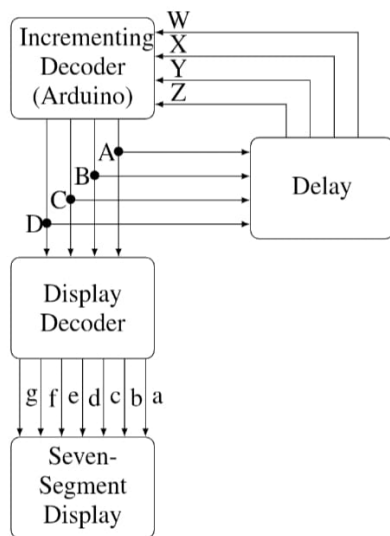


Fig. 5.

- 3) Execute the arduino code without any errors.
- 4) After upload the code into hardware setup using arduino IDE platform with hex file.

IV. RESULTS

- 1) Download the code given in the link below and execute them to see the output as shown in Fig.6.
- 2) <https://github.com/rajib05ra/FWC-Assignments/tree/main/Assignment>

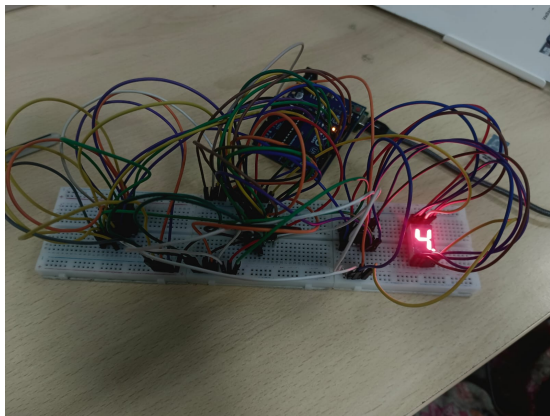


Fig. 6.

V. CONCLUSION

Hence implementation of 7474 IC Decade Counter on Seven segment display using arduino UNO is done.