Dream Light Circle LED DIY Kit

NTOE:

This DIY installation is more difficult to be installed, please be patient until the installation is complete!!!

It is strongly recommended to browse the installation manual before starting installation!!!

1. Introduction

This is a light cube DIY kit that you need to weld and assemble by yourself. The bottom plate comprises a circuit board and component parts. The 256 LED lights make up a cylindrical stereo space. A variety of cool model showing a three-dimensional effect. It's better to watch in the night.

2. Parameter

NO.	Parameter	Value
1	Model	Light Cube
2	Work Voltage	DC 5V
3	Power Type	MINI USB
4	Install Size	D115*H150mm

3. Function

1>. 8*32 (dot matrix) LED

2>. Various modes can be switched as your wish:

1). Offline animation models (up to a dozen)

2). Alphabet animation model (four English festivals)

3). Four English expressions:

I LOVE YOU

HAPPY BIRTHDAY

HAPPY NEW YEAR

MERRY CHRISMAS

4). Music spectrum mode (four audio modes)

The spectral mode needs to be connected with an input audio signal, so that the optical cube can beat the music spectrum rhythm.

3>. The circuit board uses black classic painting, which adds a mysterious feeling.

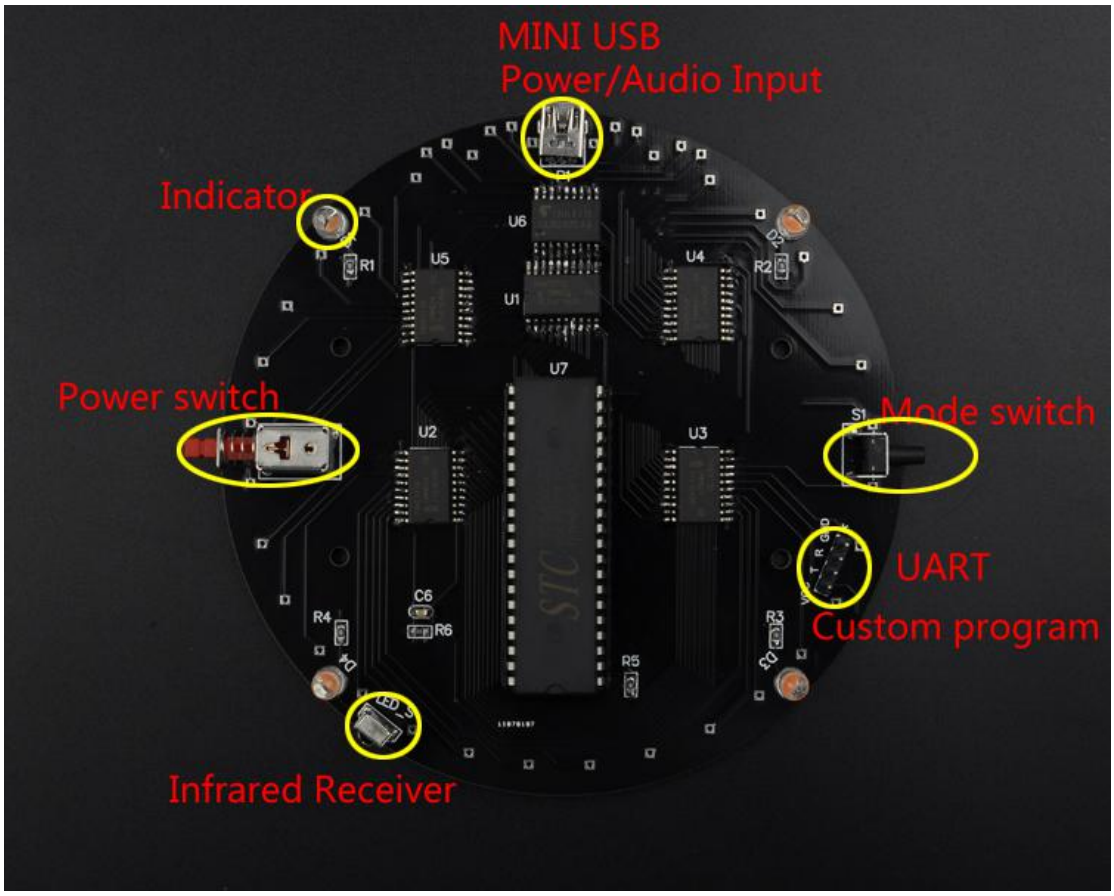
4>. Switch mode by remote control or button at any time mode.

4. Component listing

NO.	Component Name	PCB Marker	Parameter	QTY
1	74AC573	U1-U5	SOP-20	5
2	ULN2803	U6	SOP-18	1
3	40Pin IC Socket	U7	DIP-40	1
4	STC12C5A60S2	U7	DIP-40	1
5	SMD 0805 Capacitor	C1,C2	27pf	2
6	SMD 0805 Capacitor	C5	47pf	1
7	SMD 0805 Capacitor	C6	10uf	1
8	SMD 0805 Resistor	R1-R5	1K	5
9	SMD 0805 Resistor	R6	10K	1
10	Crystal Oscillator	Y1	12MHz	1
11	LED Pink	D1-D4	5mm	4
12	MINI USB Socket	P1		1

13	Button	S1		1
14	Infrared Receiver	LED-S	VS1838B	1
15	Self-Locking Switch	S		1
16	LED Blue		5mm	256
17	Remote Control			1
18	Audio Adapter			1
19	Male Pin	X	4P	1
20	M3 Screw			4
21	M3 Copper pillar		M3*15	4
22	Acrylic Template			1
23	Power Audio Cable			1
24	Cable		100cm	1
25	PCB		D115mm	1

5. Basic instruction



1>. MINI USB:Power interface and Audio input;

2>. Indicator: Working indicator;

3>. Power Switch:ON/OFF Power;

4>. Infrared Receiver:Used with the remote control;

5>. UART:Custom programming interface. Users can program their own code to download code through this interface.The original code inside the chip will be overwritten(Not recommended);

6>. Mode Switch:Switch the display mode;

6. Remote control button description

7. Frequently Asked Questions:

1>. Why some of the LED in the same layer or in the same column can not be bright?

Q:The pin is not soldered firmly or missing.Please check out the soldered pins and fix them again

2>. Why a column or a layer is not bright?

Q:Please refer to the schematic, find the corresponding chip, re-soldering the pin, the chip may be pin soldered or unsoldered.

8. Installation Steps(Please be patient install! !)

NTOE:

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It is strongly recommended to browse the installation manual before starting installation!!!

Tips:

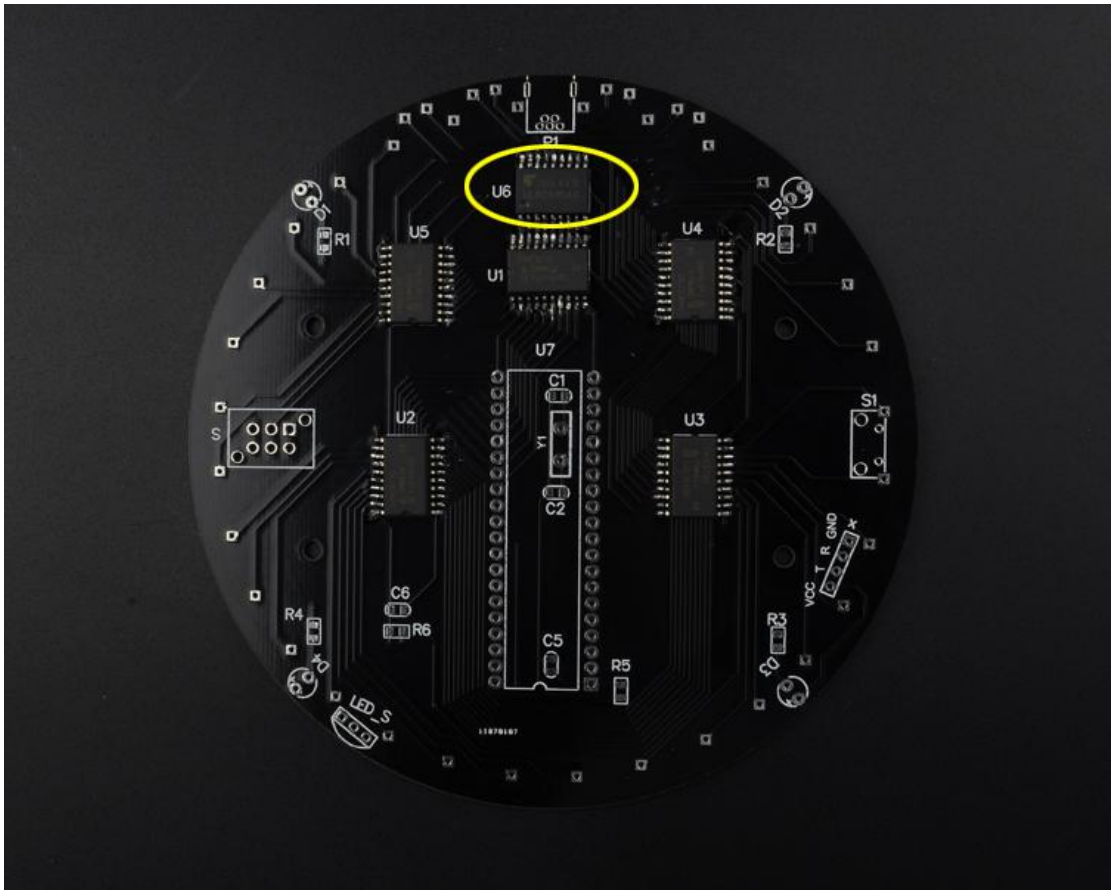
1>. Install SMD components at first;

2>. Install complex components preferentially;

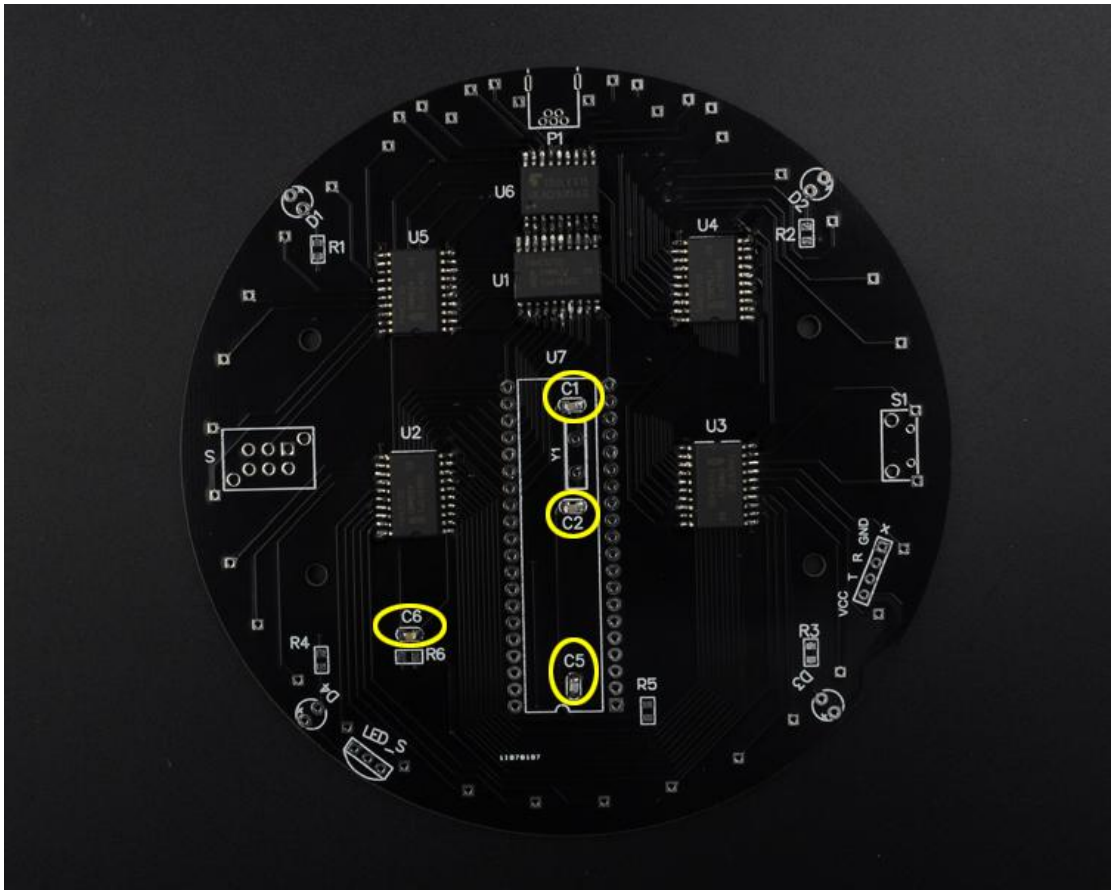
3>. Pay attention to the installation direction of components.

4>. Make sure the soldering iron does not touch the components for a long time.Otherwise it is easy to damage the components.

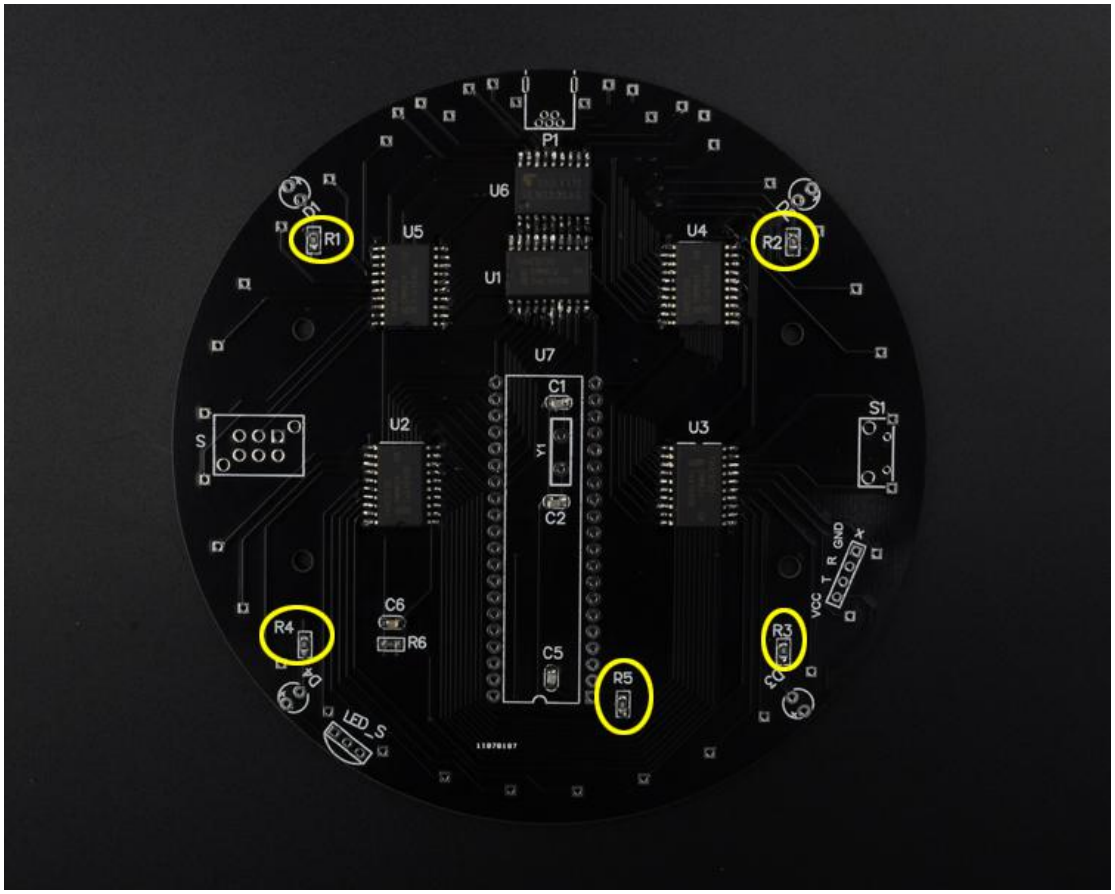
Step 1: Install 5pcs 174AC573 on U1-U5 and 1pcs ULN2803 on U6.



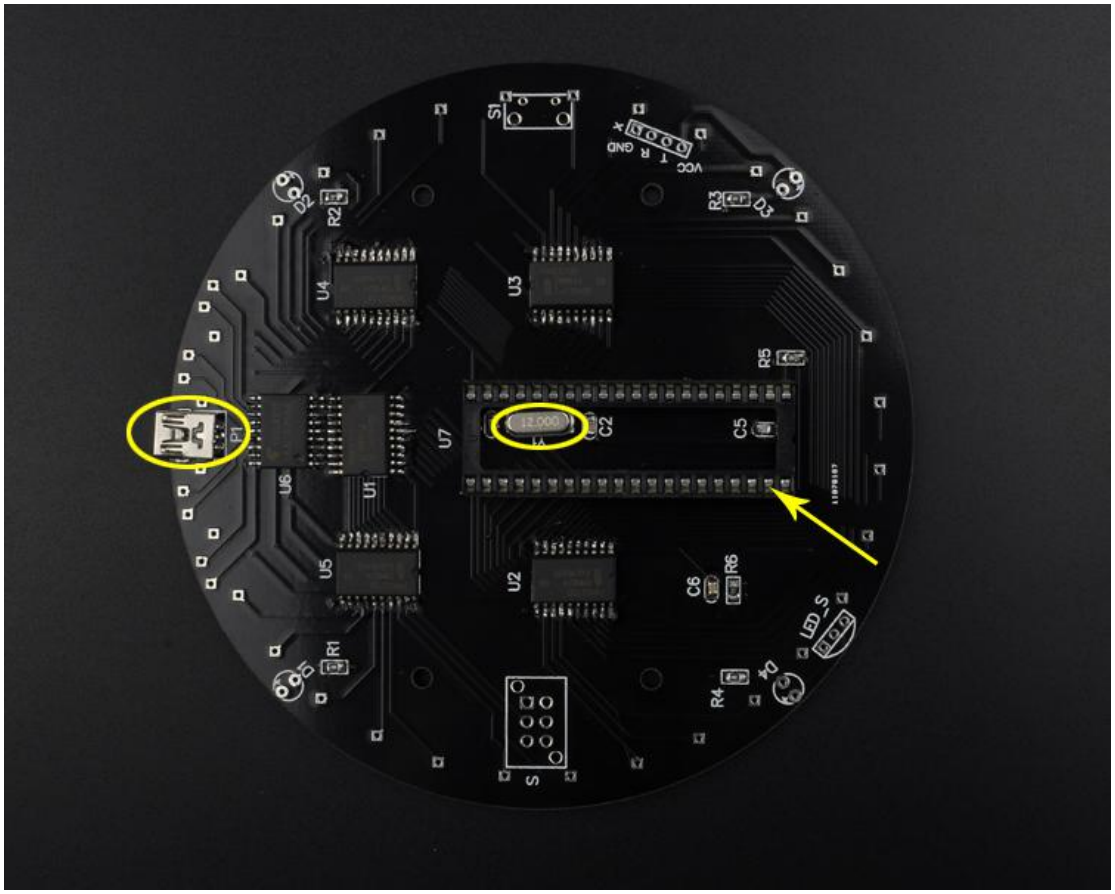
Step 2: Install 2pcs 27pf capacitor on C1,C2 and 1pcs 47pf on C5,1pcs 10uf on C6.



Step 3: Install 5pcs 1K resistor on R1-R5 and 1pcs 10K on R6.

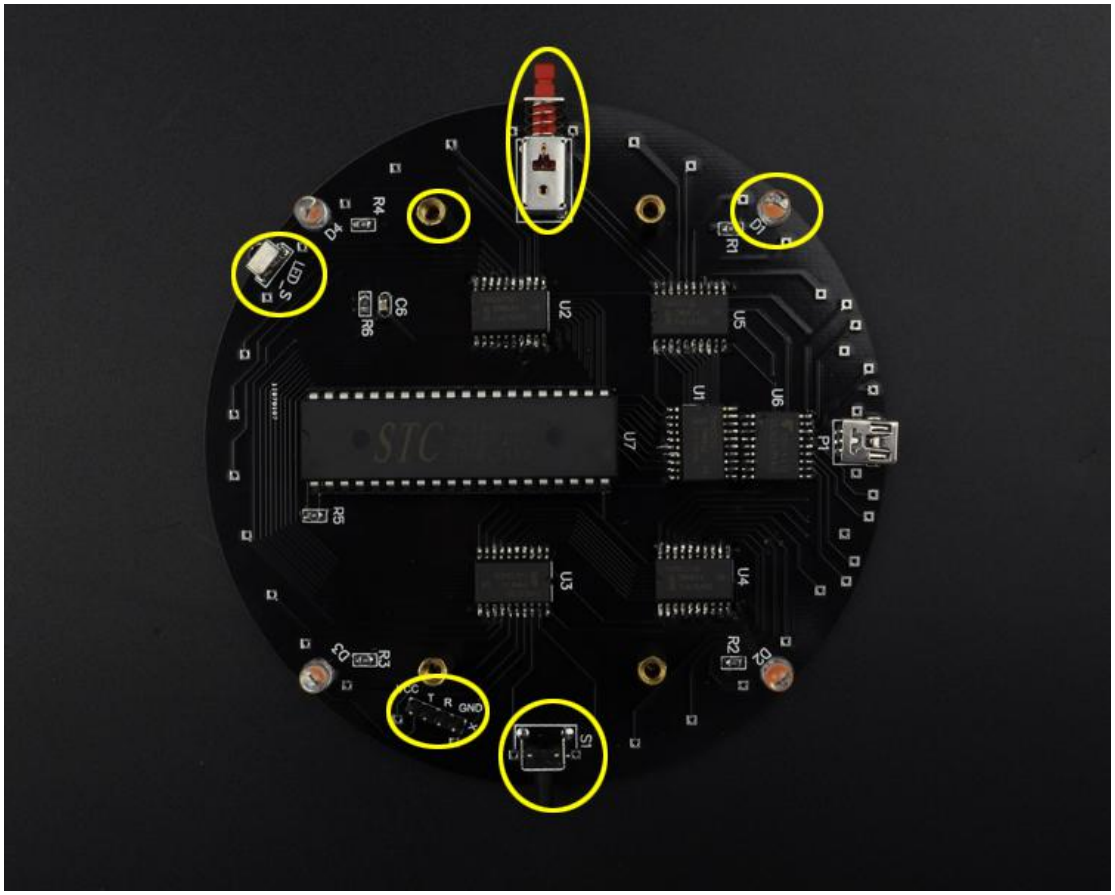


Step 4: Install 1pcs Crystal Oscillator on Y1;1pcs 40Pin IC Socket on U7;1pcs MINI USB Socket on P1.Install in the above order!

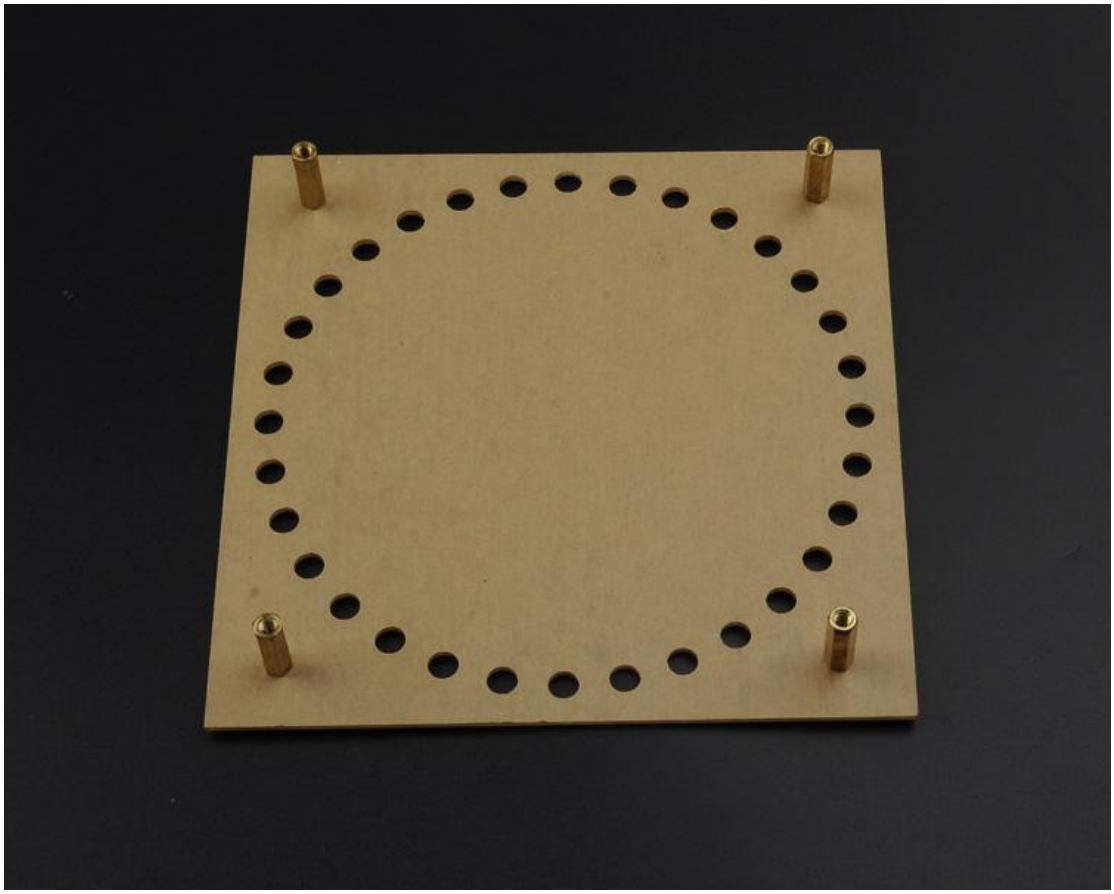


Step 5: Install 4pcs 5mm LED on D1-D4;1pcs Button on S1;1pcs Self-Locking Switch on S;1pcs Infrared Receiver on LED_S;1pcs 4P Male Pin on X.

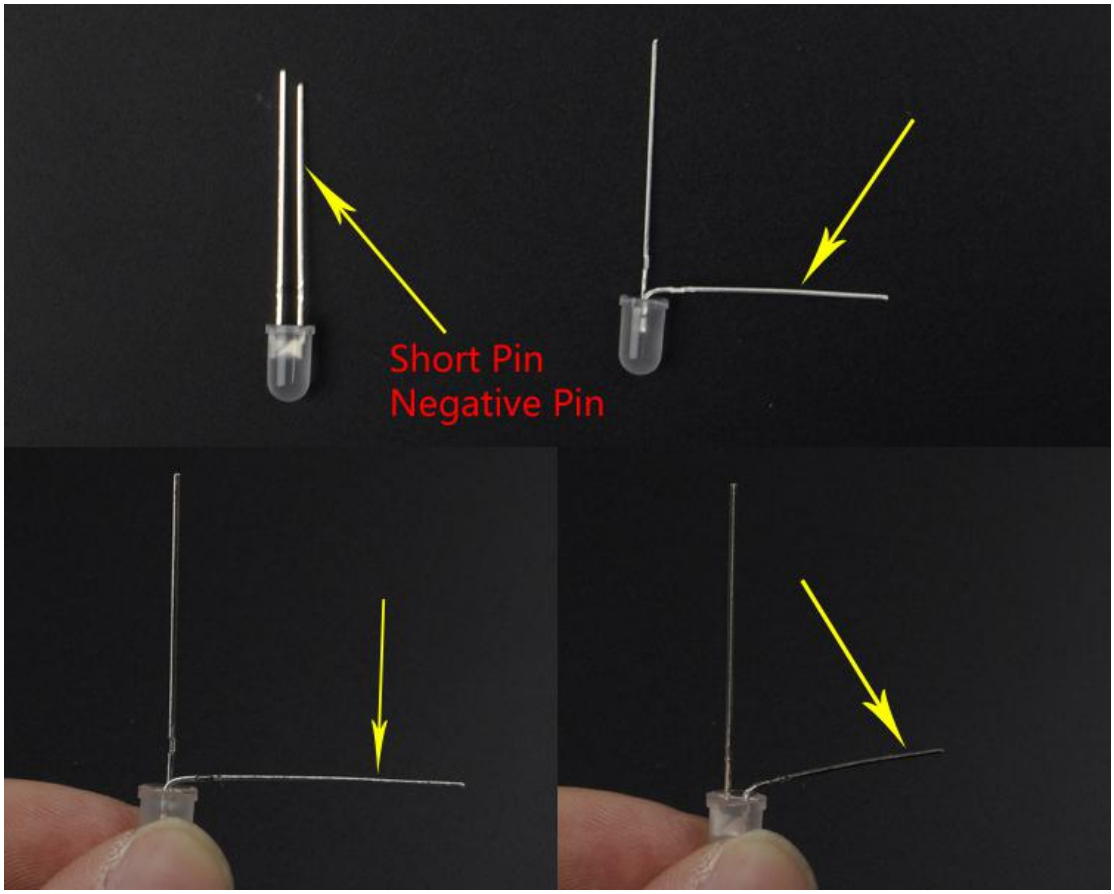
So far, the control panel has been installed.Then start to install the LED


D1
R1
U5
U6
P1
U1
U7
U2
C6
R6
R5
U3
U4
D4
R4
LED S
D3
R3
D2
R2
S1
VCC
T
R
GND

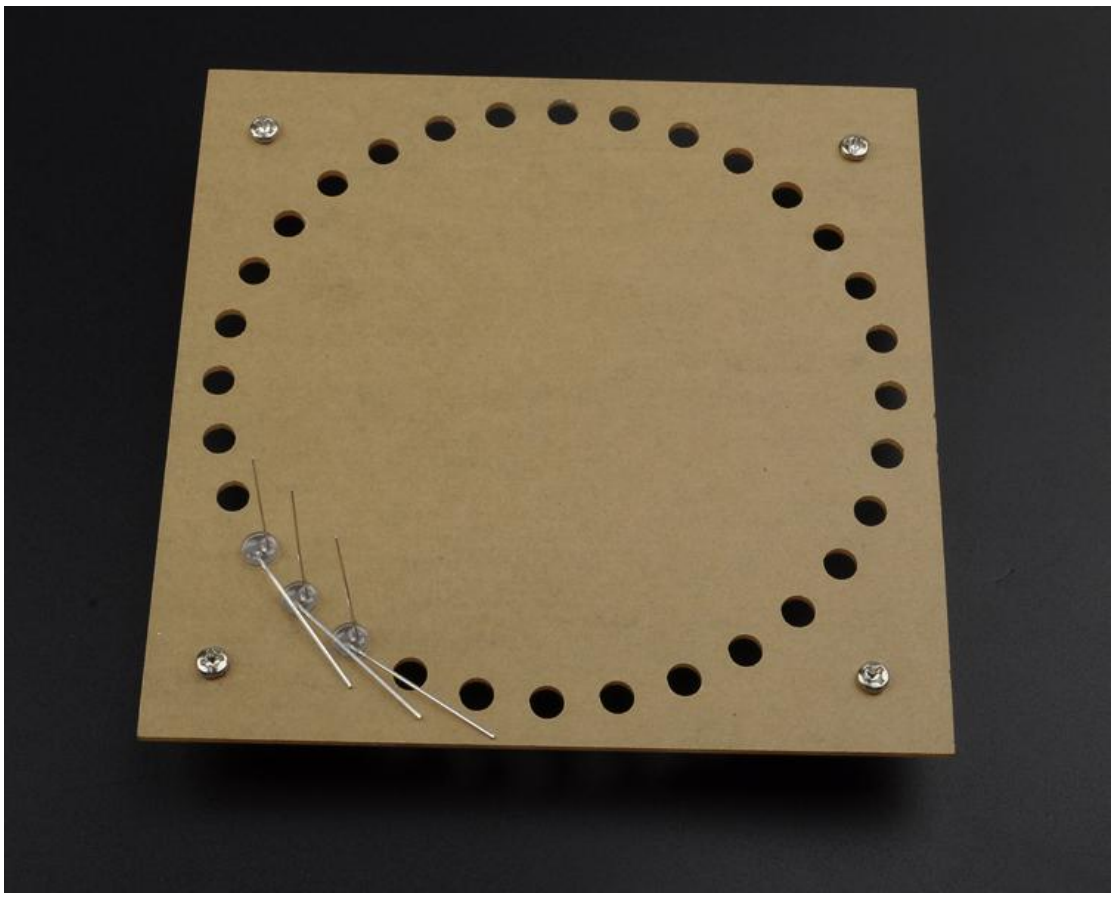
Step 6: Install 4pcs Copper pillars and M3 Screw on Acrylic welding template.

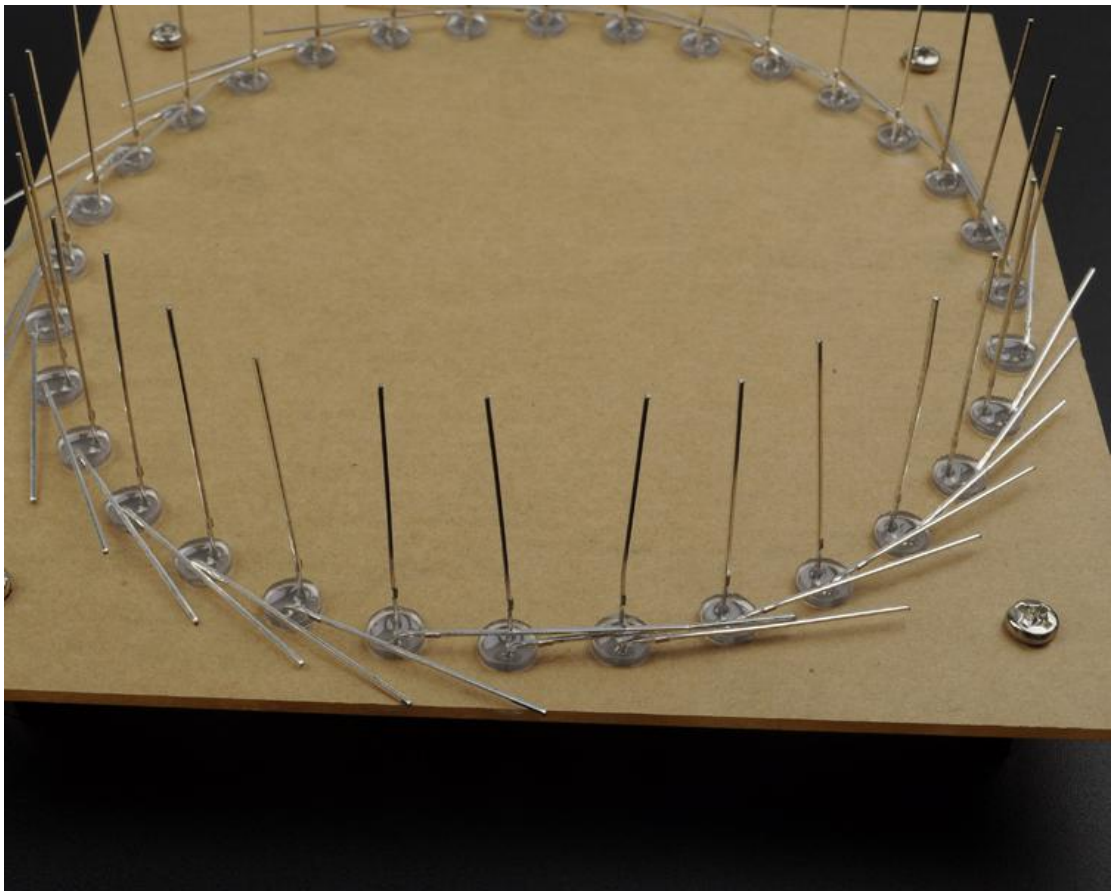


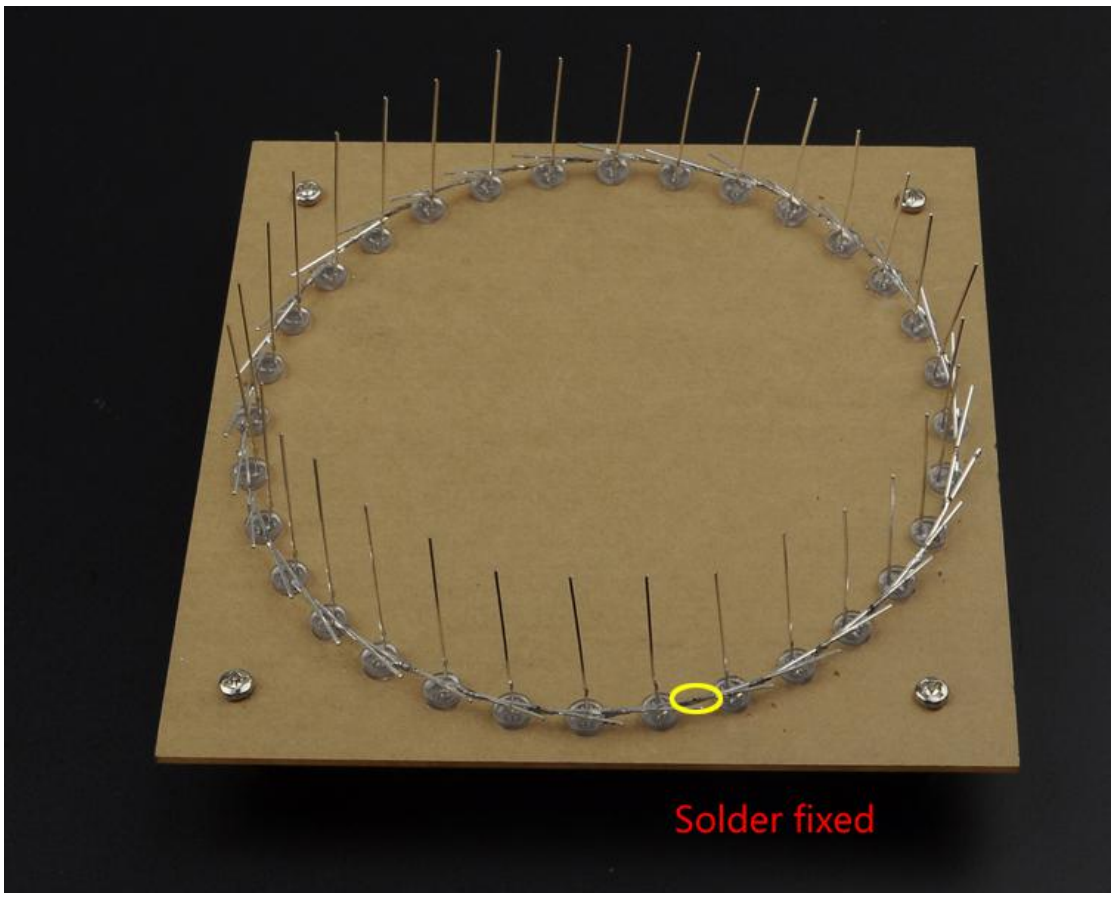
Step 7: Process LED.Curved LED's short pin(Negative pole) and form a right angle.Please be careful not to damage the LED.

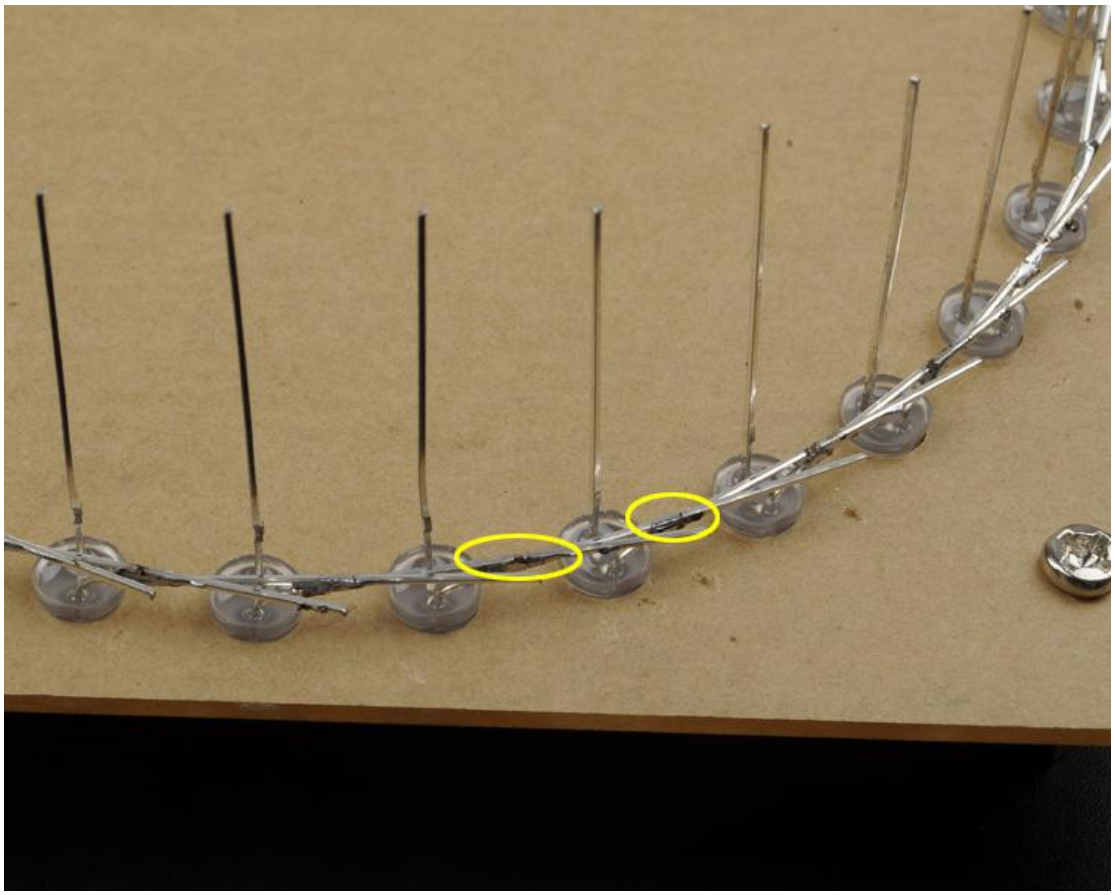


Step 8: Install the 1st layer LED with Acrylic welding template.Short pin(Negative pole) outward,Longer pin(Positive pole) interconnection.



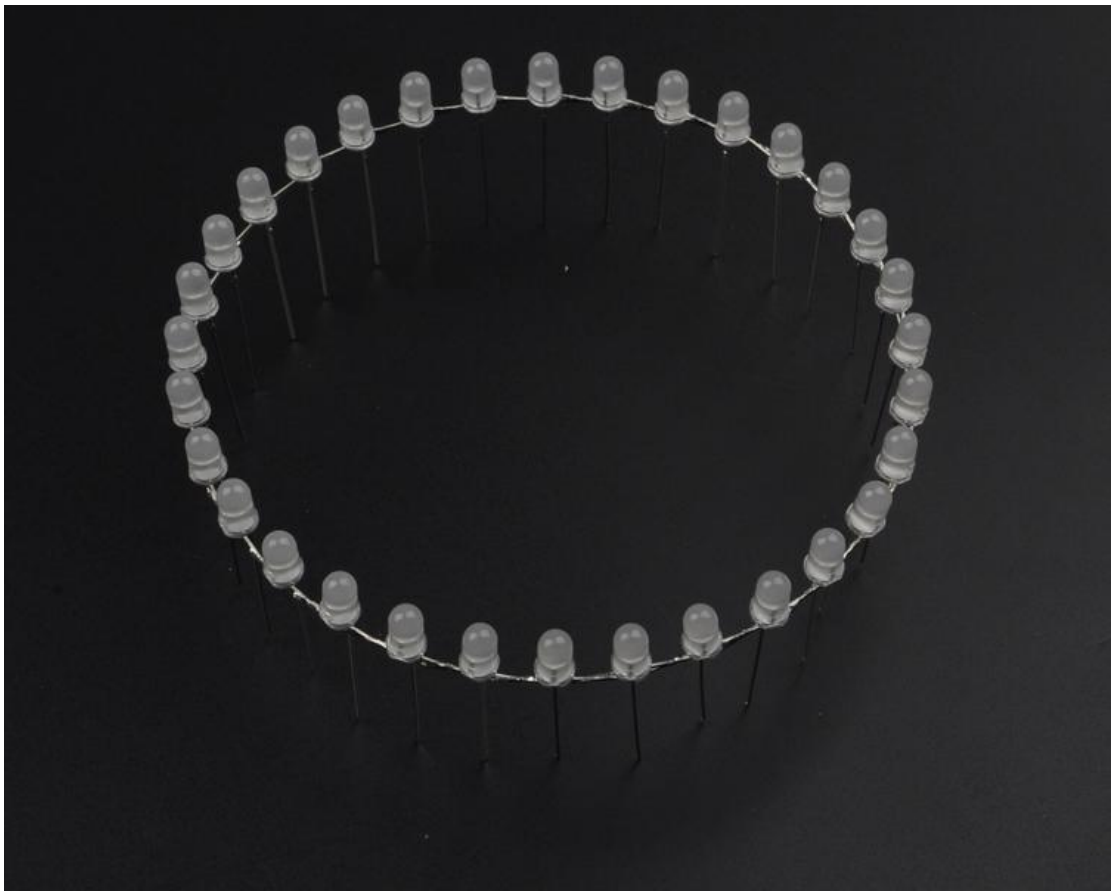



Solder fixed



Step 9: Test. Check with a multimeter if each LED can be lit.Replace the damaged LED in time.And then cut off excess pins.


cut off excess pin



Step 10: Install the other seven LED rings and test;

Step 11: Bend LED pins slightly inward.

Step 12: Splicing two LED rings.Note the caution points marked below.Please wear gloves to operate or wrap your fingers with cloth,Mainly used index finger.Avoid being scalded

This step requires great patience,Please be sure to persevere!!

1>. LED fixed position reference point.The distance between each layer of LED should be the same, not too big or too small.In particular, if the distance is relatively large, the final will exceed the height of the shell, resulting in unable to use acrylic shell.

2>. Two adjacent LED connection point.Place the solder on the edge of the table and stretched out a section of solder wire as shown.

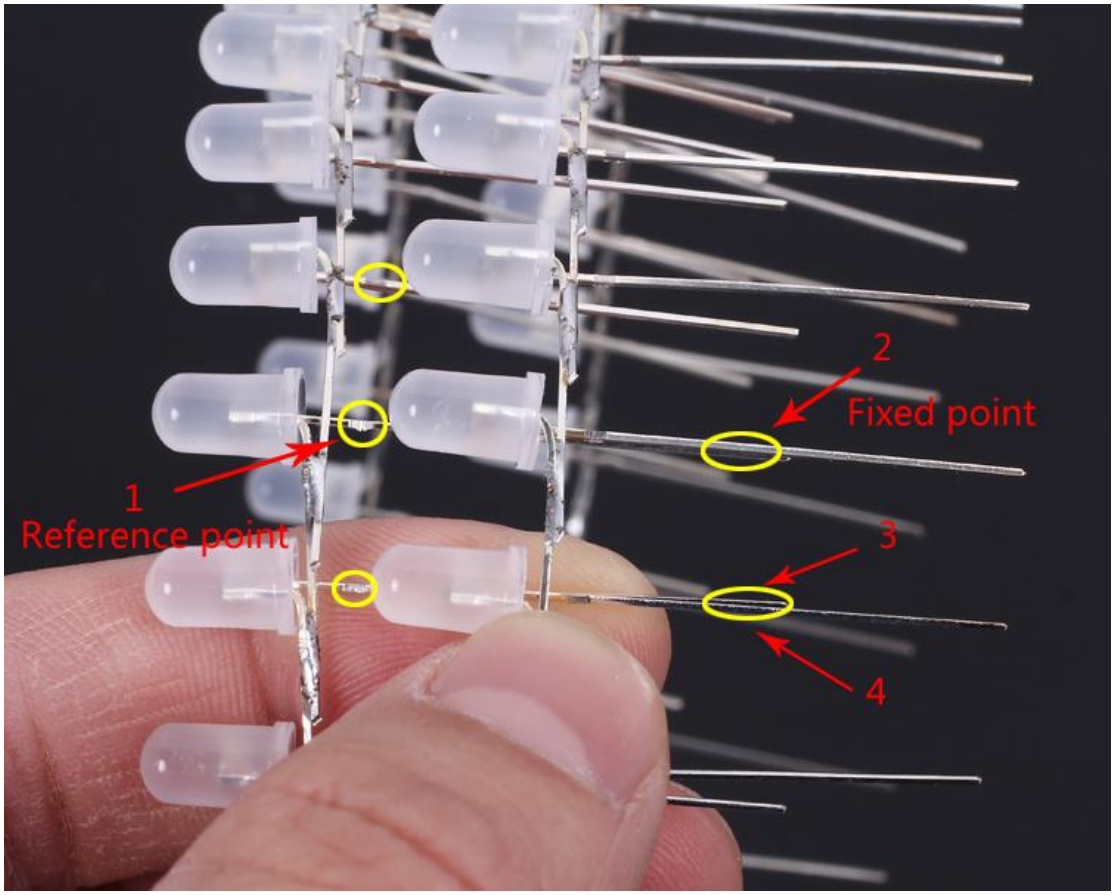
3>. Fix 2pcs LED pins with your fingers and fix the position.Please wear gloves to operate or wrap your fingers with cloth.Avoid being scalded.

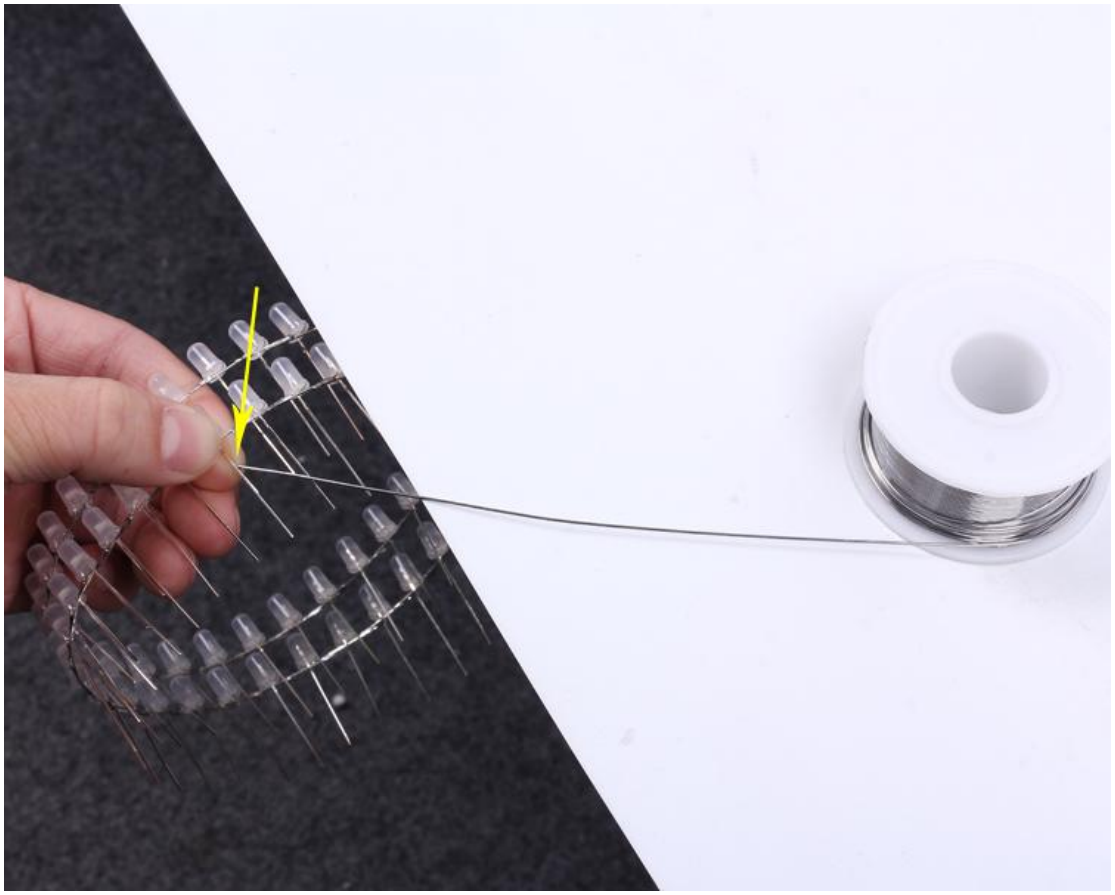
4>. Use a fixed position and stretched out solder wire to fixed 2pcs LED pins with iron.

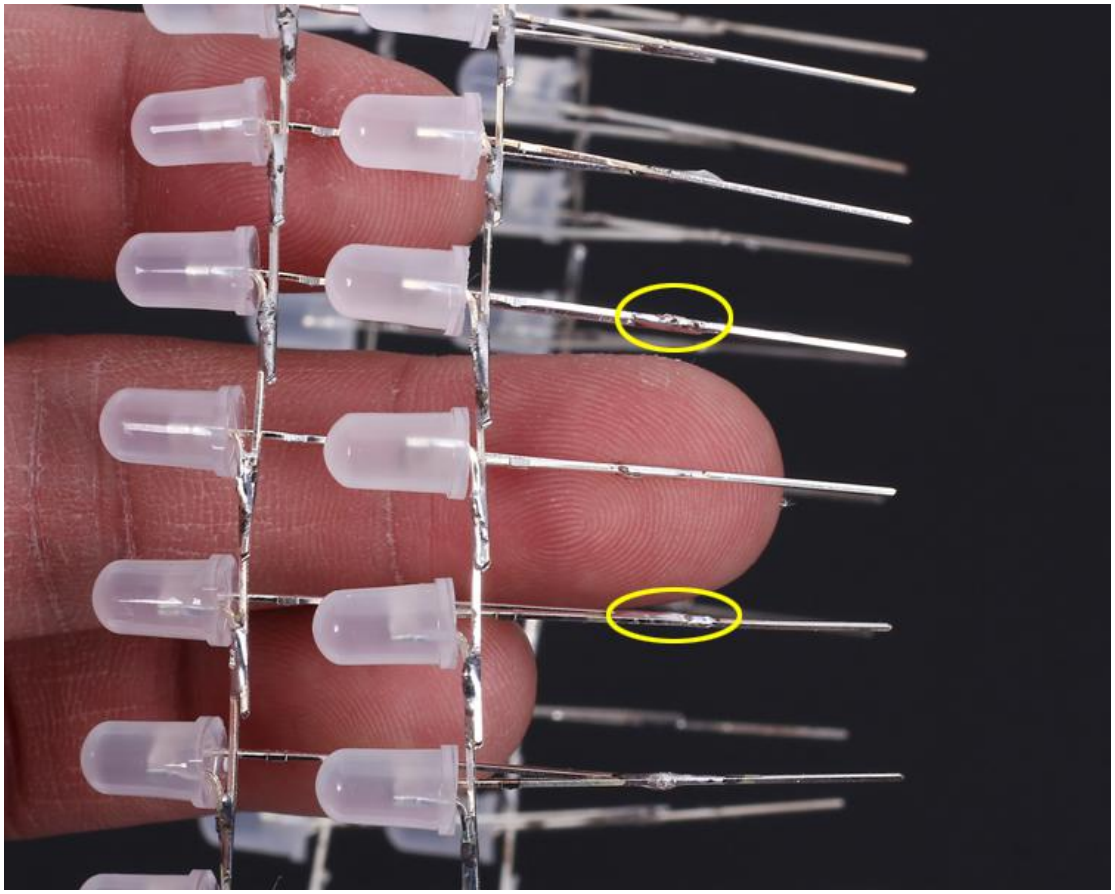
5>. And so on, using the same method, fixed other LED.

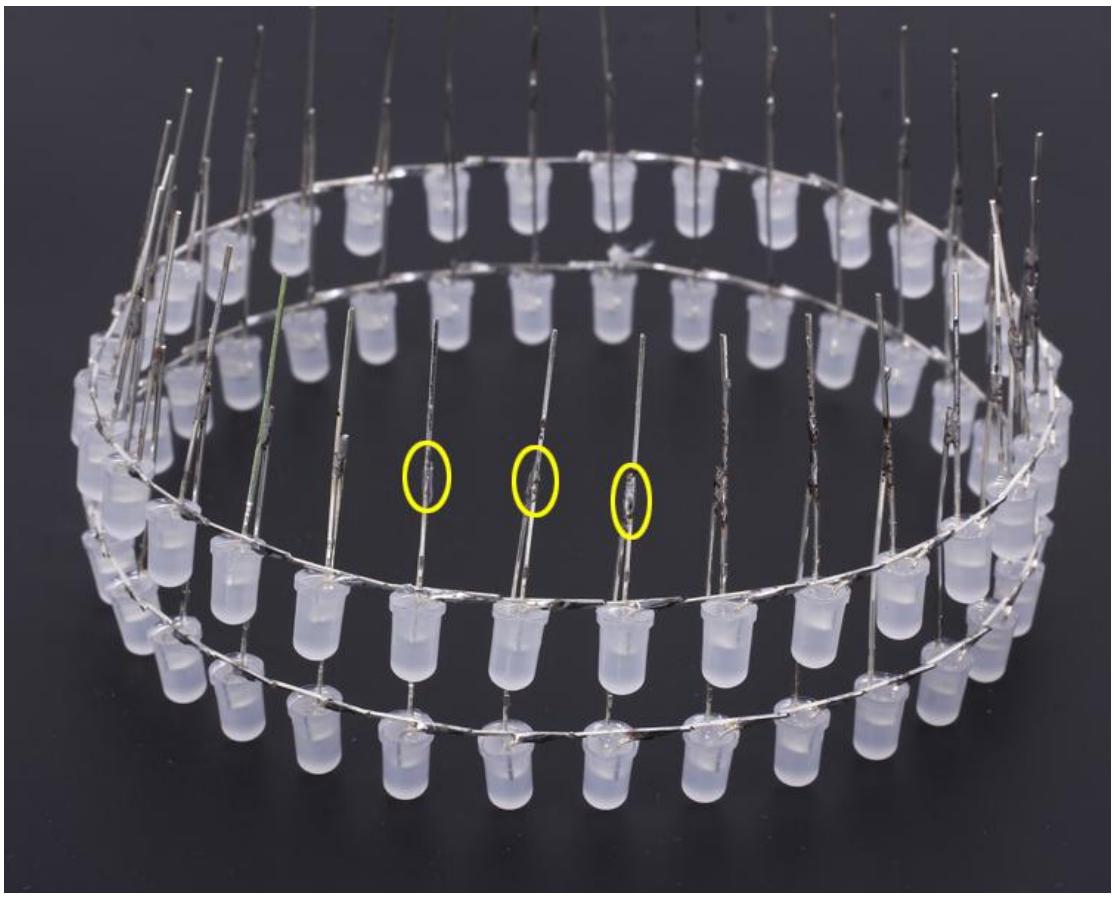
Tips:

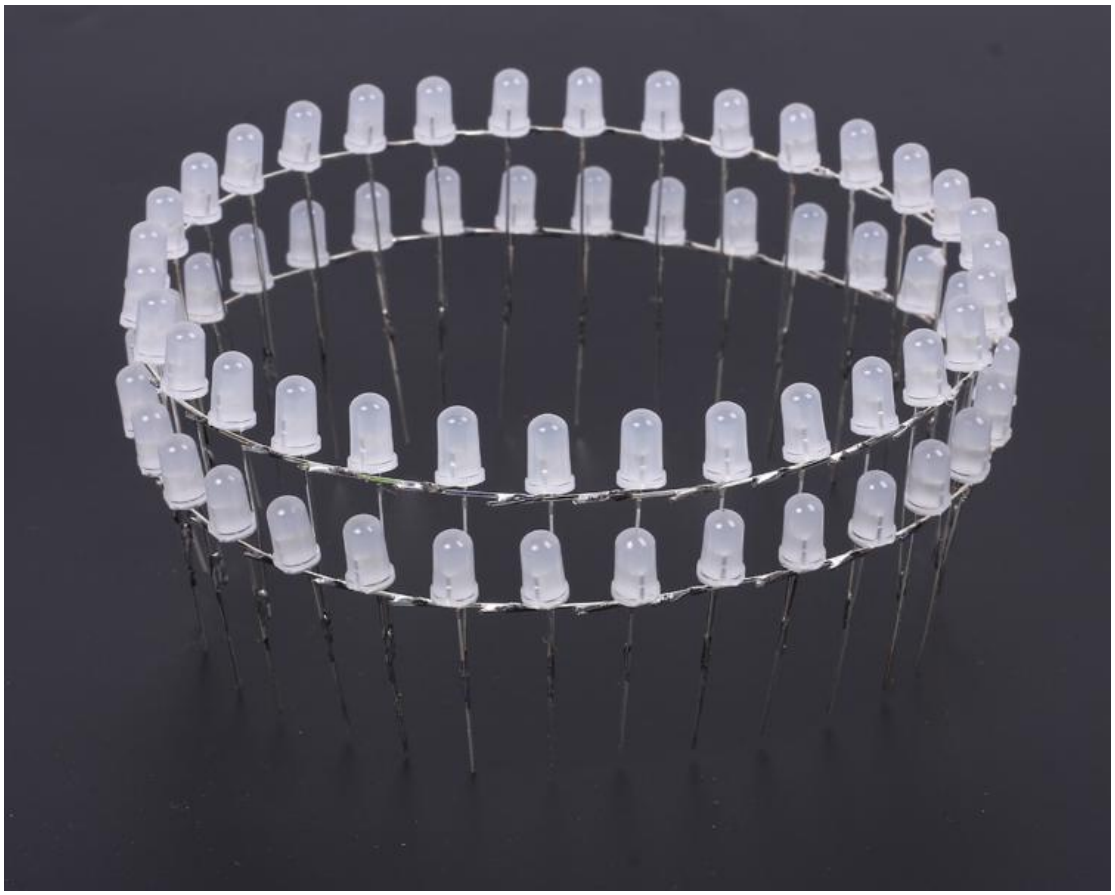
Fixed LED decentralized at first to make sure the same distance between each LED.



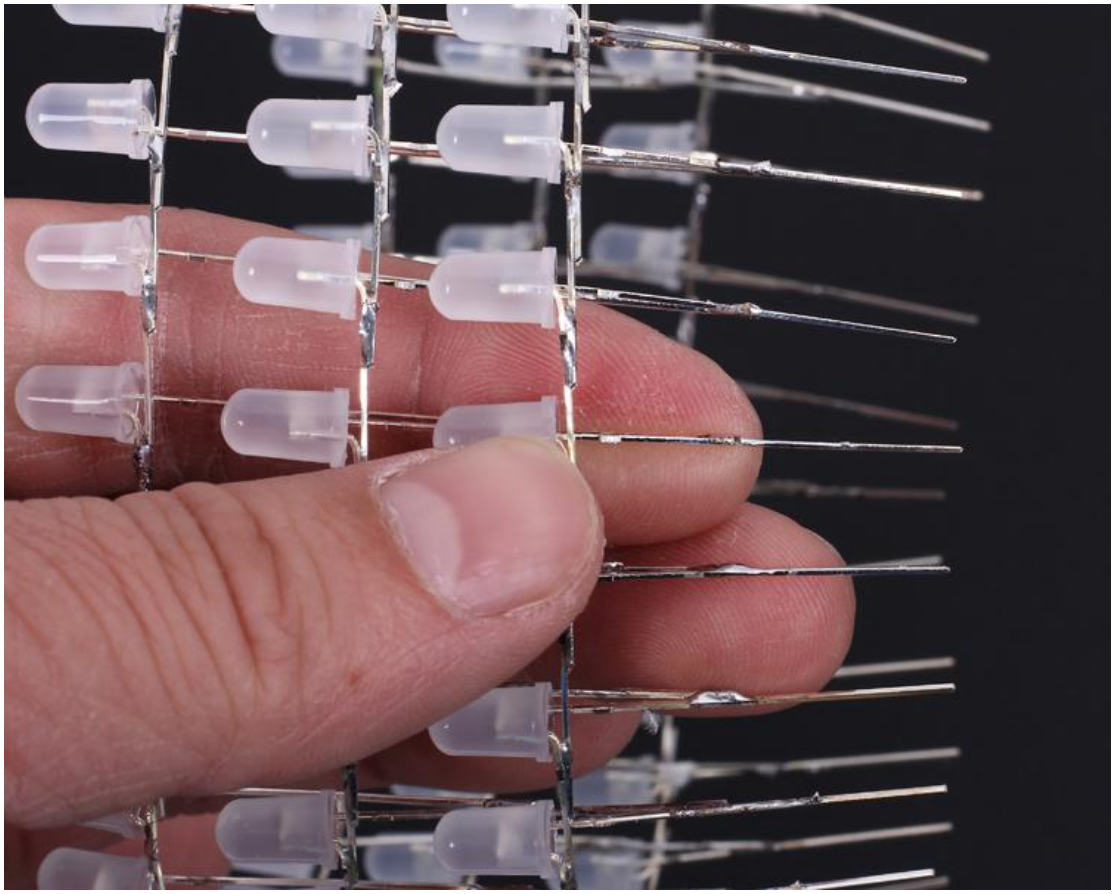








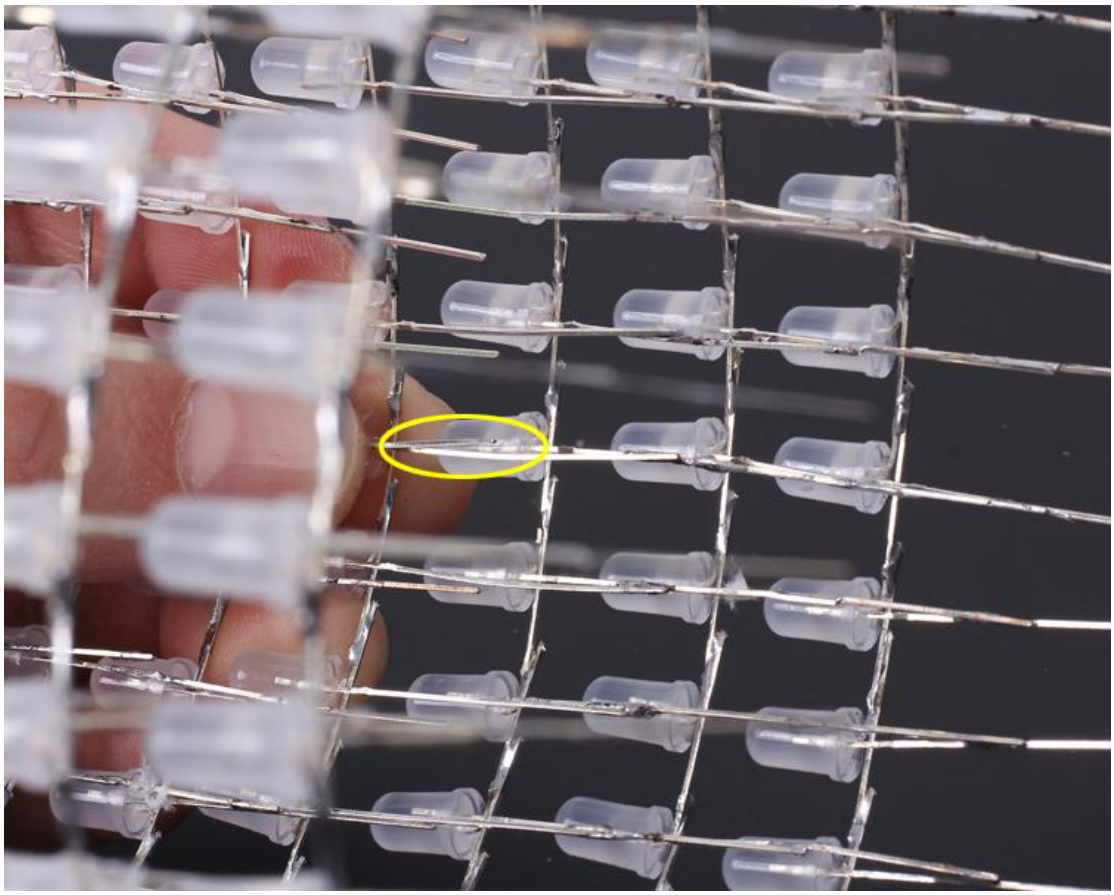
Step 13: In accordance with the above method, made into two 4-layer LED dot lattice.

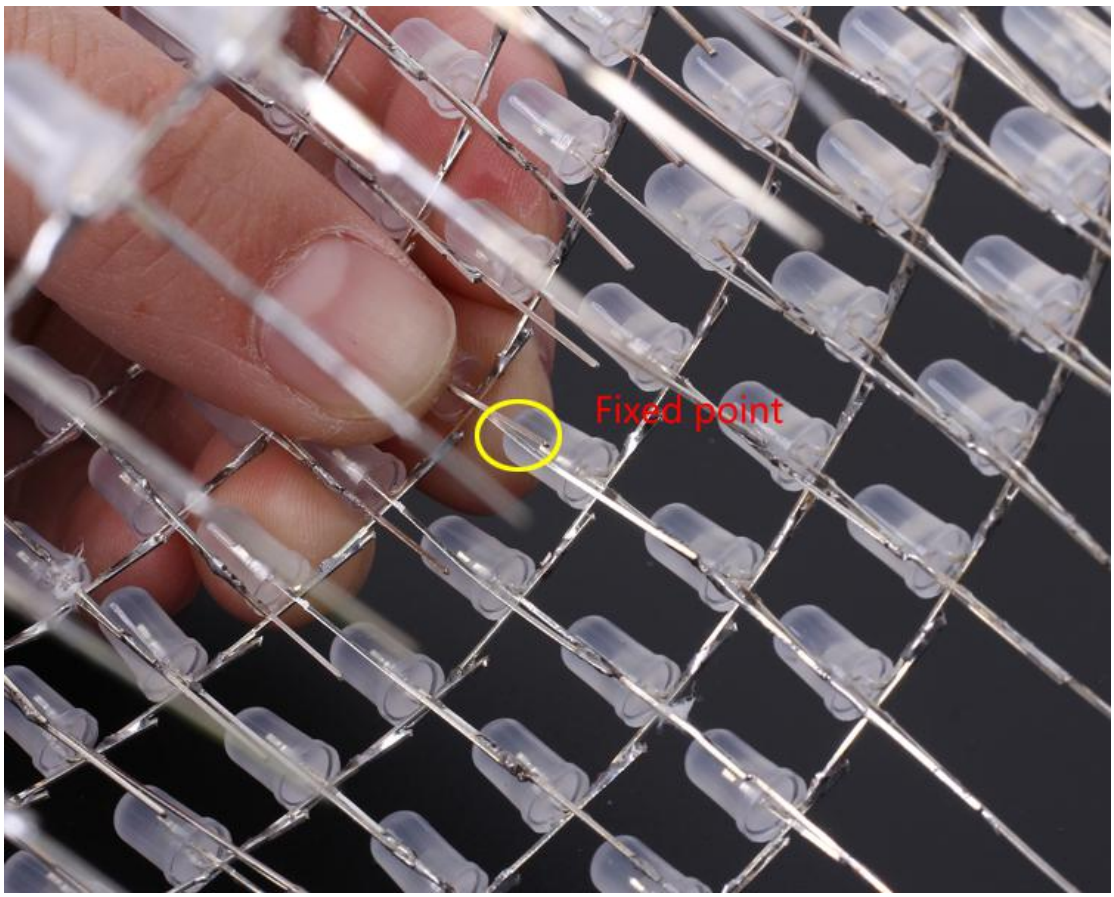


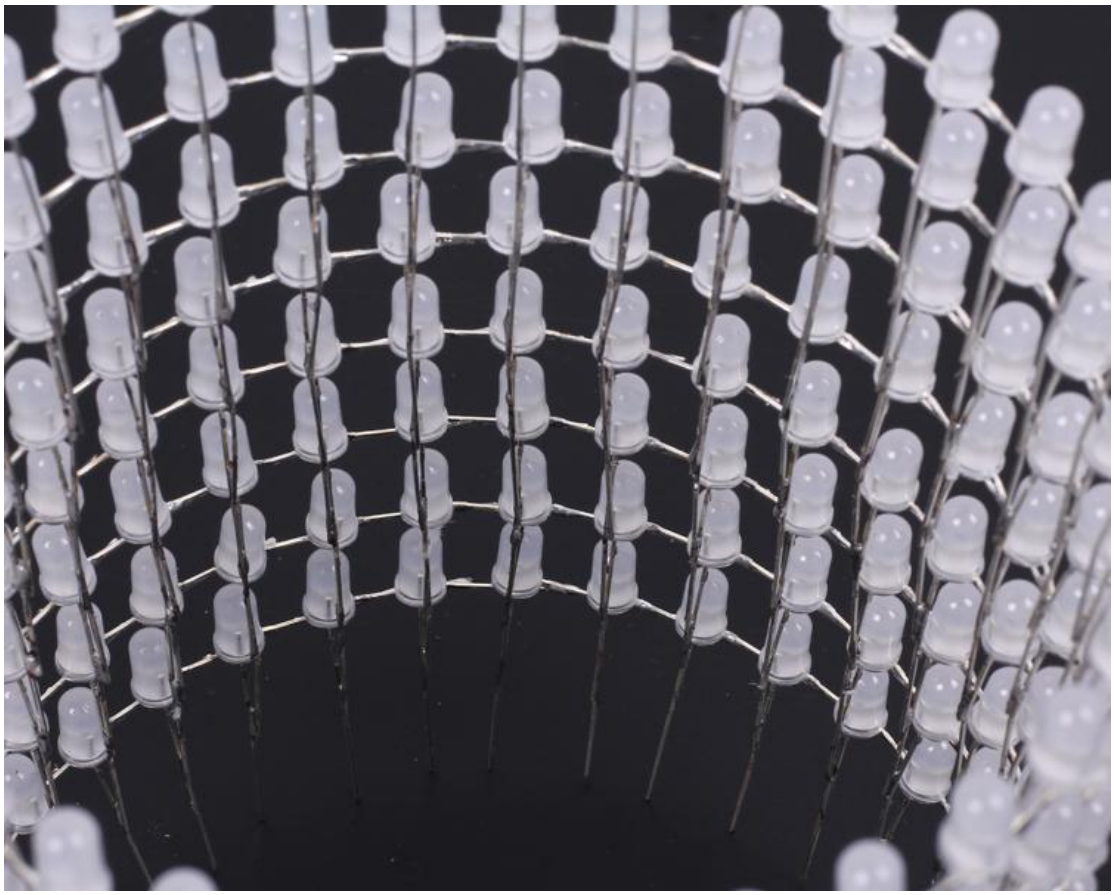
Step 14: Splicing 2pcs 4-layer LED ring.Mainly use the thumb.In strict accordance with the above method.Solder wire access from inside.

Tips:

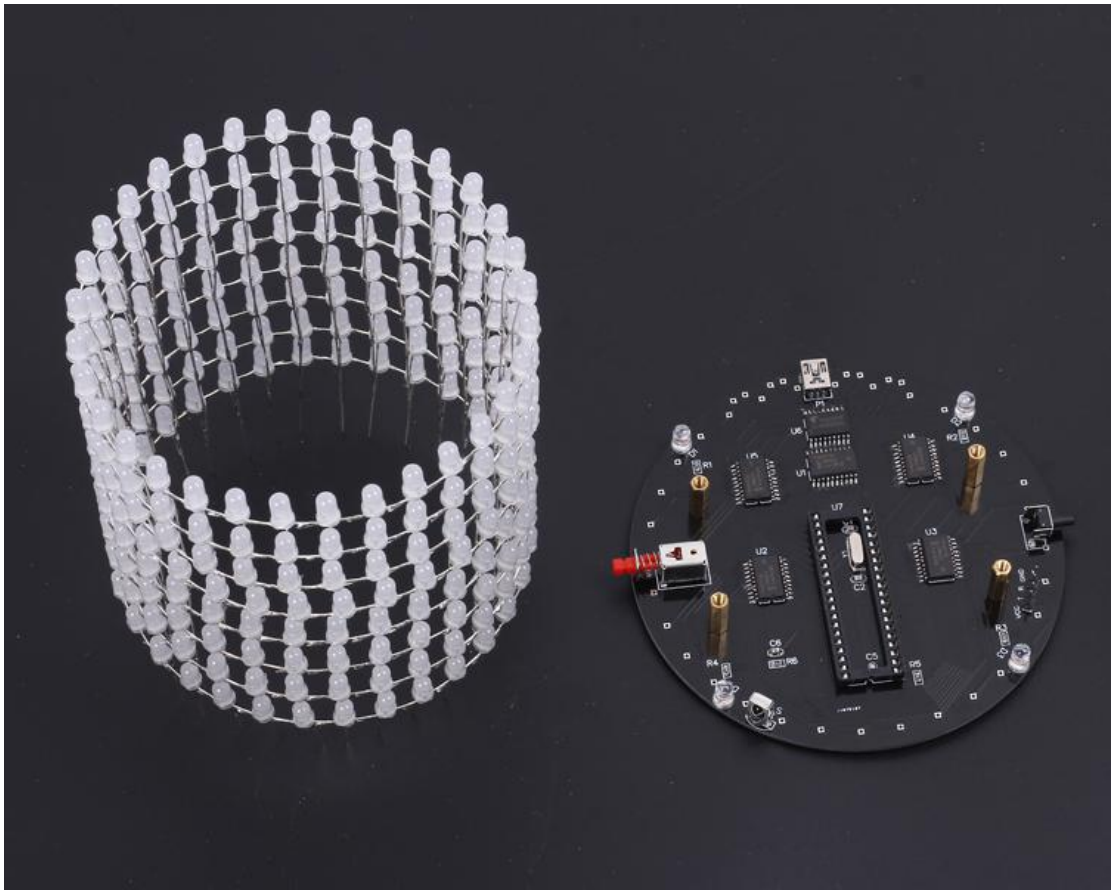
It will be relatively easy to fix to make sure solder wire and pin parallel.




Fixed point



Step 15: Install 4pcs copper pillars.Fix the 32 pins of the LED ring on J9-J40.

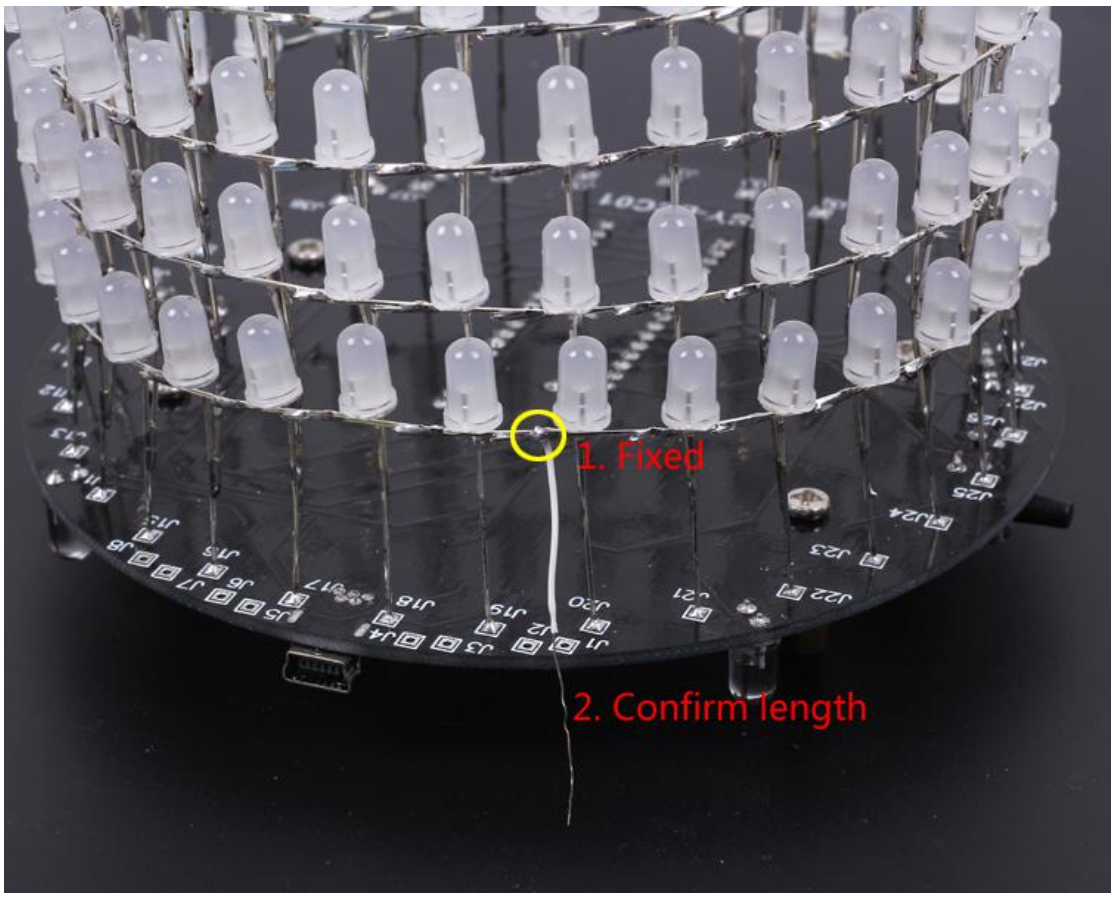


Step 16: Connect each layer by white cable on J1-J8.The bottom is the first layer.

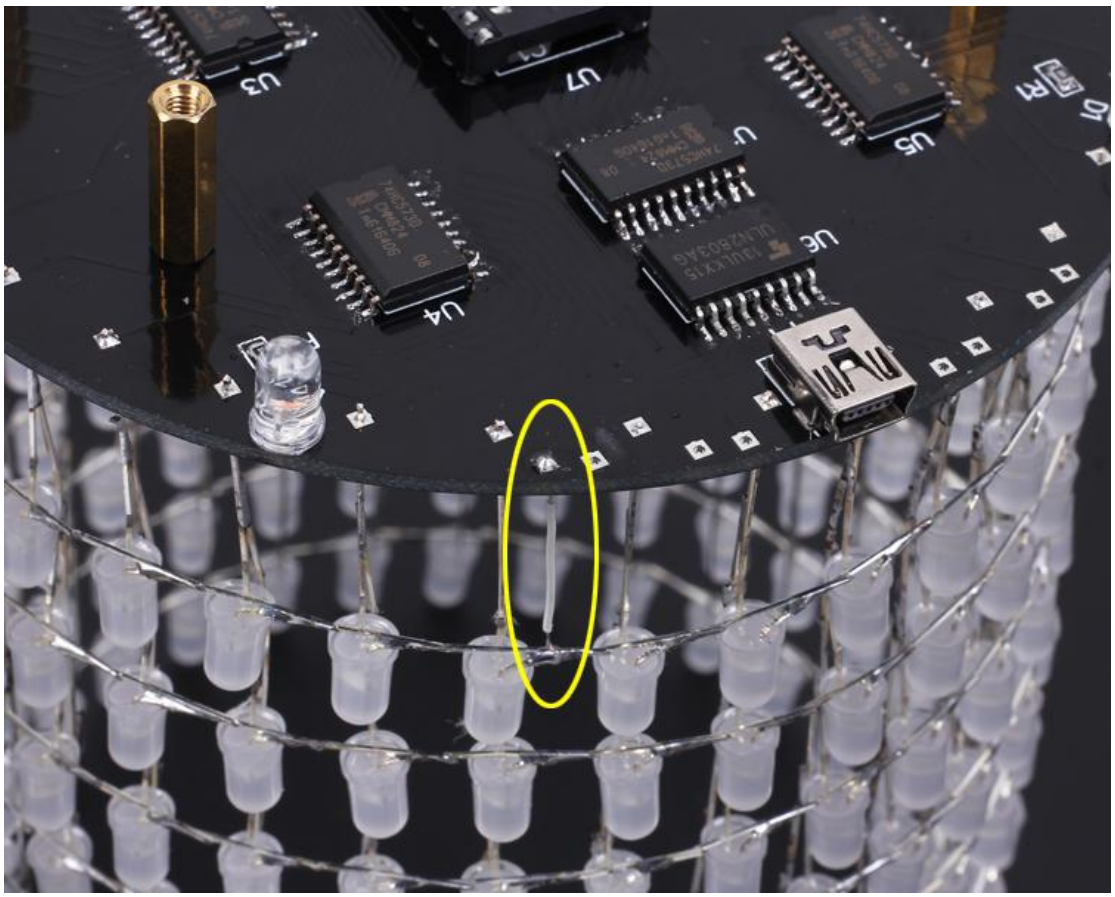
Tips:

First fixed connection point on ring.Then confirm the length of the wire, then cut the wire.Finally fixed on the PCB.

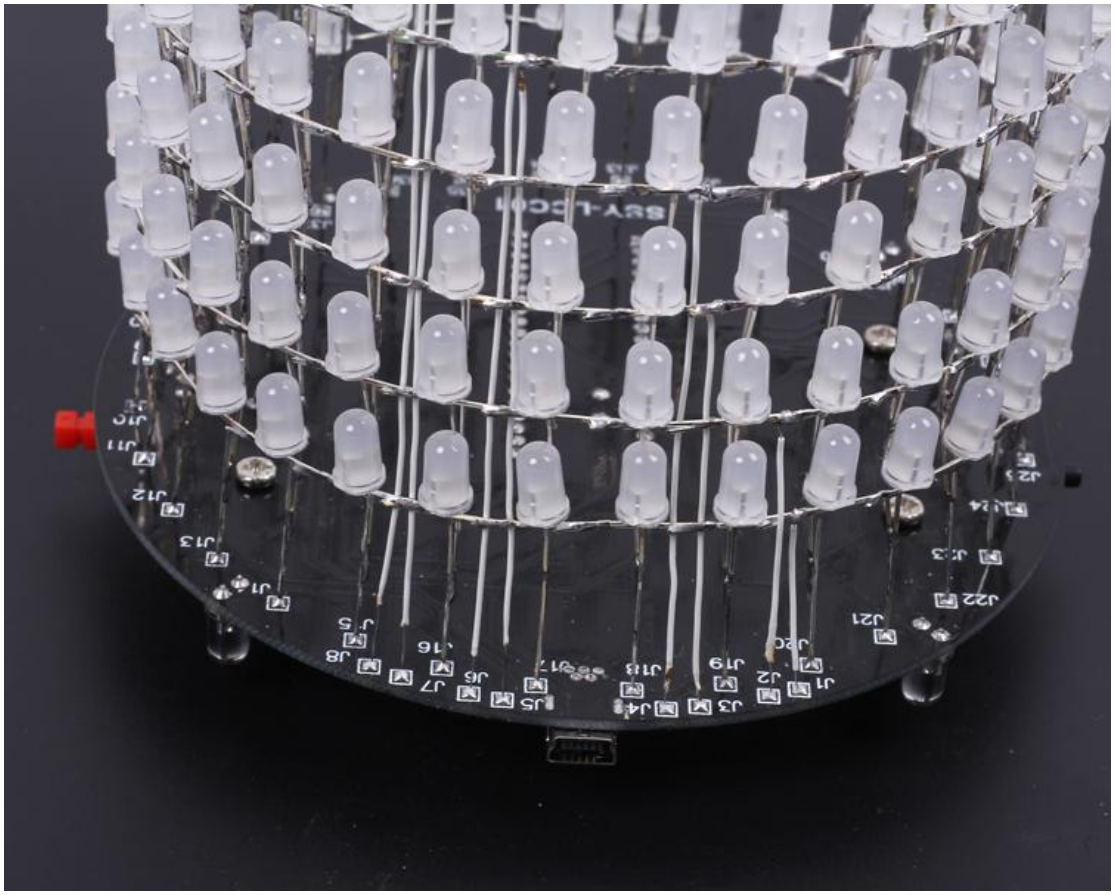
In order to keep the wire straight,user an ask others to help fixed.

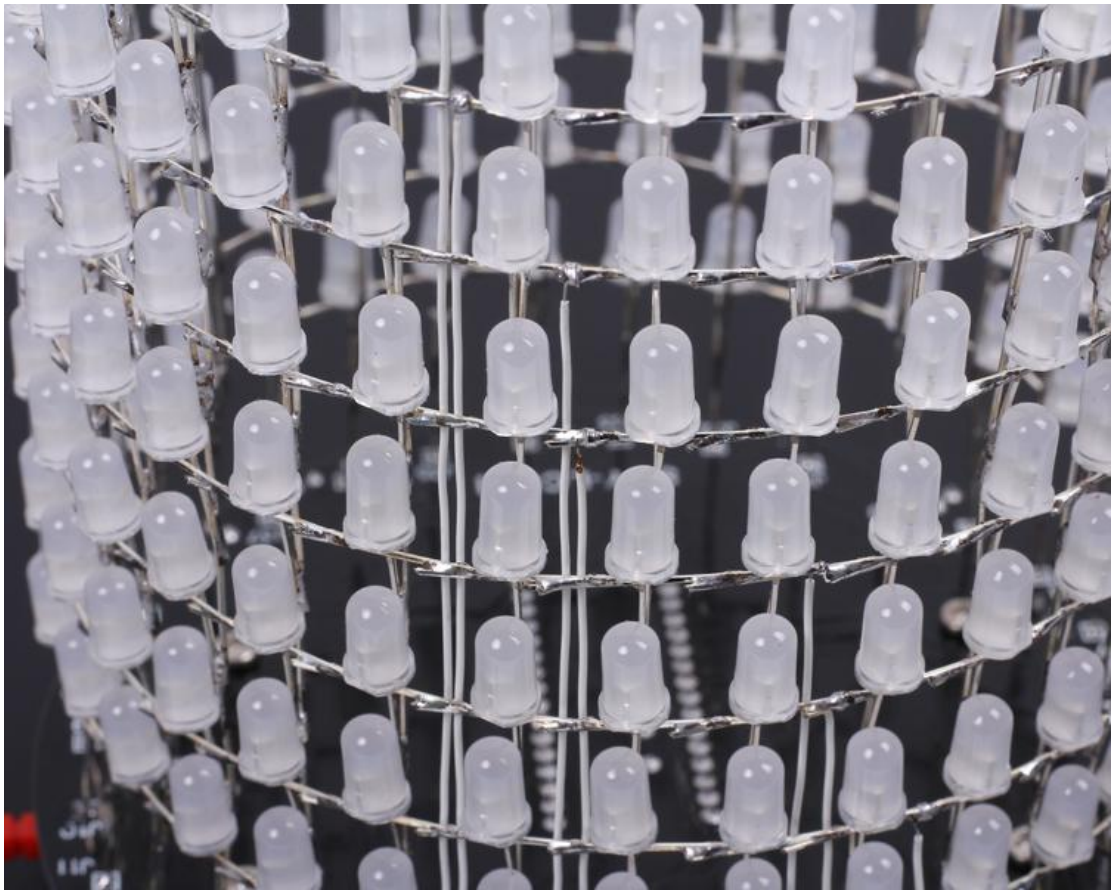

1. Fixed
2. Confirm length

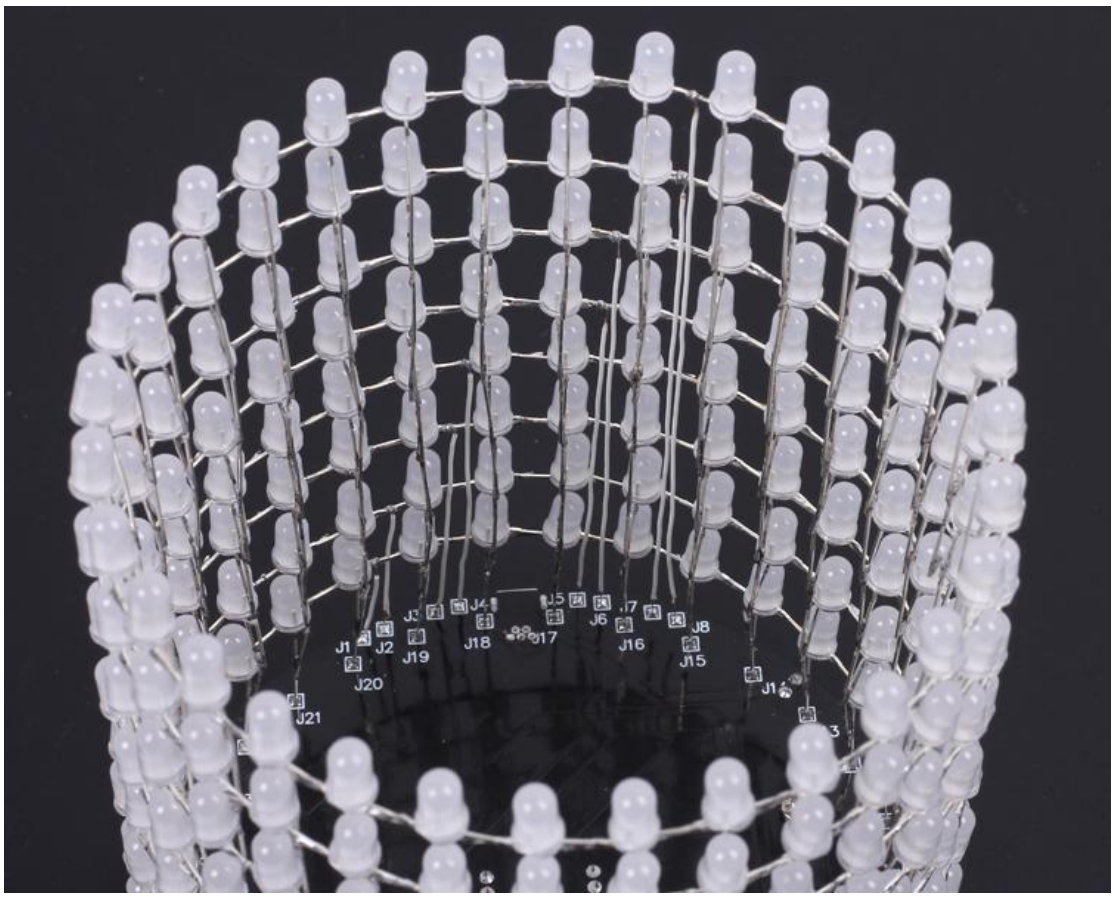

Others help


U3
U7
U5
U4
U6


SSY-LCC01

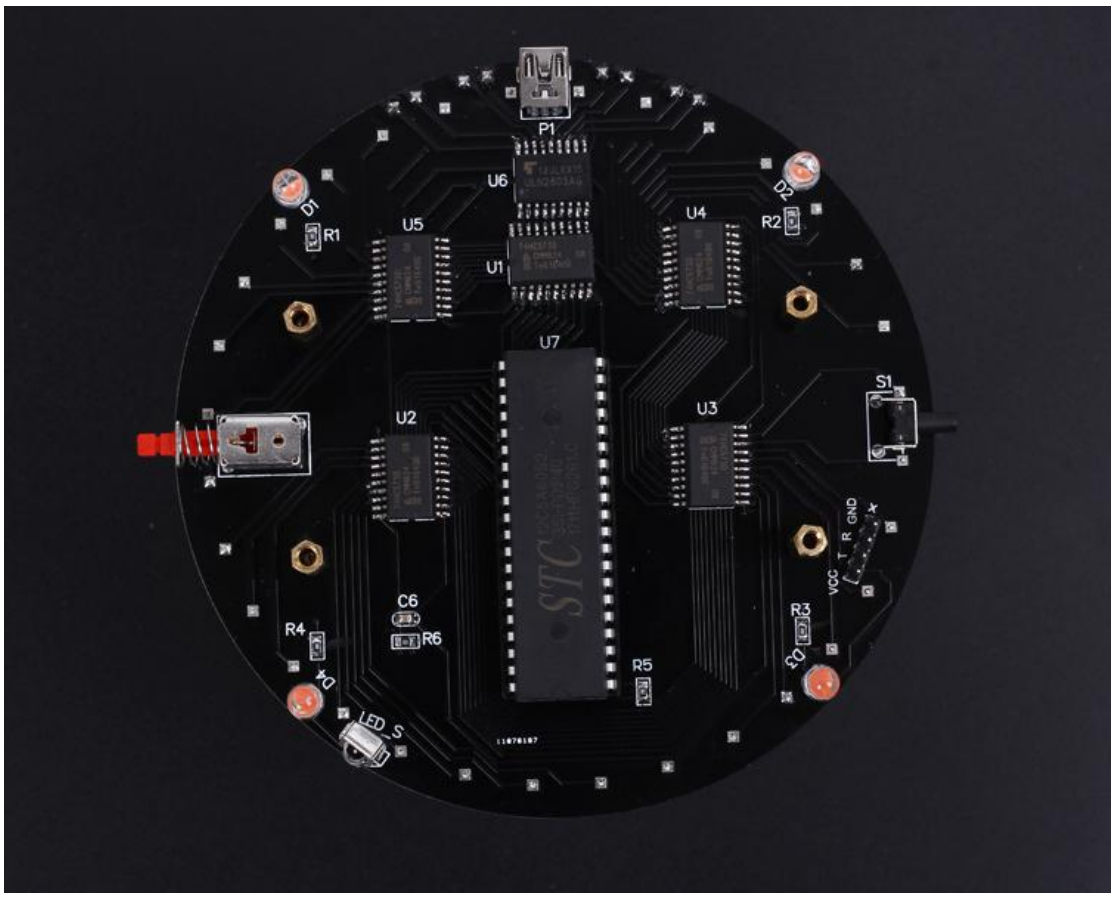




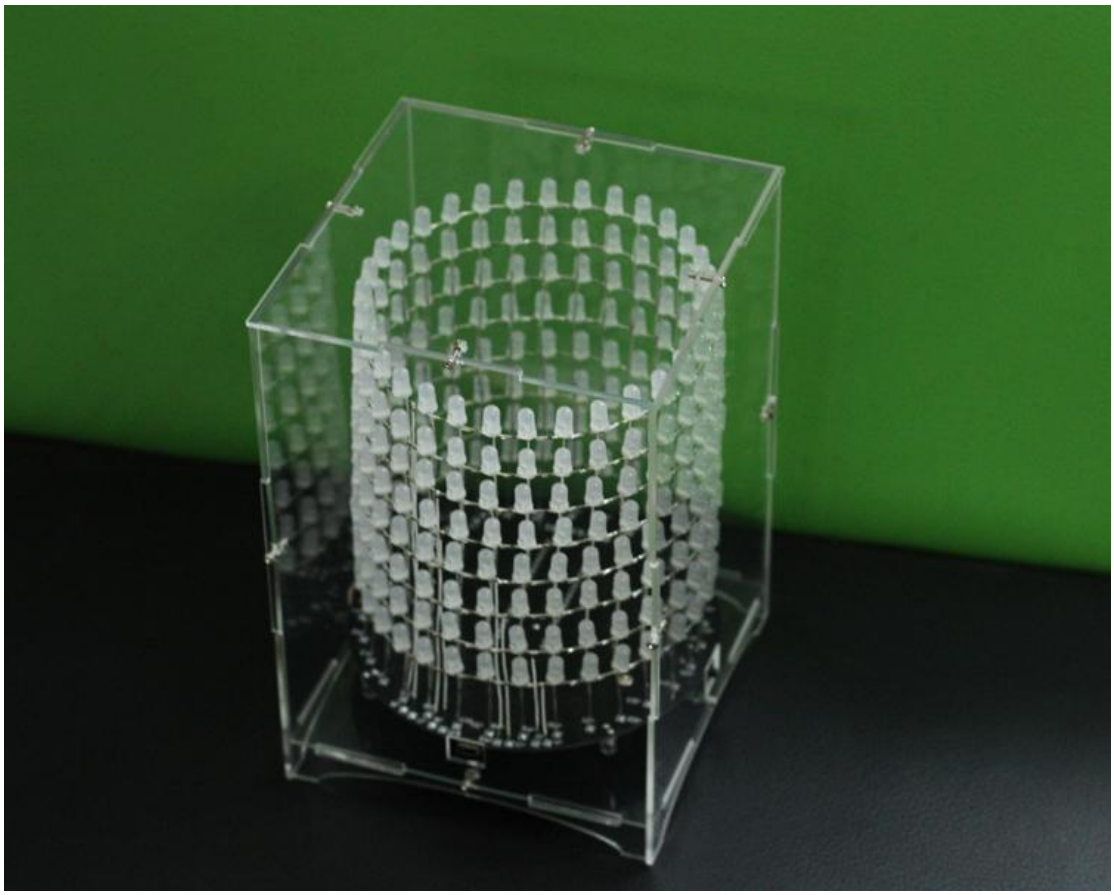

J1
J2
J19
J20
J21
J18
J16
J15


SSY-LC001

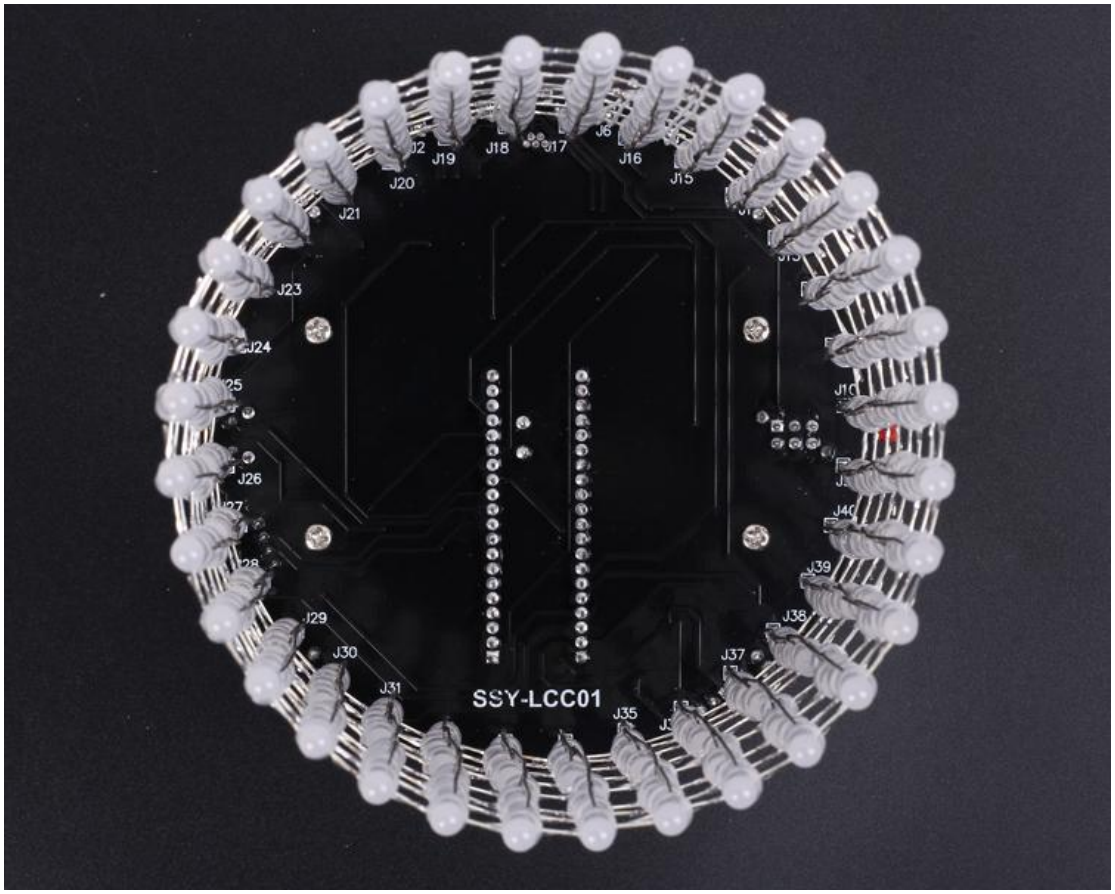
Step 17: Install control chip and Test.Pay attention to the direction of the chip.



Step 18: Install acrylic shell(If equipped with a shell).



9.Effect demonstration(Only for appreciation)

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