

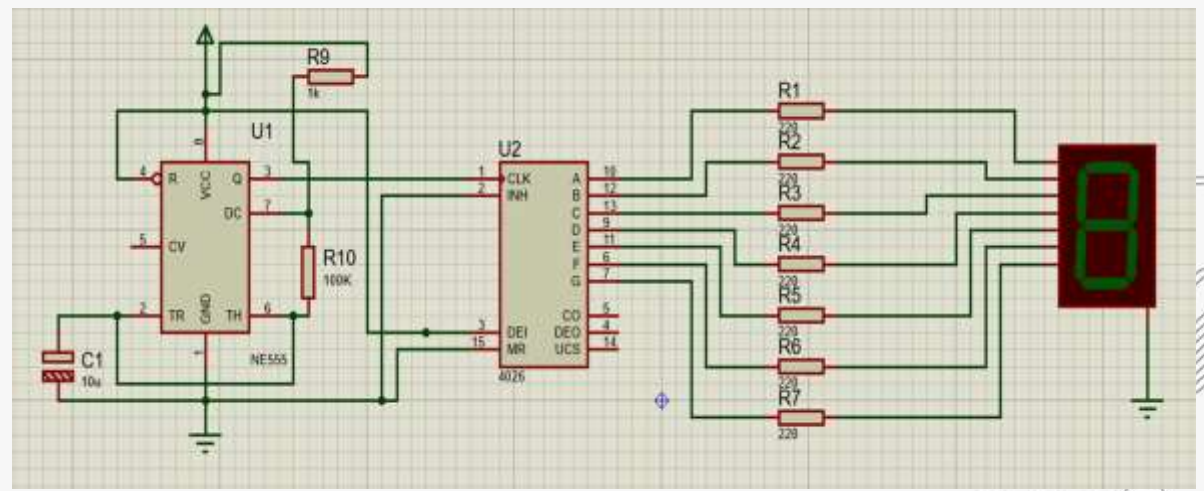
recap,

Automatic Counting

Automatic counting using CD4026IC and seven segment display

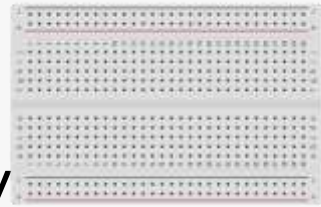
Introduction

Automatic counting



Required Components

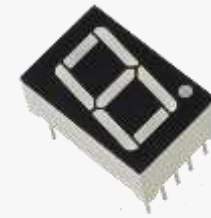
- Breadboard
- 555 timer
- Seven Segment Display
- Resistor
- Snap Connector
- CD4026 IC
- LED
- Jumper Wires
- Battery 9v



Breadboard



555
Timer



Seven
Segment
Display



Resistor



Snap Connector



CD4026 IC



LED



Jumper Wires

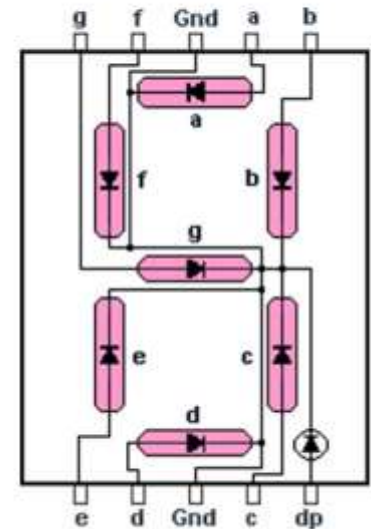


Battery 9v

Seven Segment Display

- The seven segments displays are the oldest yet one of the efficient types of display used in embedded applications.
- This display has nothing more than 8 LED inside it. These 8 LEDs are separated into each segments which can be named as a, b, c, d, e, f, g, DP.
- These entire 7 segment LEDs have one end of their pins pulled out of the module and the other ends are connected together and pulled out as the common pin.

Common Cathode Pinout



Seven Segment Display Pin Configuration

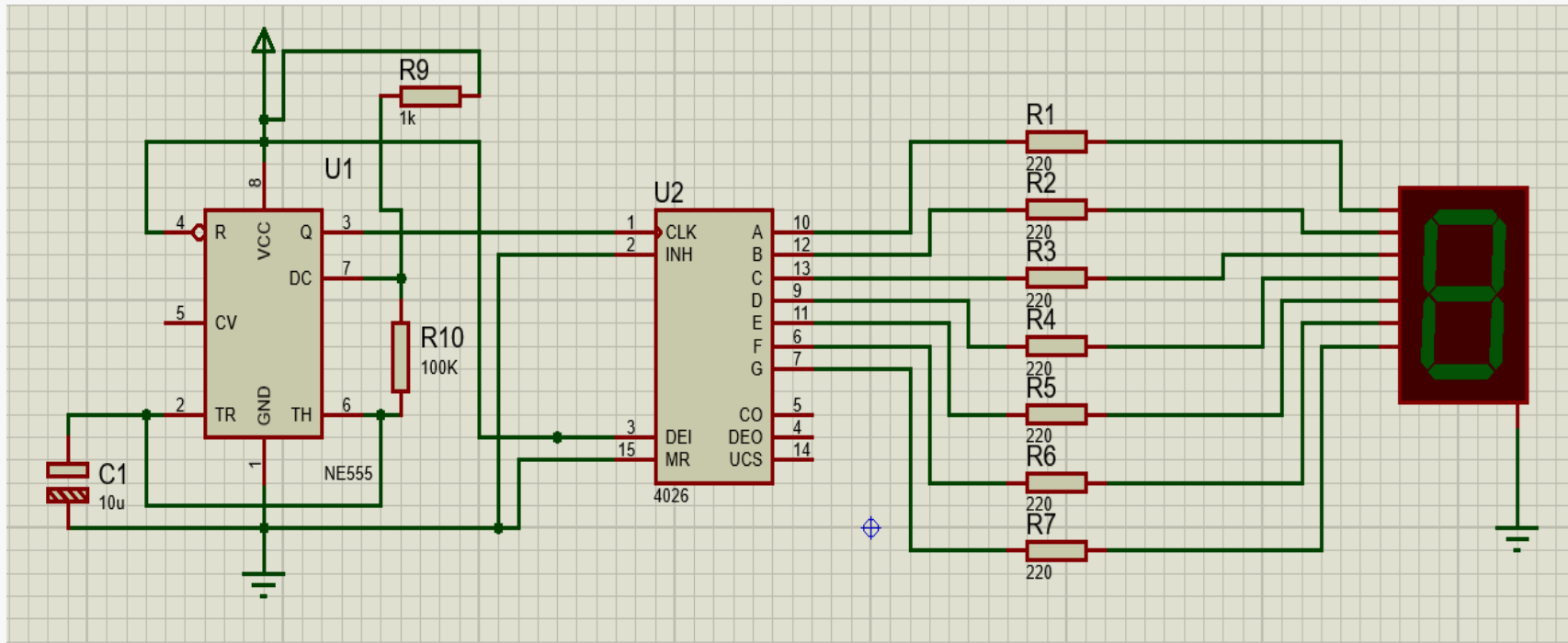
PIN NUMBER	PIN NAME	DESCRIPTION
1	e	Controls the left bottom LED of the 7-segment display
2	d	Controls the bottom most LED of the 7-segment display
3	com	Connected to Ground/Vcc based on type of display
4	c	Controls the right bottom LED of the 7-segment display
5	Dp	Controls the decimal point LED of the 7-segment display
6	b	Controls the top right LED of the 7-segment display
7	a	Controls the top most LED of the 7-segment display
8	Com	Connected to Ground/Vcc based on type of display
9	f	Controls the top left LED of the 7-segment display
10	g	Controls the middle LED of the 7-segment display



Procedure

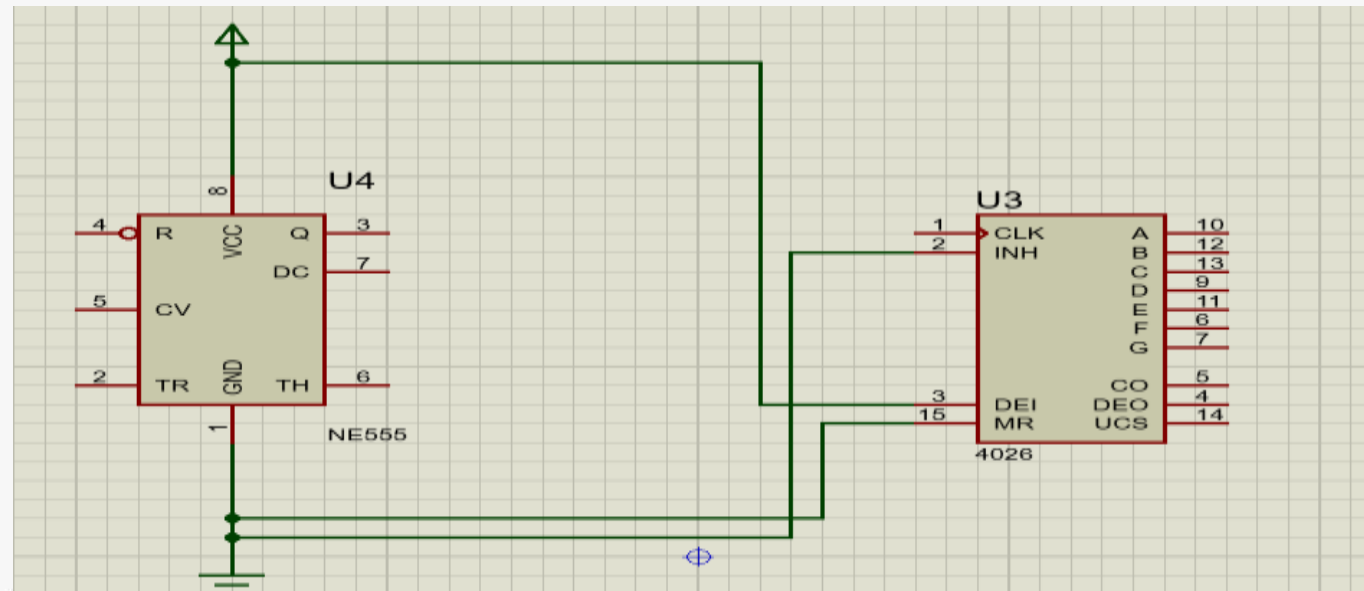
Connection Steps

Circuit diagram



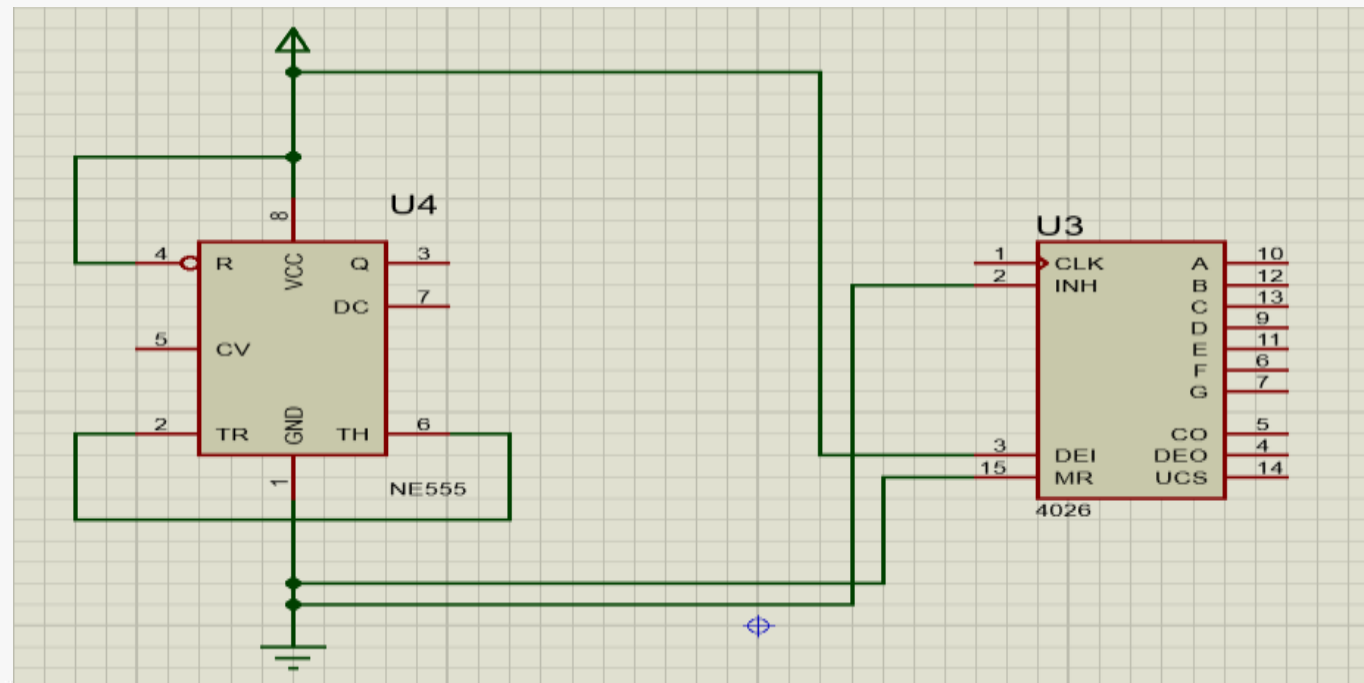
Connection Step 1

- Place 555 timer and 4026 IC into Bread Board and connect pin-8 of 555 timer And Pin-3, pin-16 of 4026 IC to positive row of Bread Board and pin-1 of 555 timer And pin-2, pin-8, pin-15 of 4026 IC to negative row of Breadboard as shown.



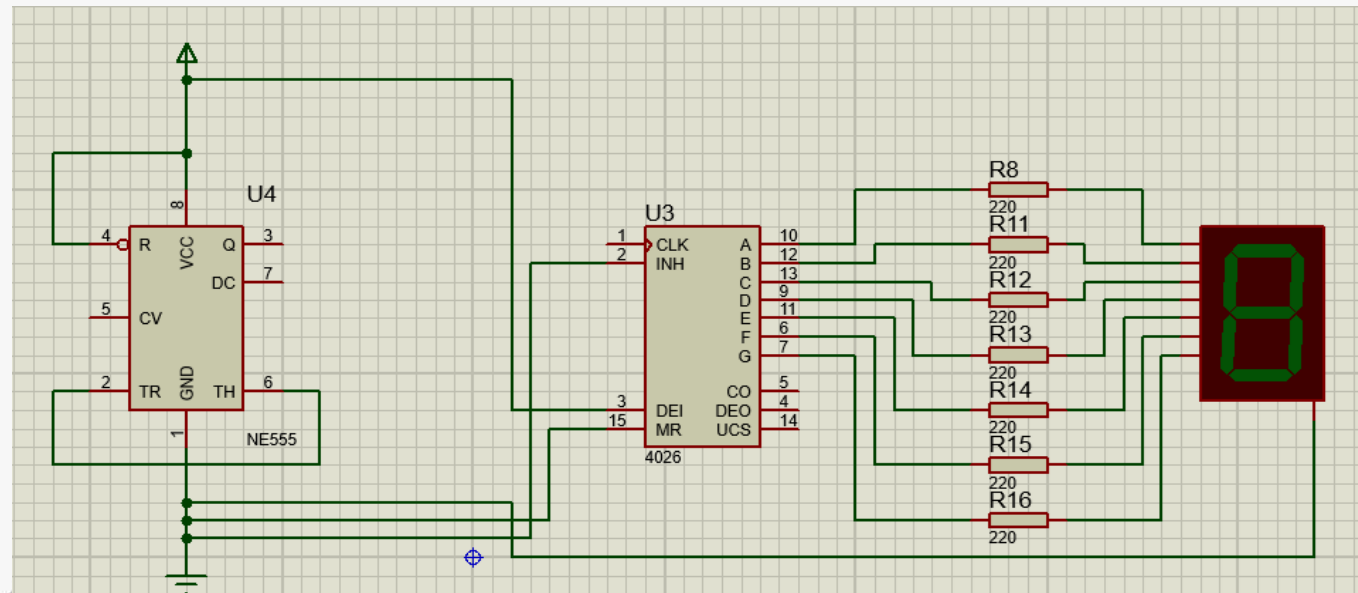
Series Connection Step 2

- Connect pin-2 to pin-6 and pin-4 to pin-8 of 555 timer as shown.



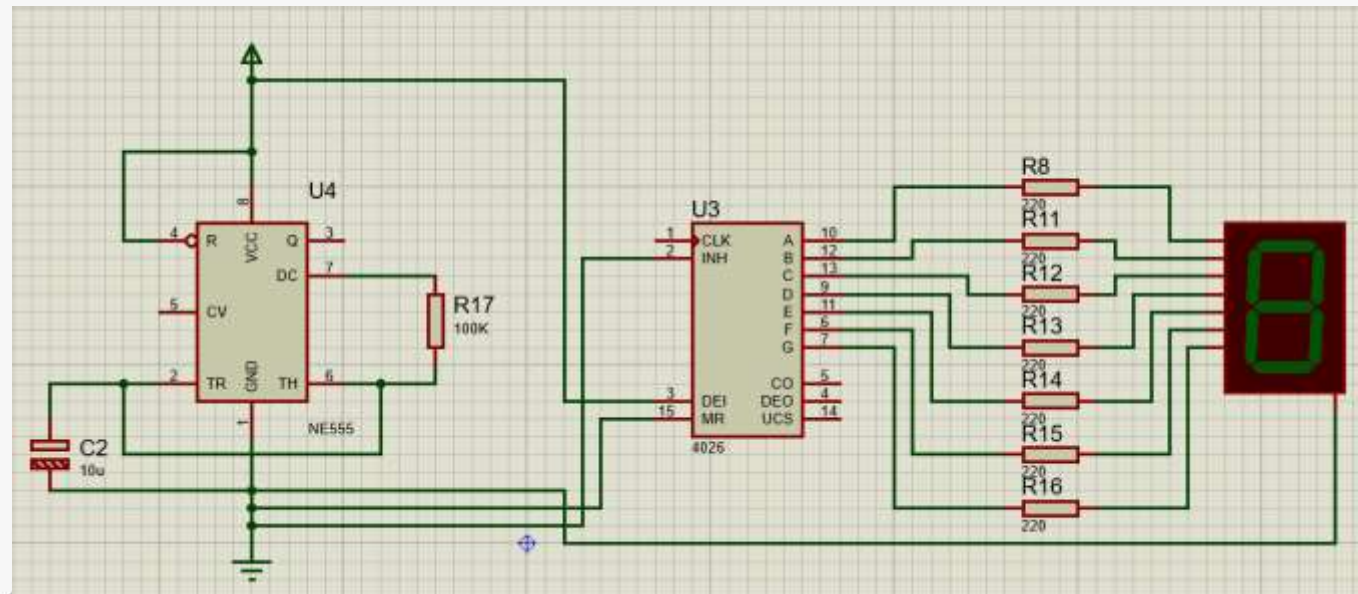
Series Connection Step 3

- Connect 7-segment display to the 4026 IC through 220 ohm resistor as shown.



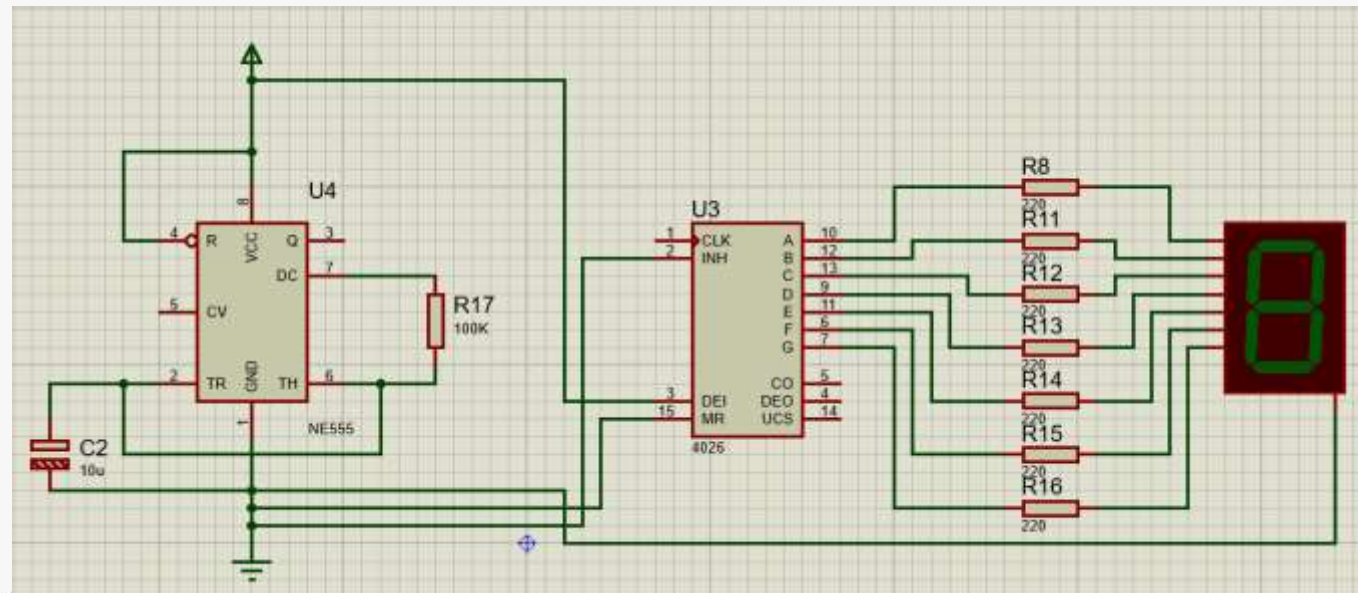
Series Connection Step 4

- Connect 10uF capacitor from pin-2 of 555 timer to negative row of bread board.



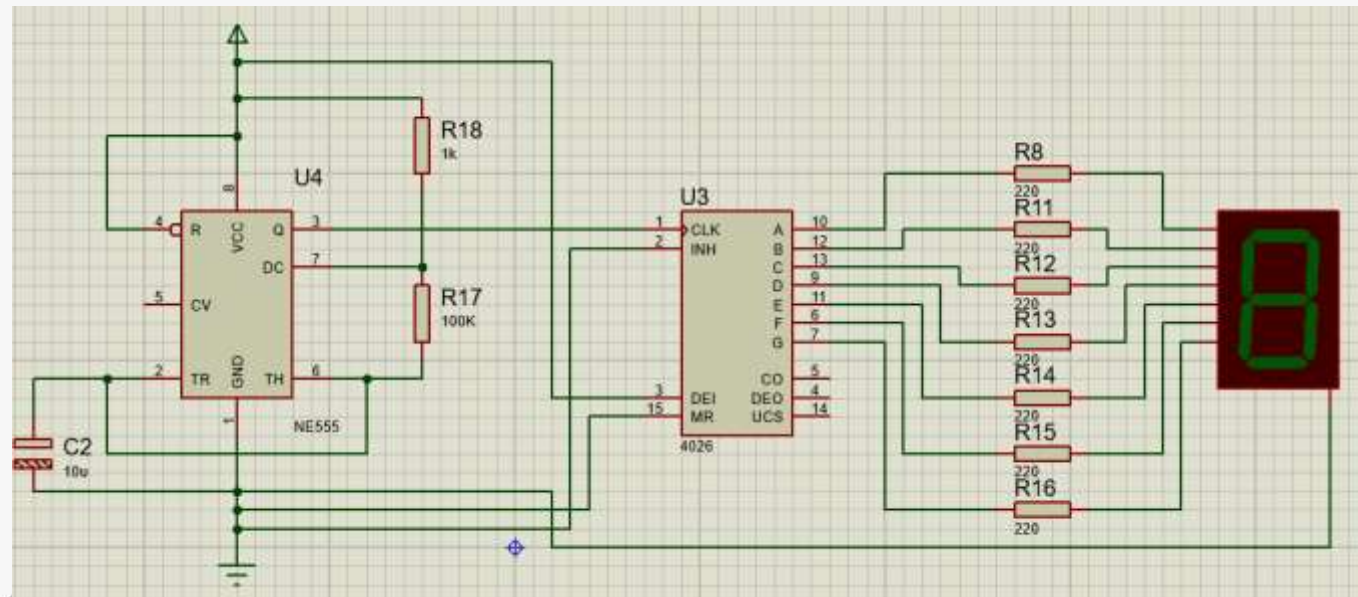
Series Connection Step 5

- Connect 100k resistor from pin-6 to pin-7 of 555 timer.



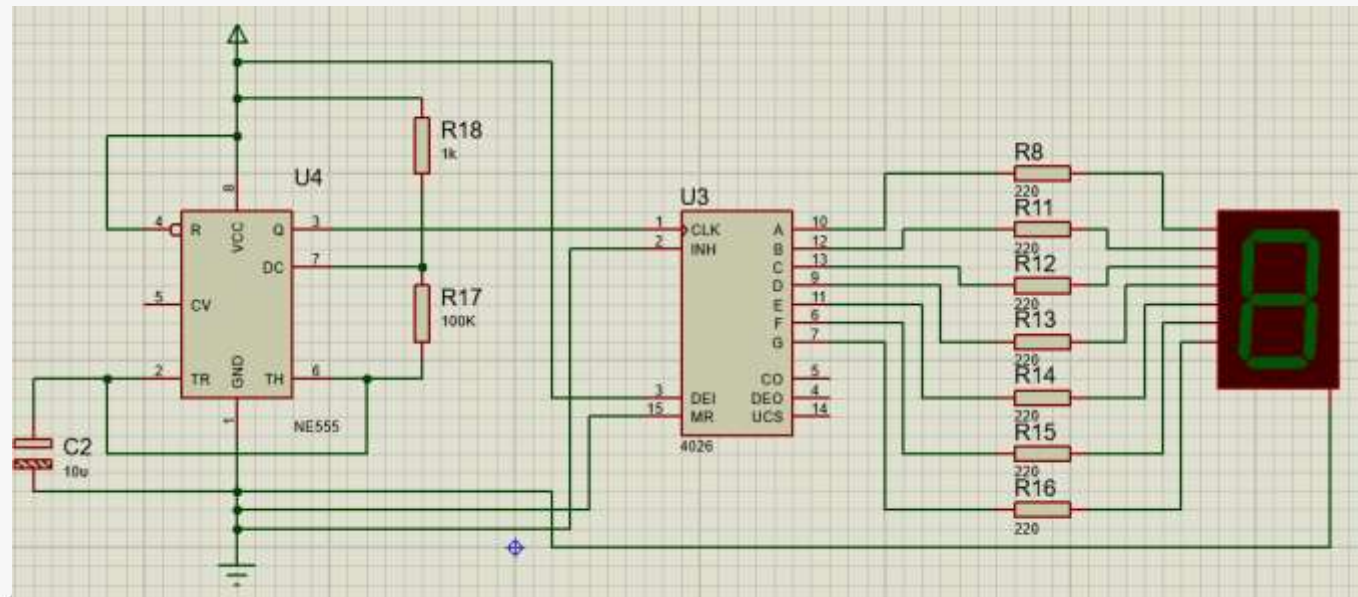
Series Connection Step 6

- Connect 1k resistor from pin-7 of 555 timer to positive row of Bread Board.



Series Connection Step 7

- Connect pin-3 of 555 timer to the pin-1 of 4026 IC and connect battery.





Data & Outcomes

Learning from the activity

Data

- Which IC was used to drive seven segment display?
 - Which IC used to drive CD4026?
 - What range of values seven segment can display?
- CD4026
 - 555 timer
 - 0-F

Learning from the activity

- Use of CD4026
- Use of seven segment display
- Use of counter



Assessment



Thank you