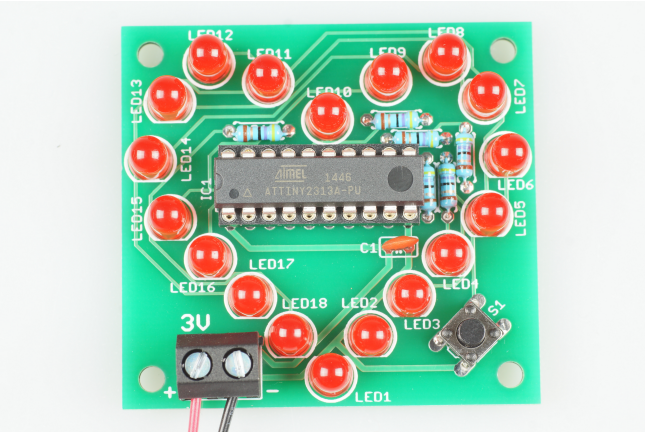
Heart (DIP)



Quantity	Name	Description	Labelling/Colour code
1	C1	Ceramic capacitor 100 nF	104
1	IC1	Microcontroller Atmel ATTiny 2313A	
18	LED1–LED18	LED 5 mm	
6	R1–R6	resistor 47 Ω	YE VI BK GO BR
1	S1	push-button	
1	X1	Terminal 2-pole	
1	IC socket 20-pole		
1	Battery holder		
2	Battery Mignon (AA)		
1	Printed circuit board		

Difficulty: ●●○○○ Build Time: 1–2 hours

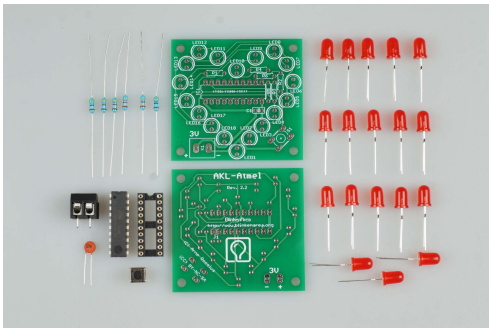
Farblegende: SI = silber; GO = gold; BK = schwarz; BR = braun; RE = rot; OR = orange; YE = gelb; GR = grün; BL = blau; VI = violett; GR = grau; WH = weiß

Safety Information

- ATTENTION: Not suitable for children under 3 years, choking hazard due to small parts that may be swallowed.
- We recommend: Supervision of the assembly and soldering process by an adult.
- Keep these operating instructions in a safe place for later use! It contains important information.
- If the battery is empty, replace it only with a new battery with the same values.
- When soldering, the soldering iron, the solder and also the components being soldered become very hot.
- Always wear safety glasses when soldering and assembling the kit.
- Always use a fire proof soldering pad when soldering! This prevents the components from slipping away.
- To keep the soldering iron safe during assembly, always use a suitable soldering stand.
- The kit is designed for battery operation only.
- CAUTION: Never connect the kit to 230 V mains voltage! There is an absolute danger to life!
- Please take the device to appropriately certified disposal companies at the end of its service life. This is good for the environment and ensures correct disposal.
- Subject to changes and errors.

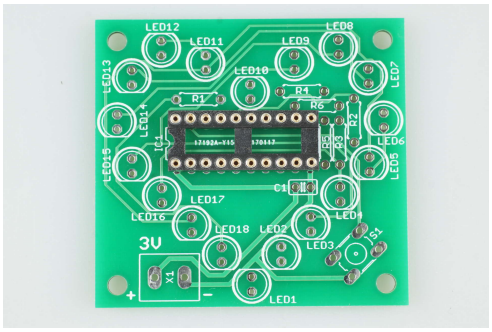
Step 1

a) Hints:
b) Resistor size can be determined via colour coding
c) Orientation of the PCB so, that LED designation can be read normally (see picture)
d) Orientation of resistors does not matter
e) LEDs have a flat side and a shorter leg. Both indicate the negative side



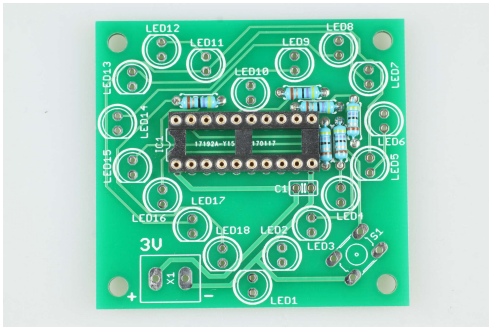
Step 2

a) Solder IC1 socket with the nose to the left on the PCB



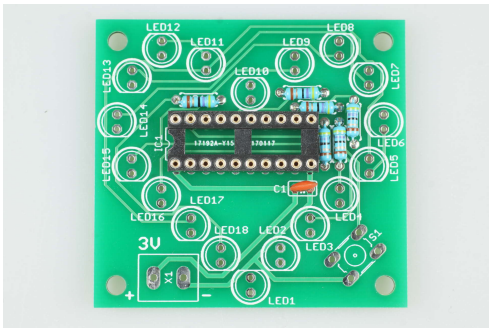
Step 3

a) Solder resistors YE VI BK GO BR
b) orientation doesn't matter



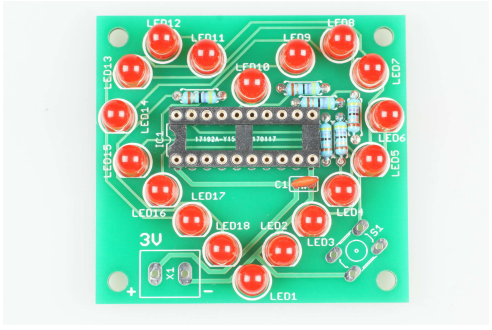
Step 4

a) Solder capacitor [104]
b) orientation does not matter



Step 5

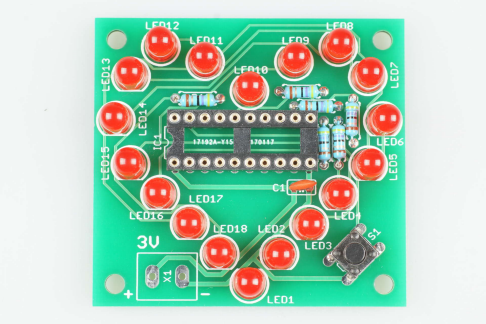
a) Solder LED1 to LED18
b) Attention! Direction of LEDs is important. The Direction changes on the board
c) LEDs have a flat side and a shorter leg. Both indicate the negative side
d) On the PCB, the negative side is indicated by a flattening.



Step 6

a) Solder switch S1

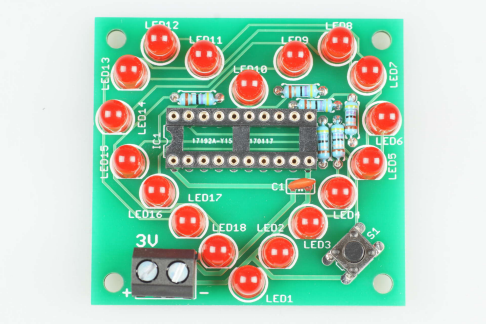
b) Hint: Legs have different distances. Nothing has to be bent. Switch fits exactly.



Step 7

a) Soder the Power connector X1 with opening downwards

b) The cables can also be soldered directly to the board.



Step 8

a) Insert IC1 into the socket with the nose to the left

b) Hint: The legs of the IC must be bent slightly, to fit into the socket

c) Remove any insulation from the tips of the battery connection cables and tin them

d) Screw on the battery (+ red, - black)

e) Insert the batteries

f) Done!