भारतीय प्रौद्योगिकी संस्थान हैदराबाद
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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.

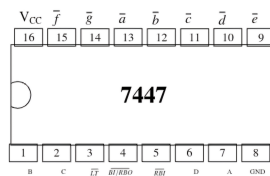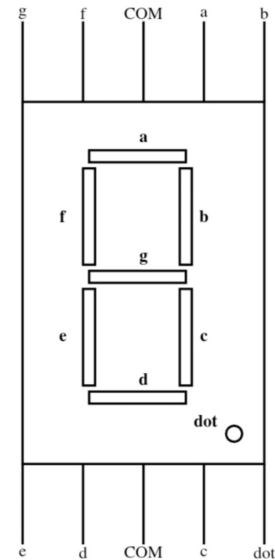| Components	Value	Quantity
IC	7447	1
IC	7474	2
seven segment display		1
Arduino	UNO	1
Jumper Wires		50
Breadboard		1

TABLE I

Fig. 2.

Fig. 1.

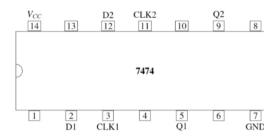Fig. 3.

III. PROCEDURE

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

2) Block diagram of Decade Counter.
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.

	INPUT				OUTPUT				CLOCK		5V			
	W	X	Y	Z	A	B	C	D		D13				
Arduino	D6	D7	D8	D9	D2	D3	D4	D5						
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.

Fig. 5.

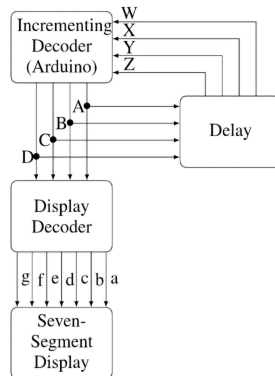2) https://github.com/rajib05ra/FWC-Assignments/tree/main/Assignment
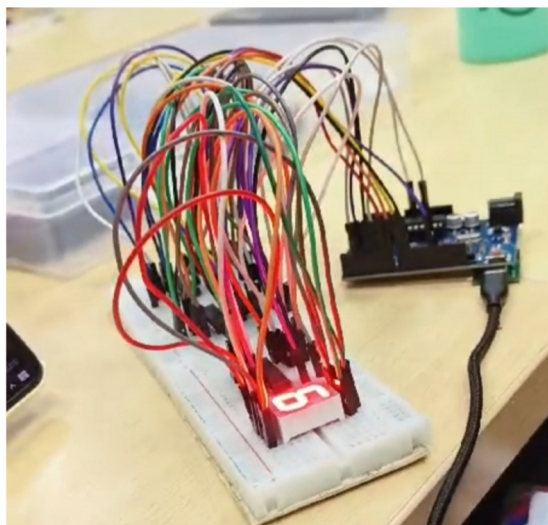

Fig. 6.

V. CONCLUSION

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