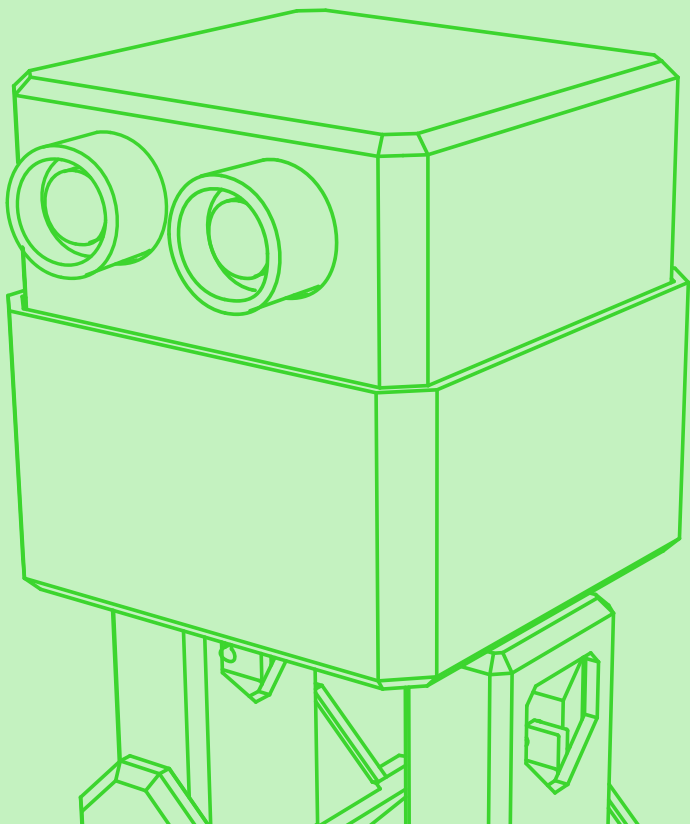


DIY

INSTRUCTION MANUAL

说明书



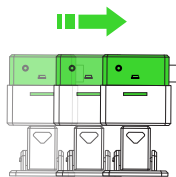
build your own robot

打造你自己的机器人



Otto is an interactive robot that anyone can make!

you will be able to build your own Otto in as little as two hours!
easy to build and disassemble with a simple screwdriver.



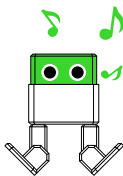
walk &
dance



detect &
avoid
obstacles



easy to
program

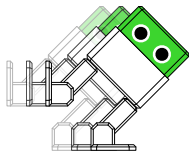


beeps &
8bit music



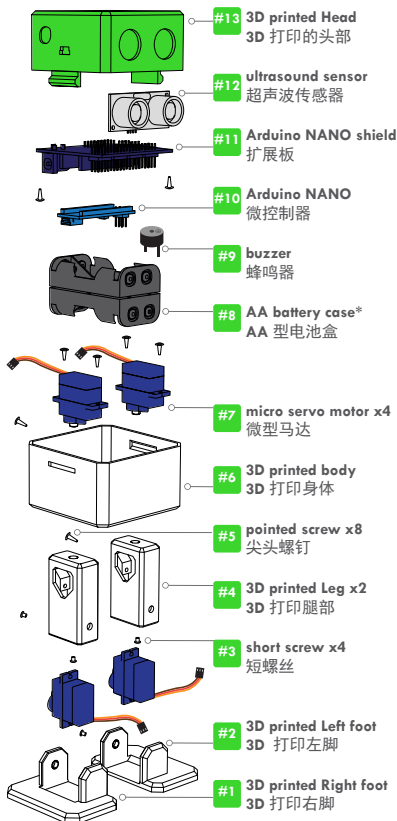
#OttoDIY

follow us!



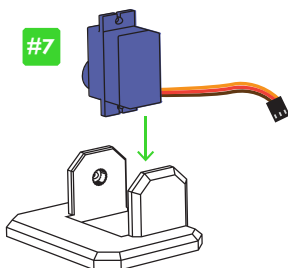
PARTS

部分

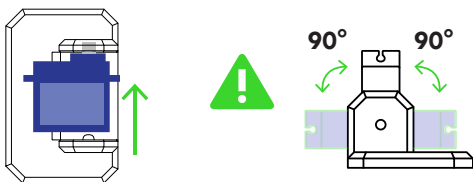


*AA batteries not included

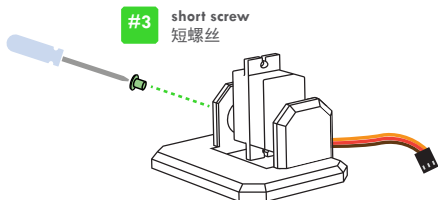
a



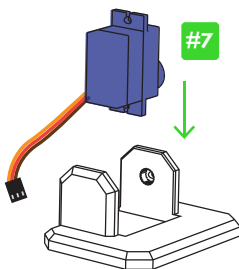
b



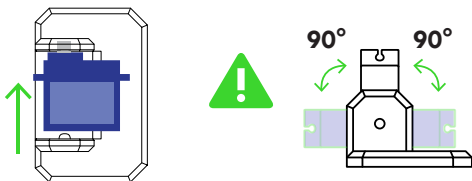
c



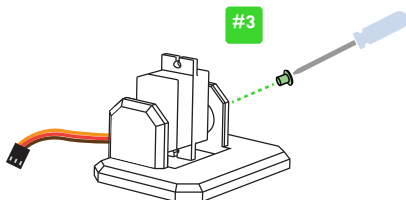
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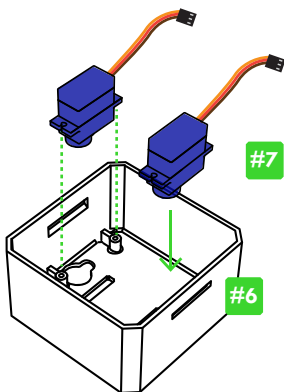
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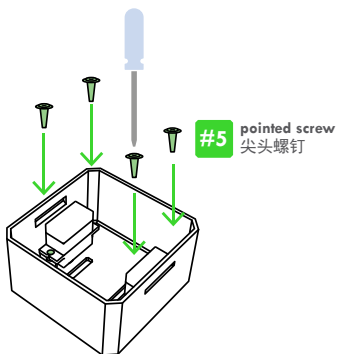
c



a



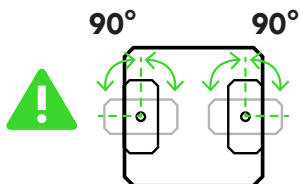
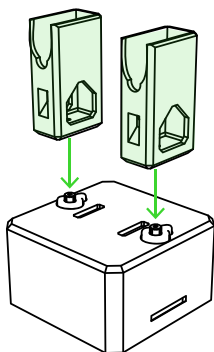
b



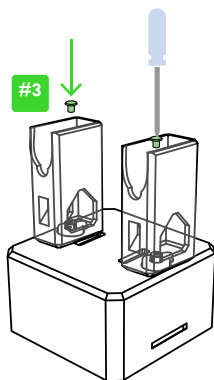
4



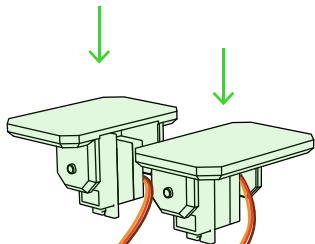
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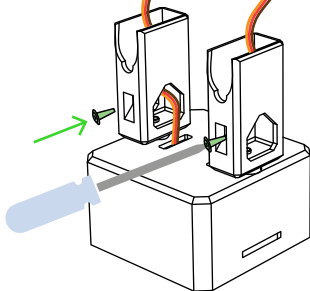
b



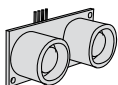
a



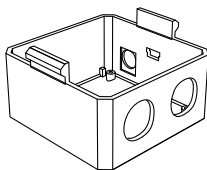
b



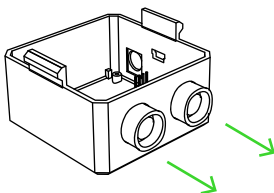
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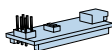
#12



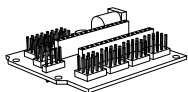
b



a

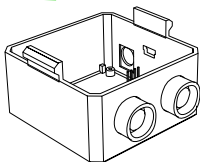
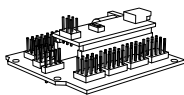


#10

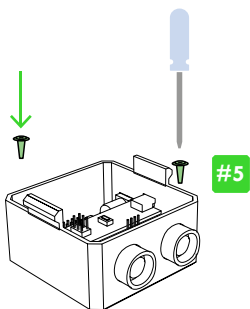


#11

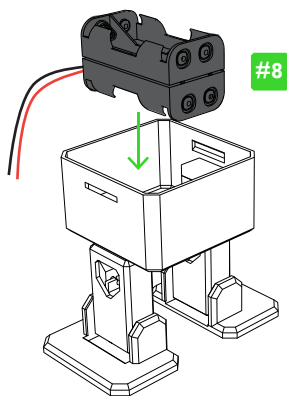
b

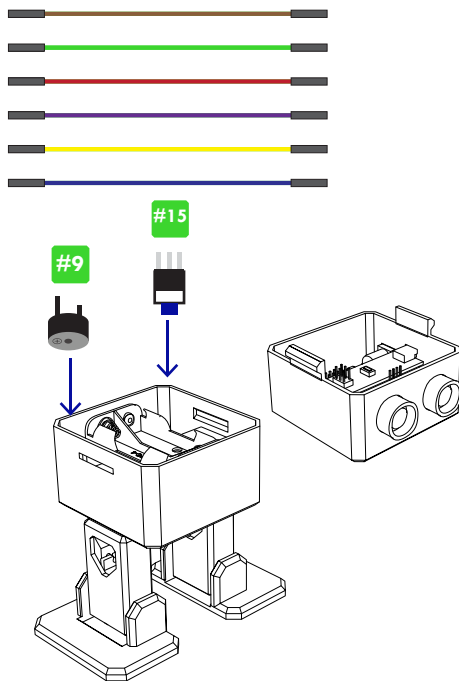


a



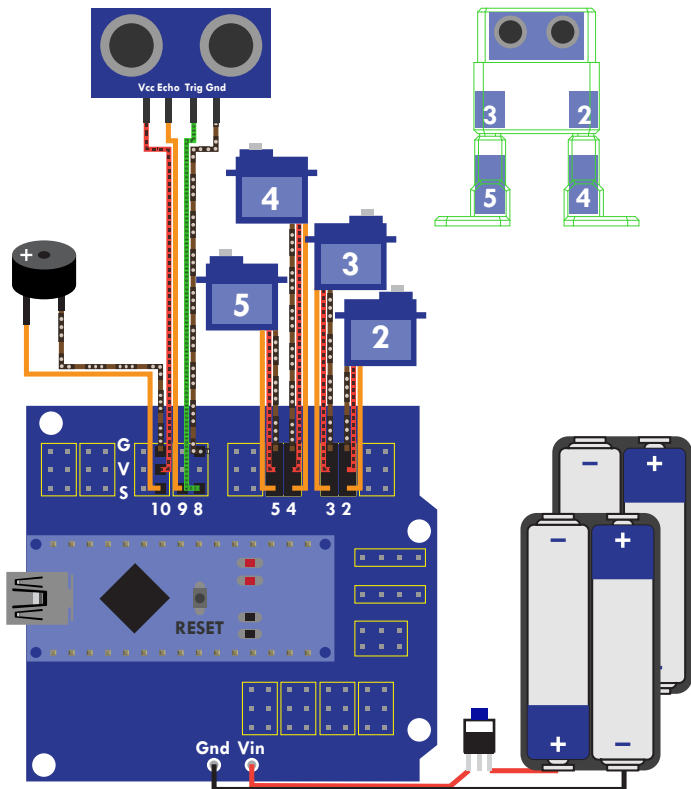
b





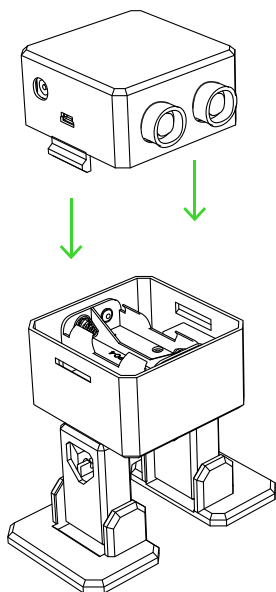
*cable colors may vary

10

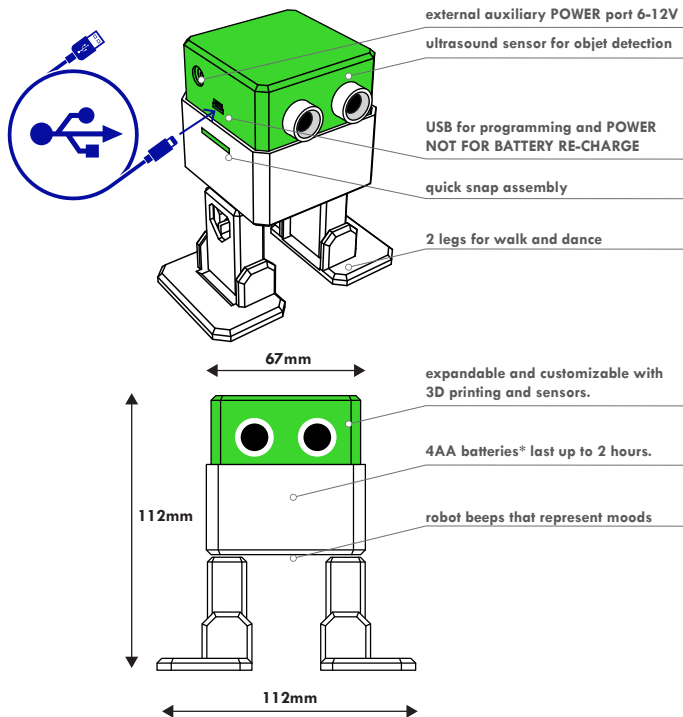


*cable colors may vary

*AA batteries not included

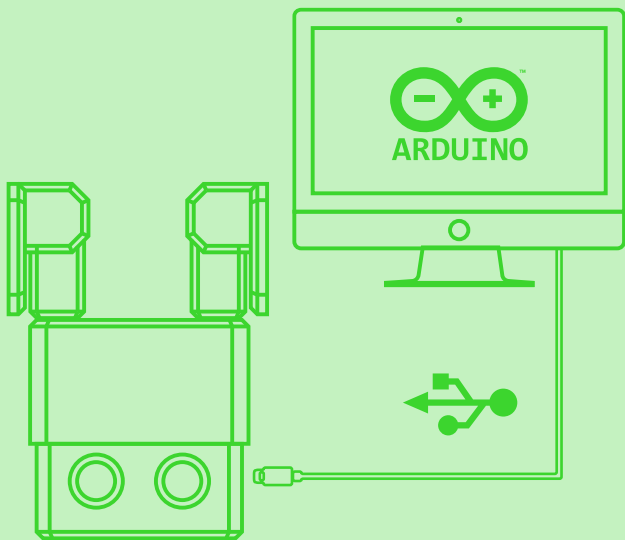


12



DIY

ARDUINO PROGRAMMING 编程



1



a

download Arduino for FREE to your computer
from www.arduino.cc



choose the appropriate Operating System
installation package for your computer.



b

install Arduino in your computer...

a go to ottodiy.com in the build & learn section
sign up, download and unzip [OTTO_DIY_all.zip](#)

b from the “driver” folder install [CH341SER](#)

 choose the appropriate Operating System
installation package for your computer.

c copy or move all “[libraries](#)” folders to:

C:\Documents\Arduino\libraries\
(or wherever your Arduino library folder is)

d copy or move all “[OTTO_](#)” folders to:

C:\Documents\Arduino\
(or wherever your Arduino sketch folder is)

3



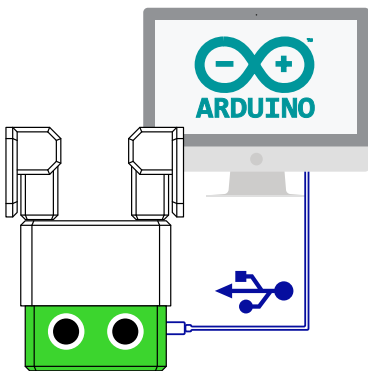
a

open Arduino and
open OTTO_avoid.ino



b

Connect Otto to your computer USB

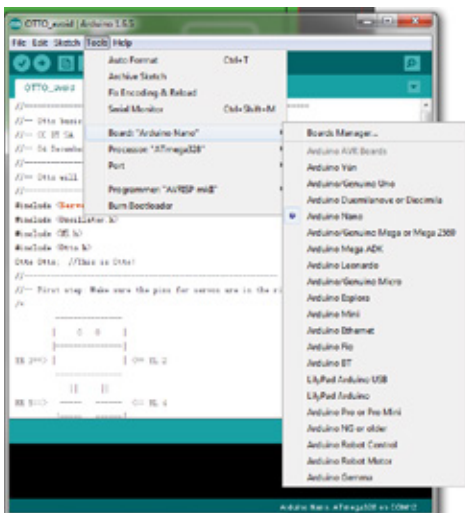


4



select in Arduino Tools/

- Board: “Arduino Nano”
- Processor: “ATmega328”
- Port COM# (where your Otto is connected)



5



a

verify the code



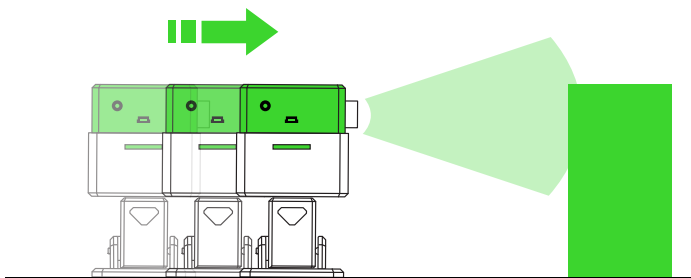
b

upload the code



c

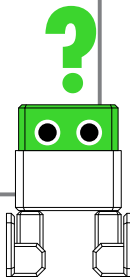
Otto will walk endless until detect obstacles to avoid



in Arduino the principal loop code looks like this:

OTTO_avoid.ino

```
52 | void loop() {  
    if(obstacleDetected){  
        Otto.sing(S_surprise);  
        Otto.playGesture(OttoFretful);  
        Otto.sing(S_fart3);  
        Otto.walk(2,1300,-1);  
        Otto.turn(2,1000,-1);  
        delay(50);  
        obstacleDetector();  
    }  
    else{  
        Otto.walk(1,1000,1);  
        obstacleDetector();  
    }  
}
```



sing function:

Otto.sing(S_surprise);

└──┬──┘
|
sing function

("sound to make")



try change sound:

(S_surprise);

(S_OhOoh);

(S_OhOoh2);

(S_cuddly);

(S_sleeping);

(S_happy);

(S_superHappy);

(S_happy_short);

(S_sad);

(S_confused);

(S_fart1);

(S_fart2);

(S_fart3);

(S_mode1);

(S_mode2);

(S_mode3);

(S_connection);

(S_disconnection);

(S_buttonPushed);

play Gesture function:

```
Otto.playGesture(OttoFretful);
```

play Gesture function

("emotion to express")

try change emotion:

(OttoSuperHappy);



(OttoSad);



(OttoSleeping);



(OttoFart);



(OttoConfused);



(OttoFretful);



(OttoLove);



(OttoAngry);



(OttoMagic);



(OttoWave);



(OttoVictory);



(OttoFail);



move functions:

Otto.walk(2,1300,-1);



move function (“#steps, Time[ms], direction”)

try change move function to:

Otto.walk(1,1000,1);

Otto.walk(1,1000,-1);

Otto.turn(3,1000,1);

Otto.turn(3,1000,-1);

Otto.bend(2,1000,1);

Otto.bend(2,500,-1);

Otto.shakeLeg(1,1000,1);

Otto.shakeLeg(1,500,-1);

Otto.moonwalker(1,1000,moveSize,1); moveSize: “height of the move”

Otto.moonwalker(1,1000,30,1);

Otto.crusaito(1,1000,moveSize,1);

Otto.flapping(1,1000,moveSize,1);

Otto.swing(1,1000,moveSize);

Otto.updown(1,1000,moveSize);

Otto.tiptoeSwing(1,1000,moveSize);

Otto.jitter(1,1000,moveSize);

Otto.ascendingTurn(1,1000,moveSize);

Otto.jump(1,1000);

10

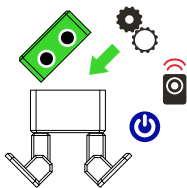


post your creations online

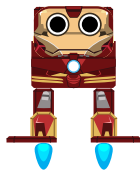


#OttoDIY share!

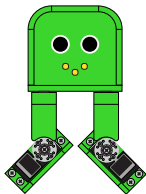
expand...



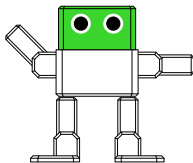
customize



modify



remix





build your own robot
打造你自己的机器人

ottodiy.com



wanted Otto builders

do you have what it takes?

ottodiy.com

