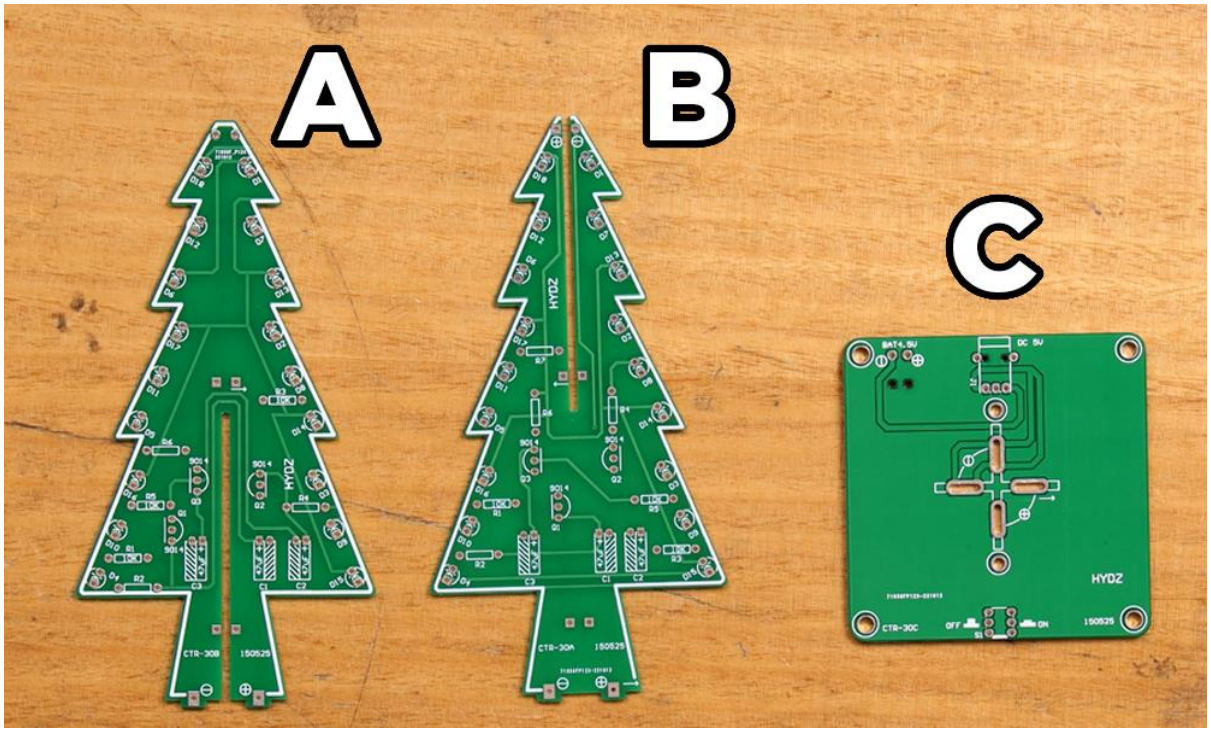
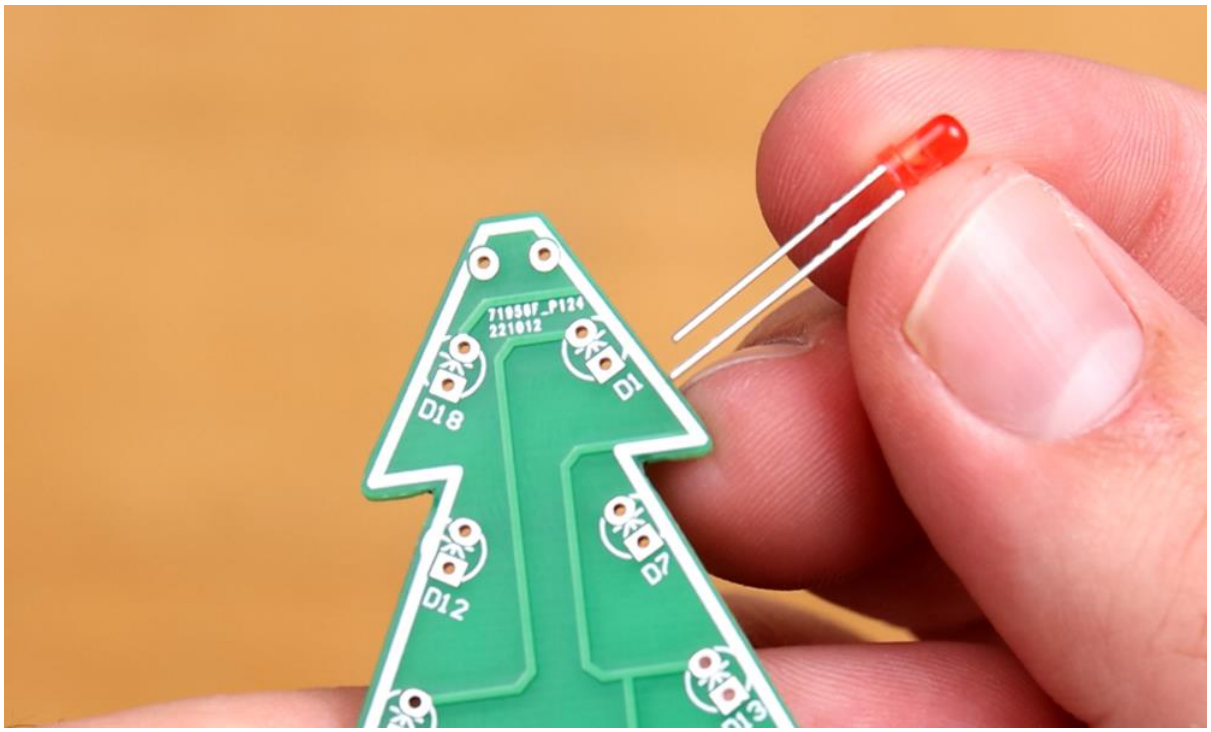
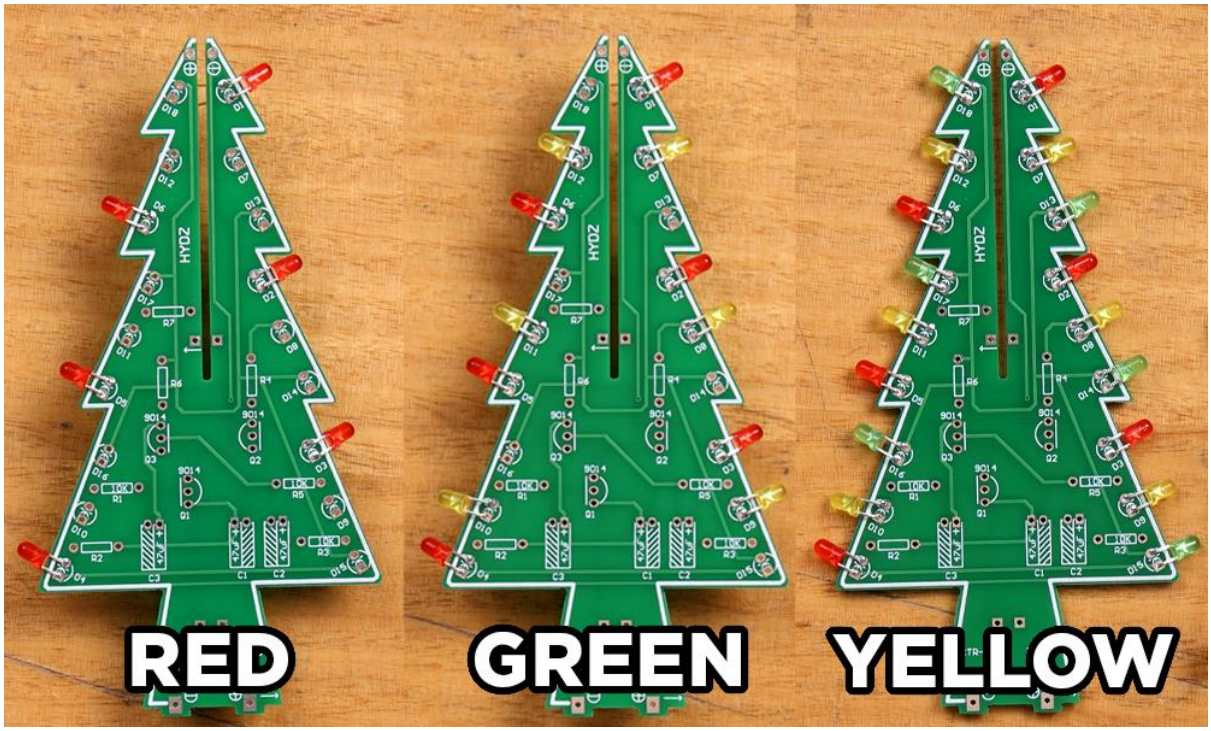
This kit contains 3 PCBs and we will start by soldering components onto PCB A.



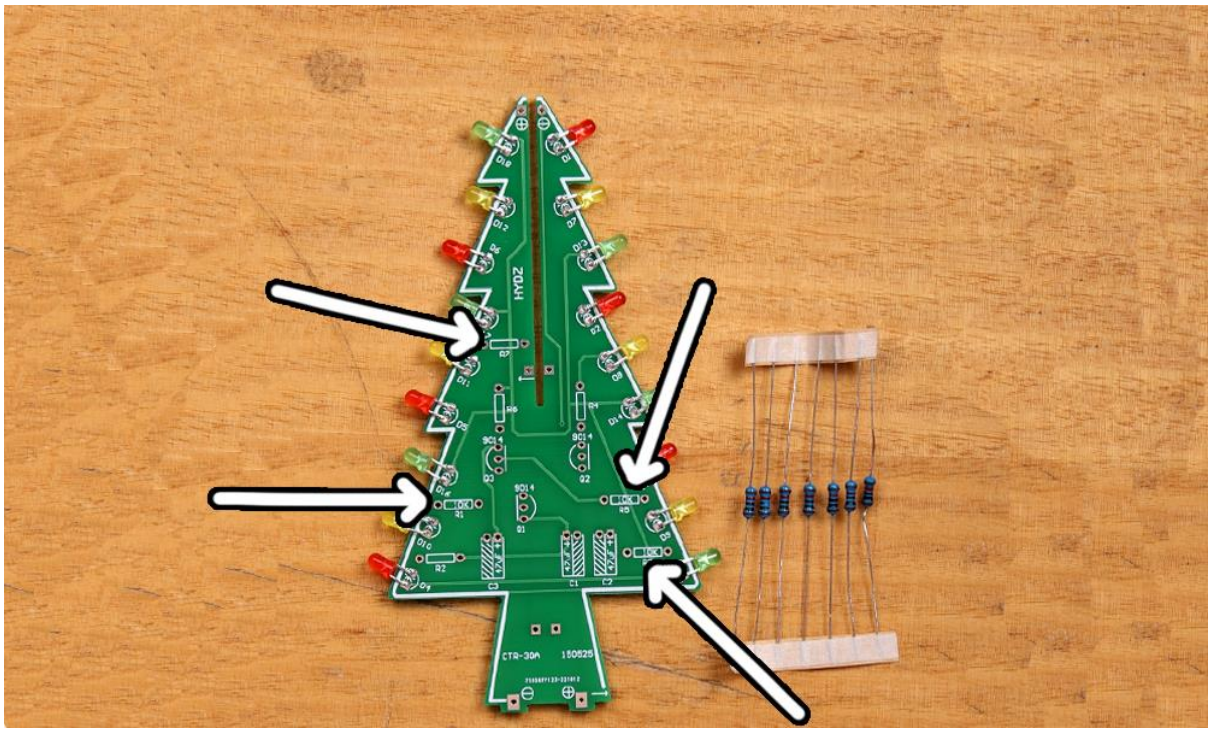
On PCB A, solder the LEDs into the holes on the outer edges of the PCB. You must ensure that they are soldered with the correct polarity. The cathode of the LED (the shorter of the 2 pins) must be placed into the circular hole (which is the ground terminal).



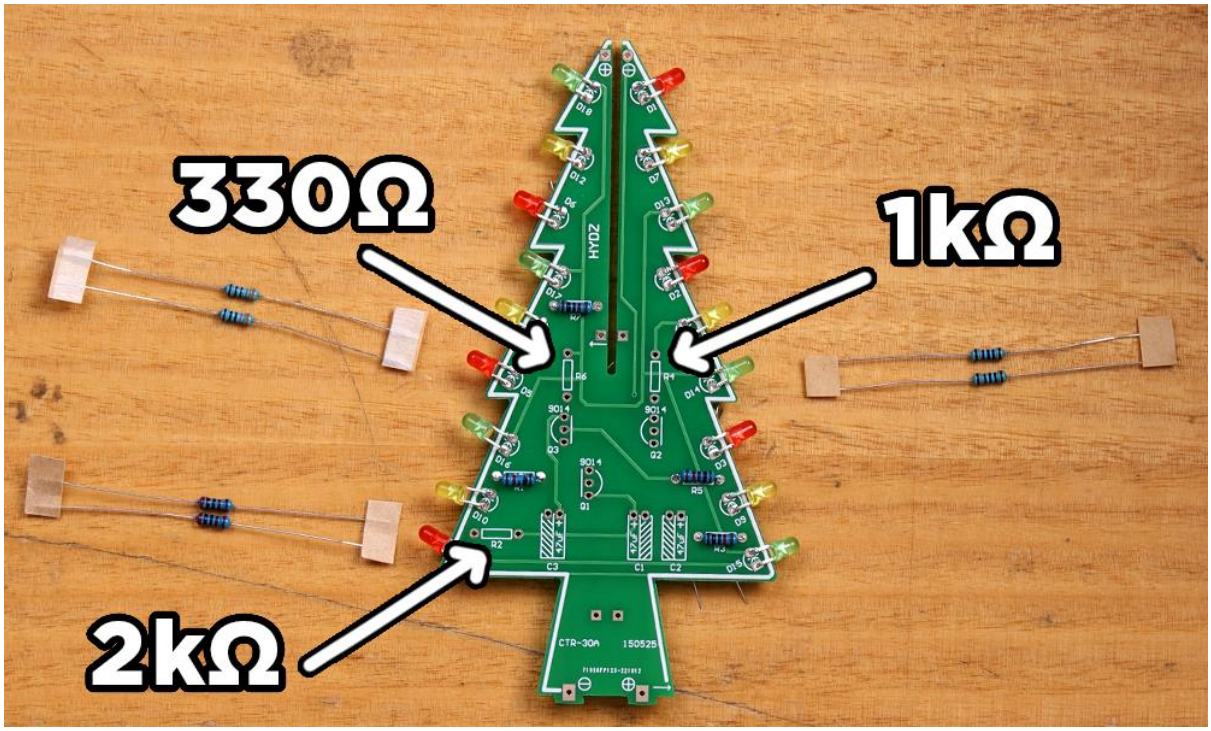
Solder red LEDs into pins D1 - D6, yellow LEDs into D7 – D12 and green LEDs into D13 – D18.



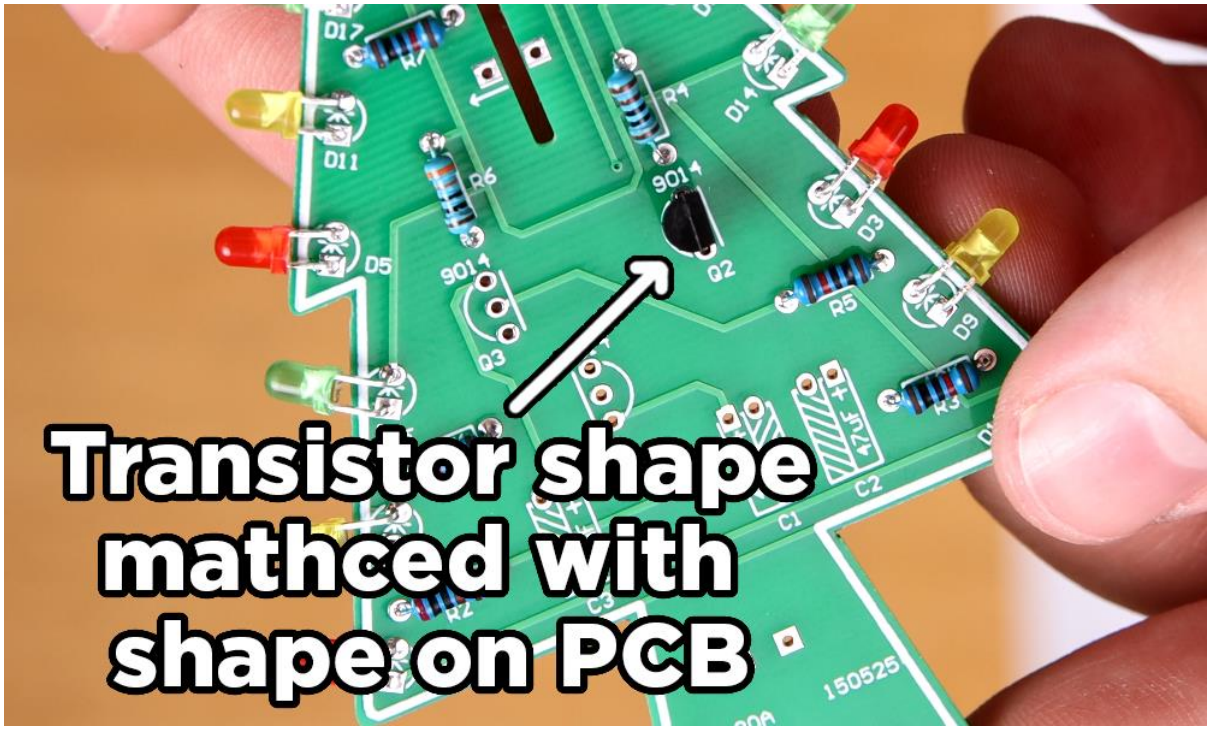
Now solder 4 10kΩ resistors into R1, R3, R5, and R7.



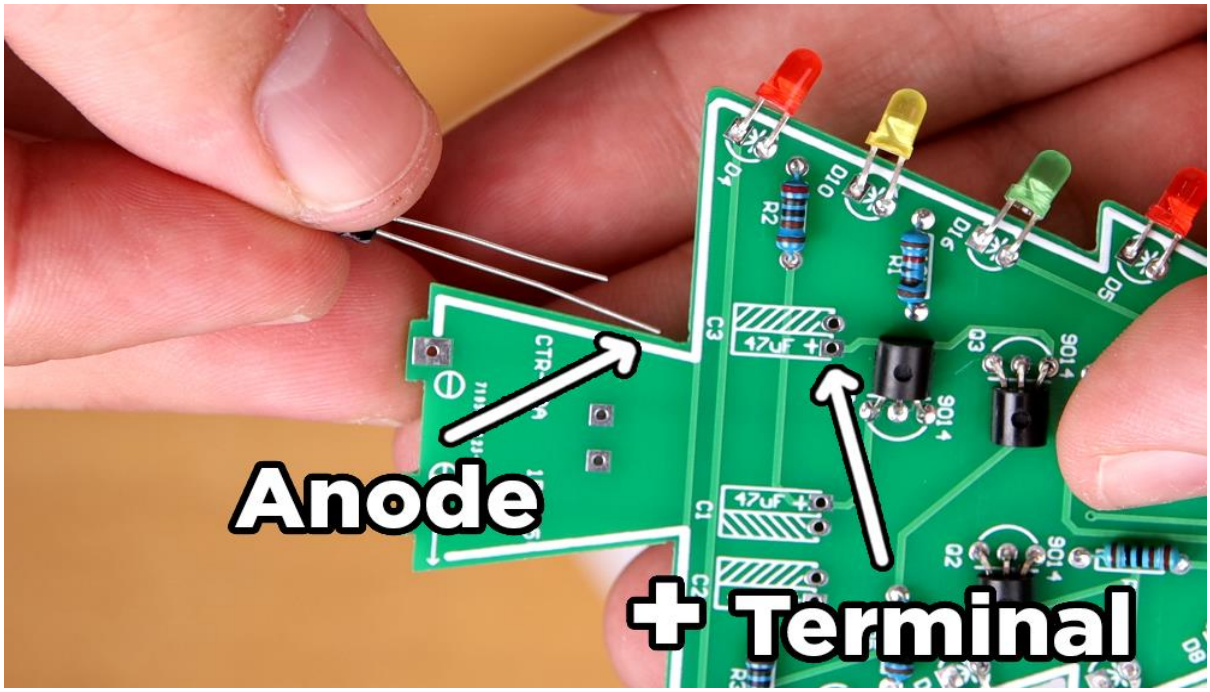
Solder a 2kΩ resistor into R2, a 1kΩ resistor into R4, and a 330Ω resistor into R6.



Solder all 3 transistors into Q1, Q2, and Q3. The transistors must be soldered in the correct orientation by matching the shape of the transistor to the white outline on the PCB.



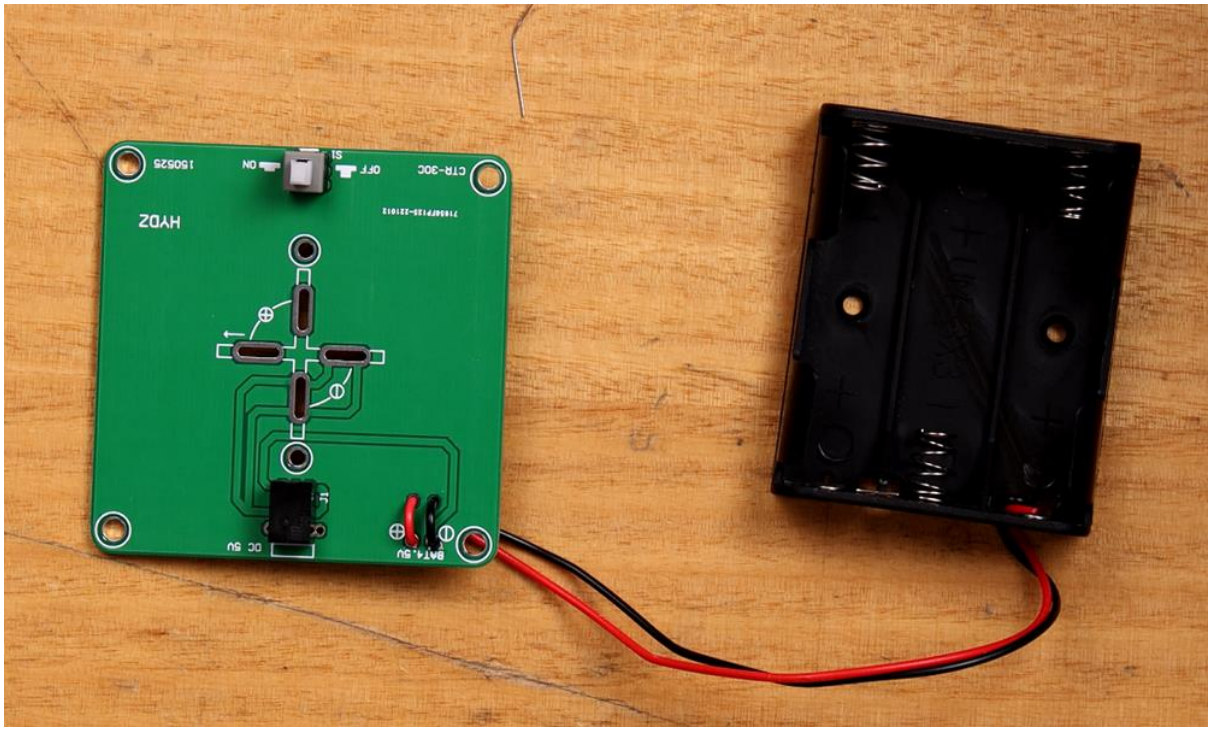
The capacitors also have a polarity and the anode (the longer of the 2 pins) must be soldered into the positive terminal which is marked on the PCB. Solder 3 capacitors into C1, C2, and C3.



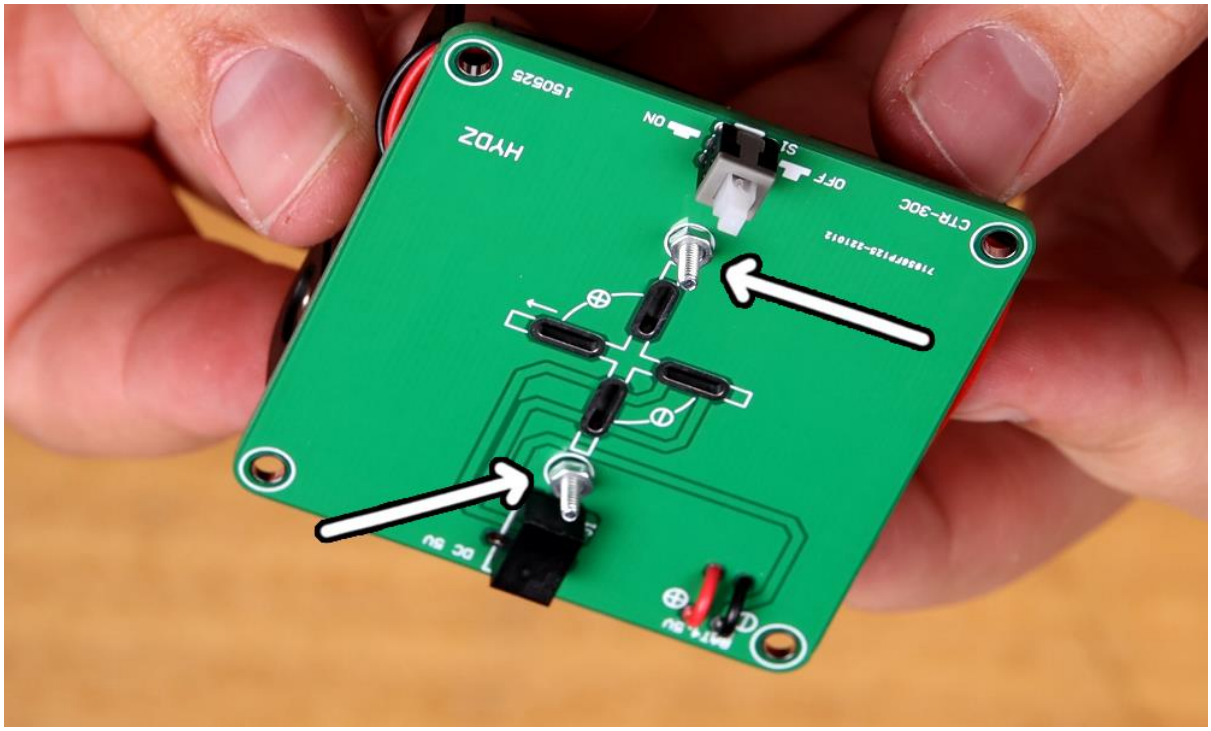
Repeat the same process on PCB B with the following changes:

- Solder green LEDs into pins D1 - D6, red LEDs into D7 – D12 and yellow LEDs into D13 – D18.
- There are only 3 10kΩ resistors to be soldered (PCB B doesn't have an R7)
- Solder a 330Ω resistor into R2, a 2kΩ resistor into R4, and a 1kΩ resistor into R6.

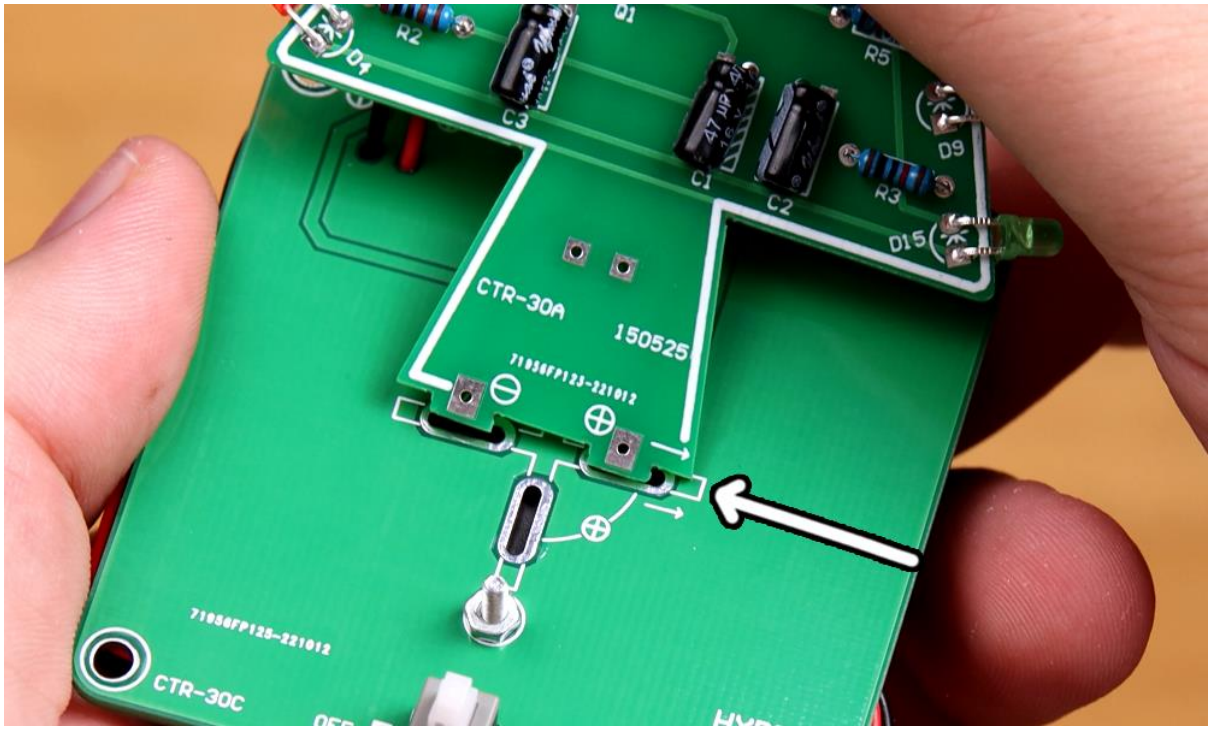
Now that PCB A and B are finished, solder the push switch, DC barrel jack and battery pack to PCB C.



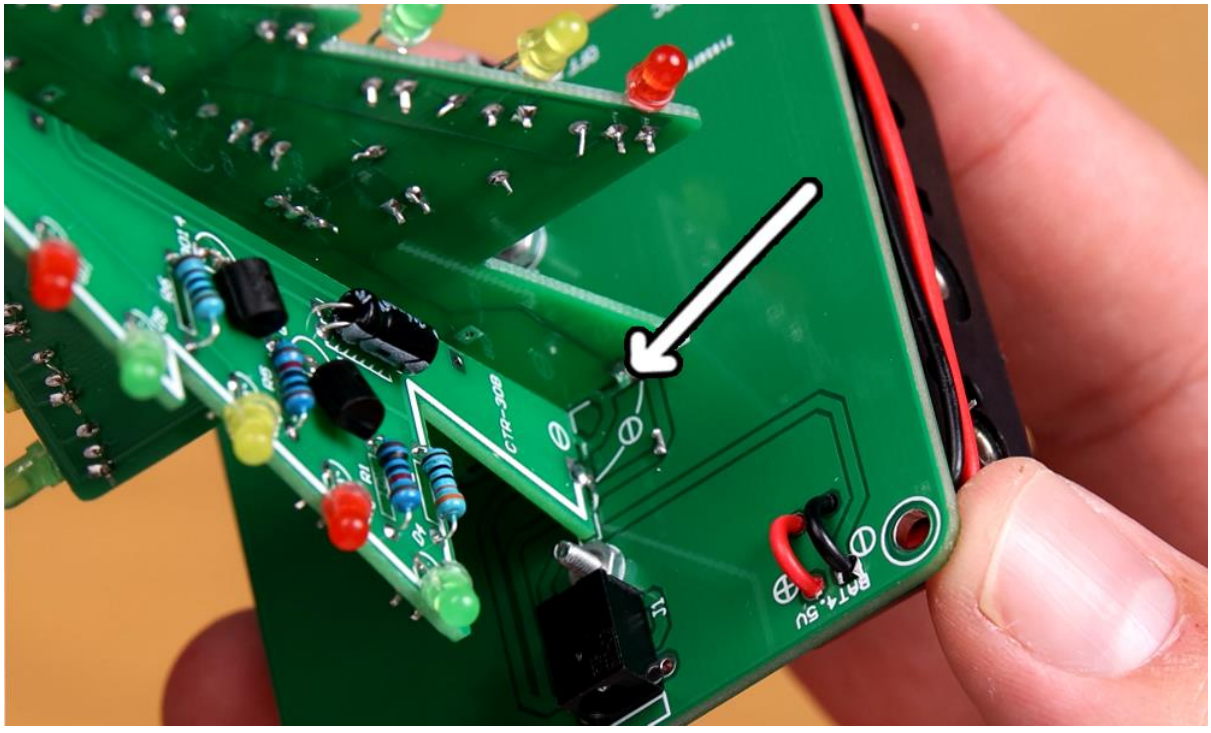
Then using the 2 nuts and bolts, screw the battery pack into the bottom of PCB C.



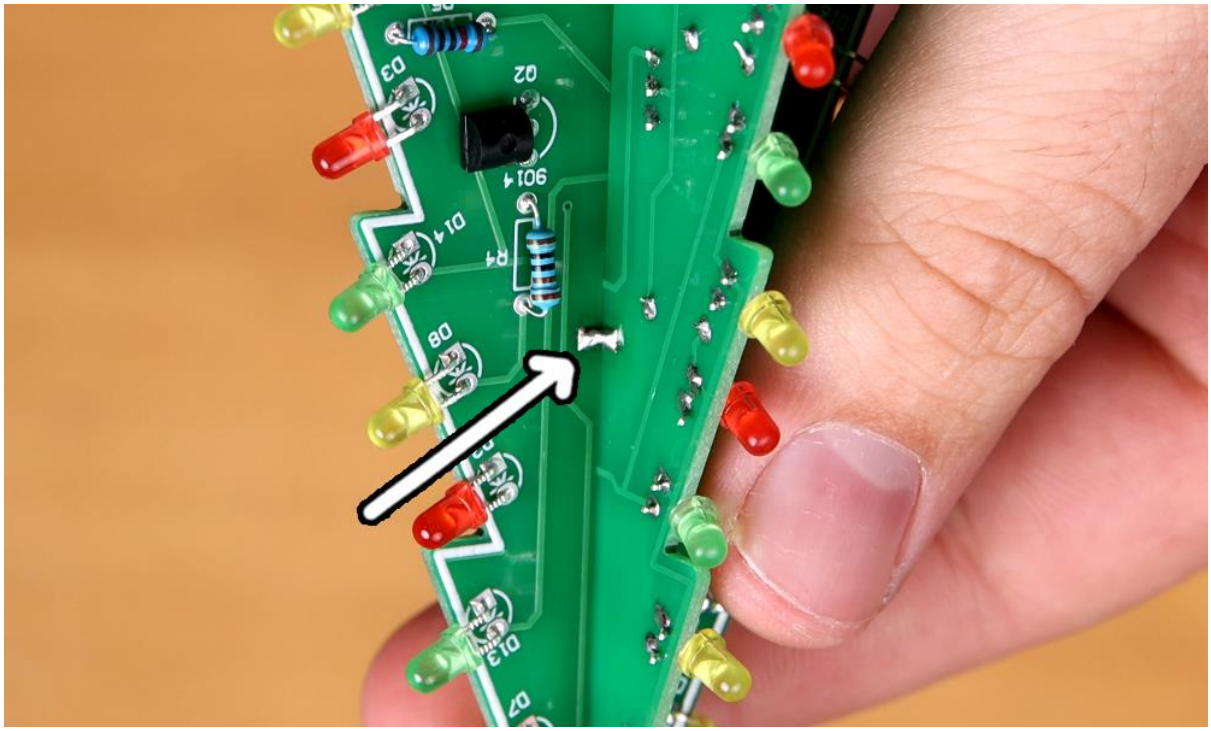
Now attach PCB A and B to PCB by slotting them together and soldering them to the terminals on PCB C. PCB A has a small arrow on the bottom which must match the arrow on PCB C.



Also ensure that PCB B is soldered to the same polarity as marked on PCB C



Where PCB A and B meet there are a series of solder pads that can be joined to better hold the 2 PCBs together.



And finally, solder a red LED to the very top of the tree on PCB A. The cathode (the shorter pin of the LED) should be connected to the negative terminal.

Power it with either the USB cable or AA batteries and watch it light up!