Decade Counter through 7474 and AVR-Assembly

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Contents

***Abstract*—This manual shows how to build a decade counter using the 7474 D-Flip Flops through AVR-Assembly.**

1 Components

Component	Value	Quantity
Breadboard		1
Resistor	$\geq 220\Omega$	1
Arduino	Uno	1
Seven Segment Display	Common Anode	1
Decoder	7447	1
Flip Flop	7474	2
Jumper Wires		20

TABLE 0

2 Decade Counter

1) Connect the Arduino, 7447 and the two 7474 ICs according to Table 1 and Fig. 1.
2) Intelligently use the codes in [1], [2] to realize the decade counter in Fig. 1.

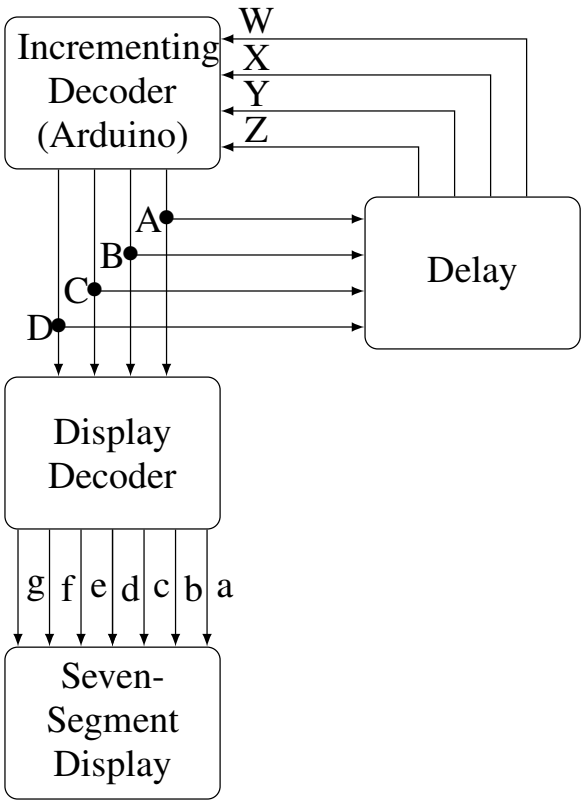

Fig. 1

References

[1] G. V. V. Sharma. 7447 through AVR-Assembly. [Online]. Available: https://github.com/gadepall/arduino/raw/master/assembly/7447/io/gvv_ard_assembly_7447.pdf

[2] ——. Boolean Logic through AVR-Assembly. [Online]. Available: https://github.com/gadepall/arduino/raw/master/assembly/7447/count/gvv_ard_assembly_7447_count.pdf

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	INPUT				**OUTPUT**				CLOCK		5V			
	W	X	Y	Z	A	B	C	D						
Arduino	8	9	10	11	2	3	4	5	13					
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			

TABLE 1