Move the content of one register to another register using 7474IC

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August 25, 2022

1 Abstract

Design a sequential circuit that shifts its content to another register using 7474IC.

2 Components

Component	Value	Quantity
Bread board	-	1
Arduino	Uno	1
LED	-	4
IC	7474	2
Jumper Wires	-	20

Table 1:

3 Procedure

1.Generate the CLOCK signal using the arduino code
2.Connect the Arduino, LEDs andthe two 7474 ICs according to Table below.
3.Verify the output for the sequence by changing the D1 pin to Vcc and Ground for different clock cycles.

Arduino	*D13*					*Vcc*					*GND*				
7474	clk-1	clk-2	5 - 12	9		1	4	10	13	14	7	5	9		
7474	clk-1	clk-2		2	5 - 12	1	4	10	13	14	7			5	9
LED												led1	led2	led3	led4

Table 2: connections

4 Truth table

Give the input sequence 0110 to the register and verify using the truth table. We need to give the input from LSB to MSB.

–¿Try the sequence 1100 using the same circuit and observe the output.

D1	**Q1**	**Q2**	**Q3**	**Q4**
0	0	0	0	0
1	1	0	0	0
1	1	1	0	0
0	0	1	1	0
0	***0***	***0***	***1***	***1***
0	0	0	0	1
0	0	0	0	0

Table 3:

5 Code

Execute the following code using the below provided link

https://github.com/Radhikarkv/fwc$_project/assignment.ino$

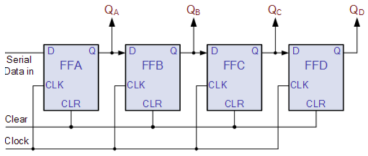

Figure 1: SIPO register

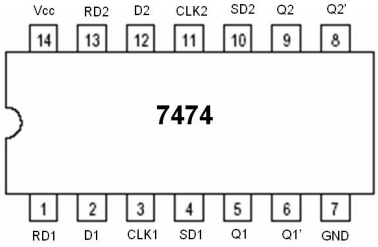

Figure 2: pindiagram