

The digital circuit shown in figure generates a modified clock pulse at the output

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1 Abstract

This manual shows Implementation of jk flip-flop using 7474 IC after converting into D flipflop

2 Components

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

Table 1:

3 Procedure

- 1.Connect 5V of the Arduino to the Top red of the Bread Board and GND to the Bottom blue.
- 2.Connect D13 pin in the Arduino to the 3 (CLK) pin of the IC 7474.
- 3.Connect 1,14 pins of the IC 7474 to the VCC and 7 pin to the GND.
- 4.Connect Arduino D2 pin to the gnd or vcc according to the inputs.
- 5.Connect Arduino D3 pin to the gnd or vcc according to the inputs.

- 6.Connect Arduino D4 pin to the gnd or vcc according to the inputs.
- 7.Connect one LED + to the 5 pin of IC 7474 and GND the other terminal.
- 8.Connect another wire from 5 th pin of IC and 3rd pin of IC to some where.
- 9.Change the D2,D3,D4 pins in the Arduino from VCC to GND and observe the outputs.

4 Code

Execute the following code using the below provided link.

<https://github.com/prathyushabana/FWC/>

5 Conversion table

J	K	Q	D
0	0	0	0
0	1	0	0
1	0	0	1
1	1	0	1
0	1	1	0
1	1	1	0
0	0	1	1
1	0	1	1

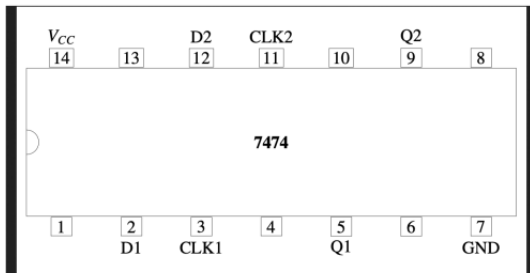


Figure 1: 7474

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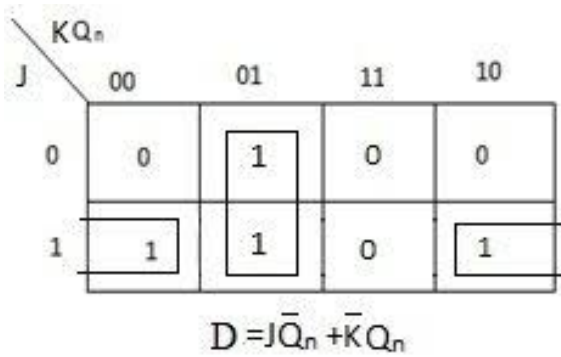


Figure 2: kmap

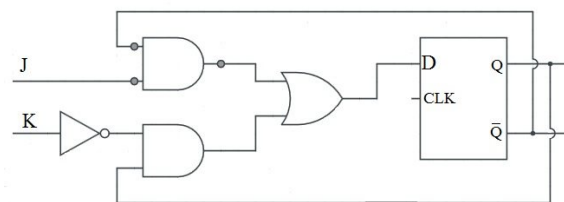


Figure 3: Circuit Diagram