PINGPONG ROBOT
G SERIES

CONTACT INFORMATION

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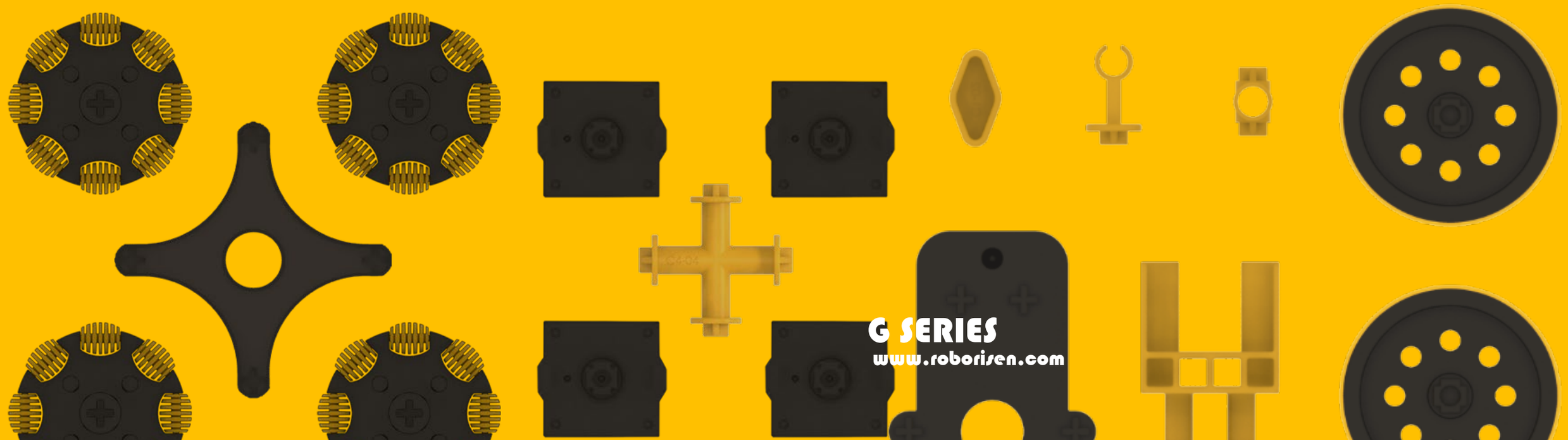
www.roborisen.com

PINGPONG ROBOT
G SERIES

Manual Book

G SERIES Manual Book



G SERIES
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PINGPONG ROBOT
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Scratch 3.0

TINY & SMART
REAL IoT ROBOT

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PINGPONG ROBOT
G SERIES

Product Composition

1. G2
2. G3
3. G4
4. G6

User's Manual

1. Product Introduction
2. PingPong robot (Cube)
3. Operation of Button
4. Matters Related to Charging
5. Connection to Smartphone

PINGPONG ROBOT
G SERIES

Robot operation, App function
Assembly flowchart

G2.
AUTO CAR
ROLLING CAR
WORM BOT

G3.
BATTLE BOT
DRAWING BOT
HUMAN BOT

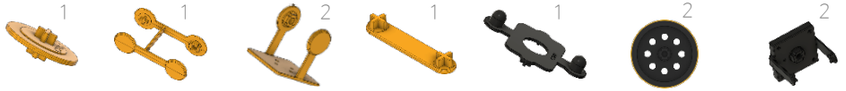
G4.
CRAWING BOT
DANCING BOT
OMNI BOT
ROBOT ARM

G6.
HEX BOT
TWIST BOT (6)
BIPED BOT

COMPOSITION: G2 LINK ONLY

PINGPONG G2 Link Box

Link 8 EA



COMPOSITION : G3 LINK ONLY

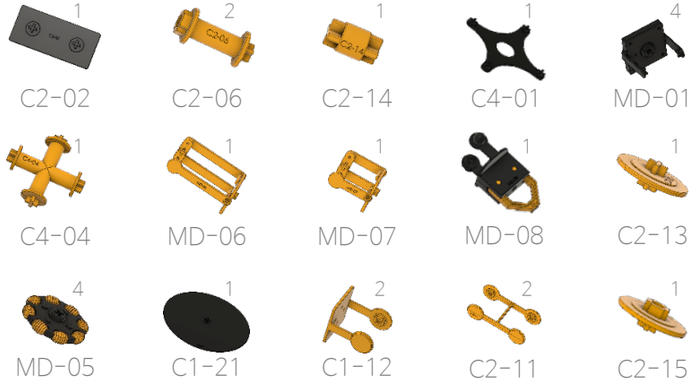
PINGPONG G3 Link Box

Link 17 EA

COMPOSITION: G4 LINK ONLY

PINGPONG G4 Link Box

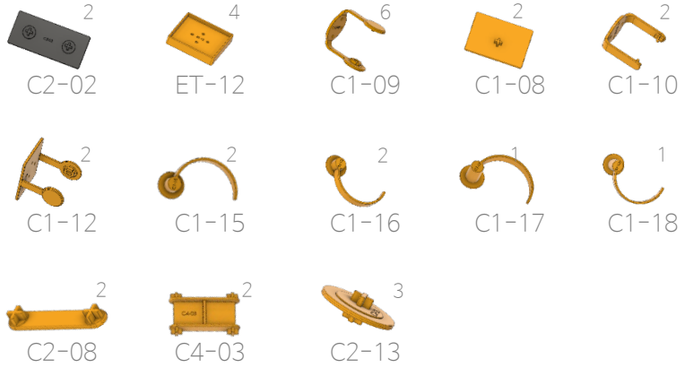
Link 24 EA



COMPOSITION: G6 LINK ONLY

PINGPONG G6 Link Box

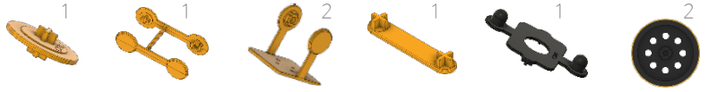
Link 31 EA



COMPOSITION: G2 FULL SET

PINGPONG G2 Full set

Link 8 EA



Cube 2 EA

Charging Cable

COMPOSITION: G3 FULL SET

PINGPONG G3 Full set

Link 17 EA

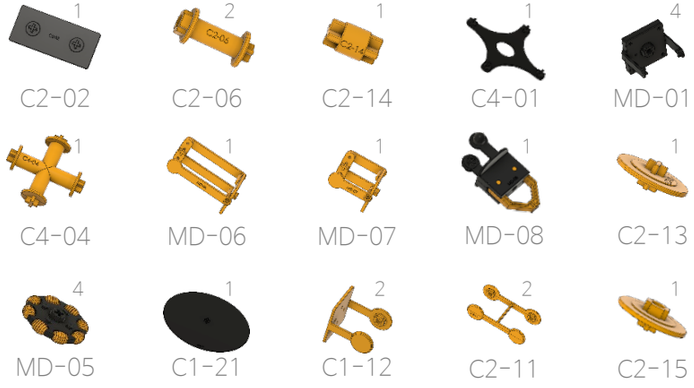
Cube 3 EA

Charging Cable

COMPOSITION: G4 FULL SET

PINGPONG G4 Full set

Link 24 EA



Cube 4 EA

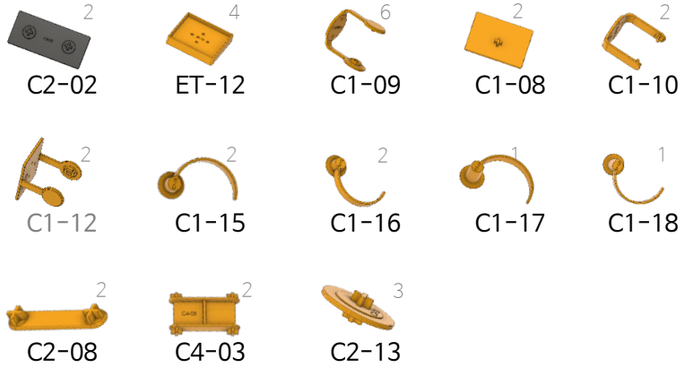
Charging Cable

COMPOSITION: G6 FULL SET

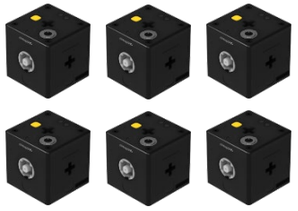
PINGPONG G SERIES

PINGPONG G6 Full set

Link 31 EA



Cube 6 EA



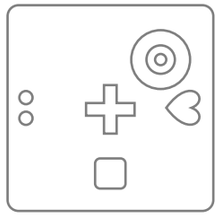
Charging Cable

PINGPONG ROBOT G SERIES

User's Manual

PRODUCT INTRODUCTION

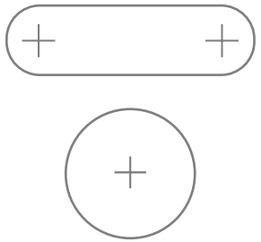
1



PINGPONG ROBOT (CUBE)

This is the basic module of PingPong Robot, which is called "Cube." The button, various sensors and 4-pin expansion port are built in Cube.

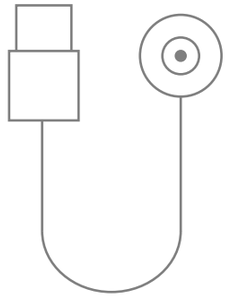
2



LINK

It is the framework that connects Cube and Cube, which can make various shapes of Robots using a variety of Links. The Links for the basic model are included in G2, G3 and G4 boxes.

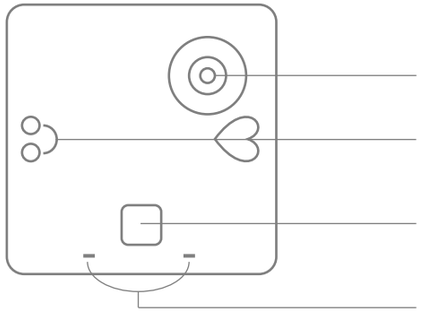
3



CHARGING CABLE

This is a dedicated charger that can charge PingPong Robot. Magnets are attached for easy connection.

PINGPONG ROBOT (CUBE)

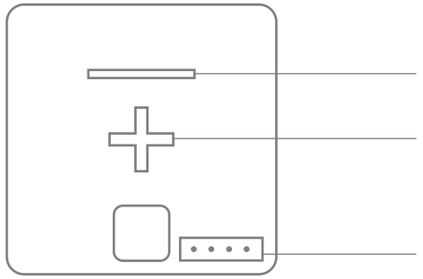


Magnetic Charging Terminal

Infrared Proximity Sensor

Button

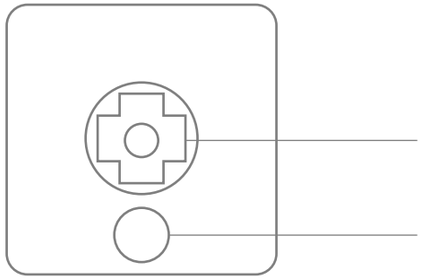
Connection & Charging Indicator



LED Indicator

Link Hole

4 Pin Expansion Port
(GND, VCC, SCL, SDA)

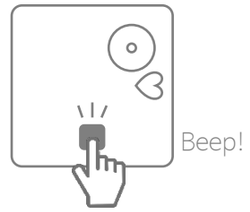


Stepper Motor

The shape of figure

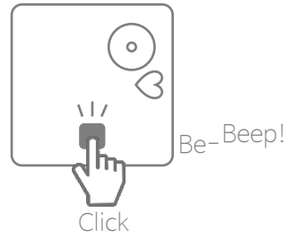
OPERATION OF BUTTON

1. Turning On



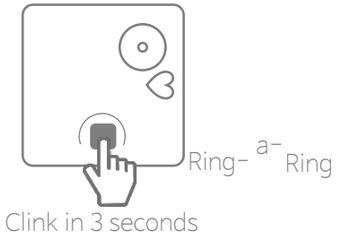
If you press the button once briefly when the power is off, PingPong Robot is turned on.

2. Connecting



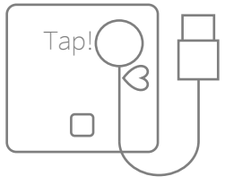
After running a Smartphone App or computer connection program, if you press the button once more when the power is on, PingPong Robot makes an attempt to connect with the device.

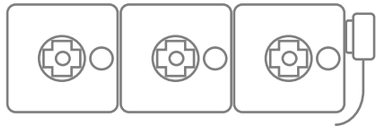
3. Turning Off

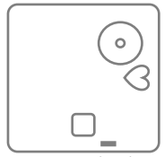


If you press and hold the button when the power is on, PingPong Robot is turned off.

MATTERS RELATED TO CHARGING







You can charge PingPong Robot using the Magnet Charging Cable built in the box. When charging USB, use a rated 5V/3A dedicated charger. When using a USB port of laptop or PC, there is a concern of terminal damage.

Several Cubes can be charged at a time connecting together.
It takes about an hour from 1 to 6 Cubes to the full charge, and takes more time for 7 Cubes for more.

When charging starts, LED next to the button lights in red, and the light turns off when fully charged.

- Be sure to turn off the power when PingPong Robot is not used.
- As battery power supply may be insufficient depending on the robot model, fully charge it before use.
- As for the battery of cube, it can be used continuously for about an hour for a wheel-driven robot, and about 20 minutes for a joint-driven robot (or operation).
- In the event of the sudden voltage drop due to the continuous operation or battery discharge due to long use, LED indicator flickers in red 5 times and the power of Cube is turned off.
- After 5 minutes from disconnecting power and wireless connection, the system becomes the dormant state (flickering in white), and the power turns off automatically after 5 minutes.

CONNECTION TO SMARTPHONE

PINGPONG G SERIES

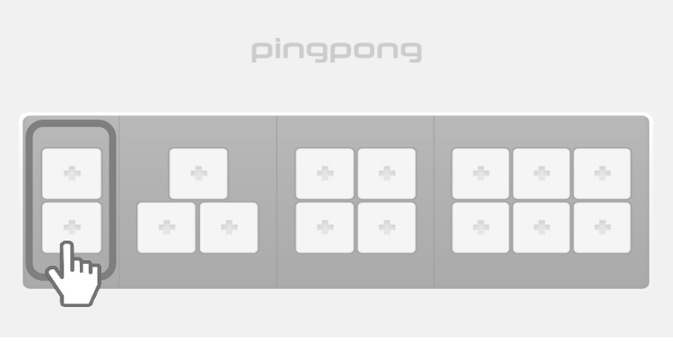
1. Search the “PingPong Robot” application with a Smartphone and install it.

PingPong Robot
RoboRisen

2. Turn on Bluetooth and GPS in the Smartphone setting window, and allow use.

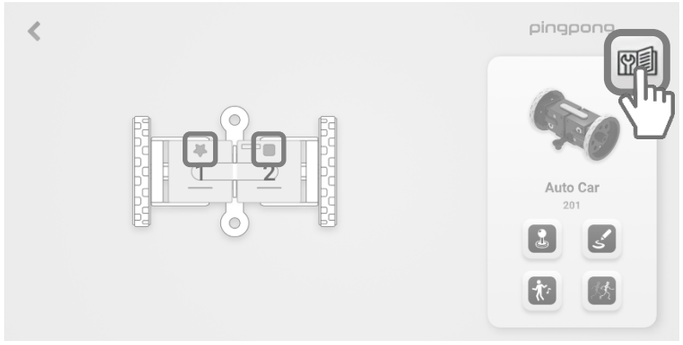
CONNECTION TO SMARTPHONE

3. Run the application and select two Cubes on the screen.
(e.g. AUTO CAR)

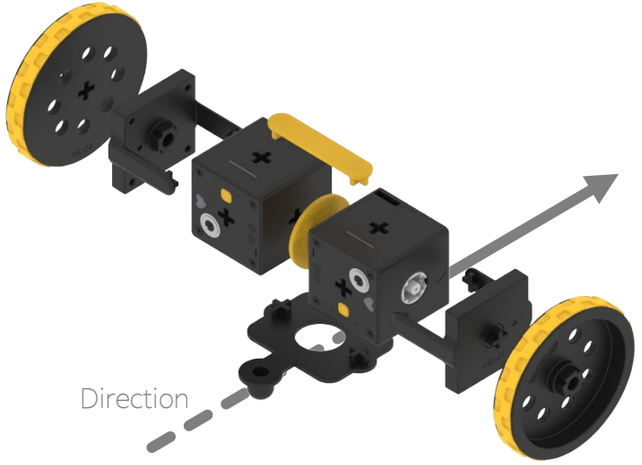


4. Select the robot to connect.

5. Assemble it by referring the development view or the assembly flow chart.

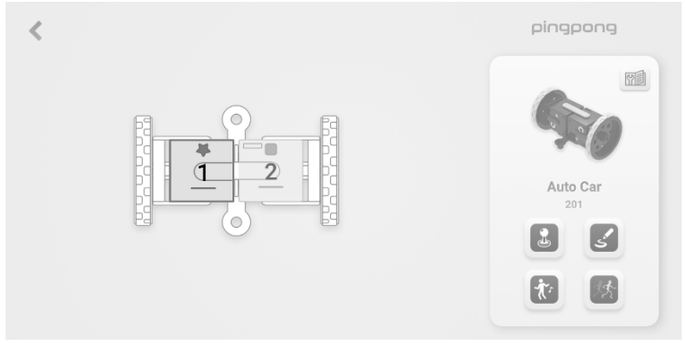


The assembly flow chart is at the last of the manual, and there are the assembly sequences of all the robots that can be assembled in this series.
The shape of the upper figure should be assembled to fit the star and square, so that the front and the rear are not changed when operating with a joystick.

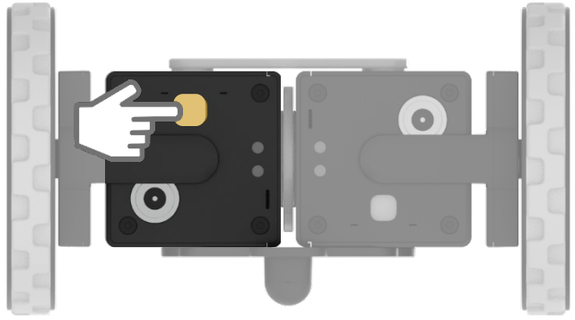


CONNECTION TO SMARTPHONE

6. Find the first Cube on the Smartphone screen.

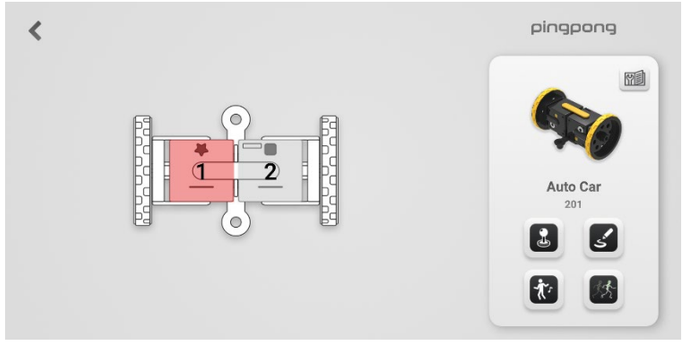


7. After turning on the power by pressing briefly the first Cube, press the button once more to connect.

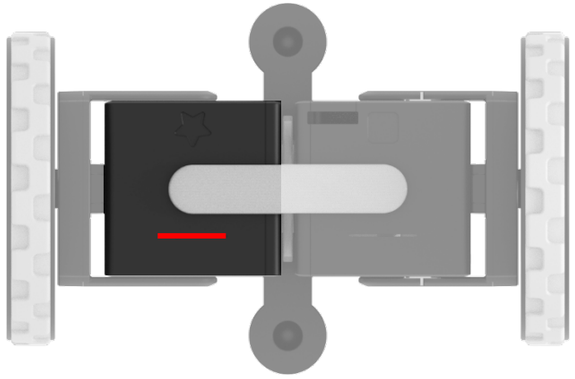


CONNECTION TO SMARTPHONE

8. When connected, the color of first Cube turns red on the application screen.

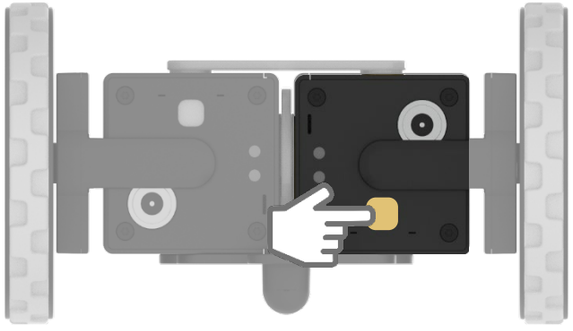


9. At the same time, the LED indicator on the left Cube flickers in red.



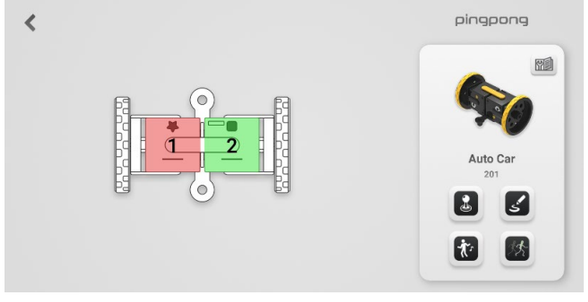
CONNECTION TO SMARTPHONE

10. Connect the second Cube in the same way.



It turns on If you press once briefly when it is turned off, and PingPong Robot makes an attempt to connect with the device if you press it once more when it is turned on.

11. Connection is completed with buzzer sound.



Joystick

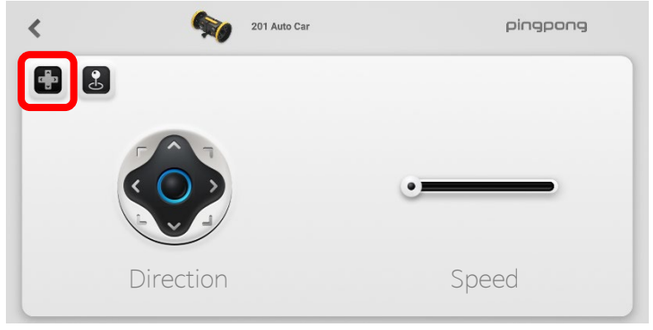
Drawing

Dancing to the music

Motion Maker

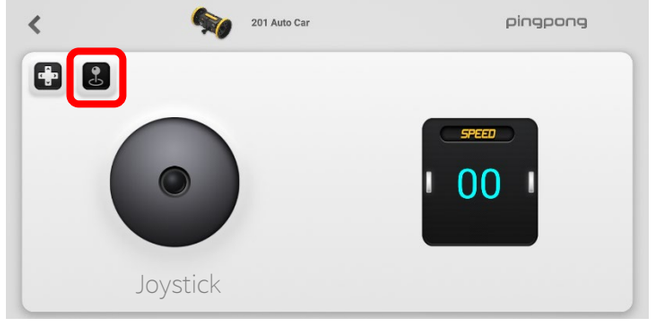
APP OPERATION

Moving with a joystick



You can control the Auto Car by pressing the button. Press the left arrow key to move in straight, and press the blue circle to stop.

You can control the operation speed by using the speed bar on the right.

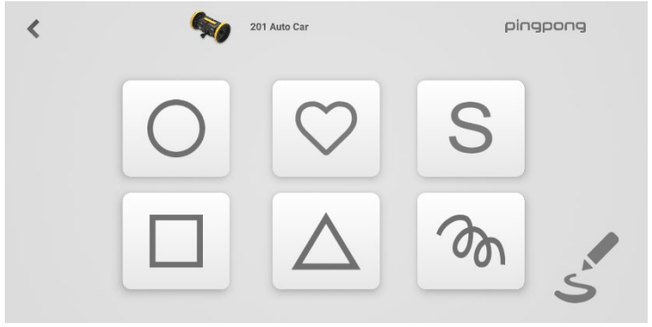


You can control it freely by moving the joystick. The PingPong Robot moves faster if you pull the joystick more.

The speed window on the right shows the current speed as the number of 1 ~ 100.

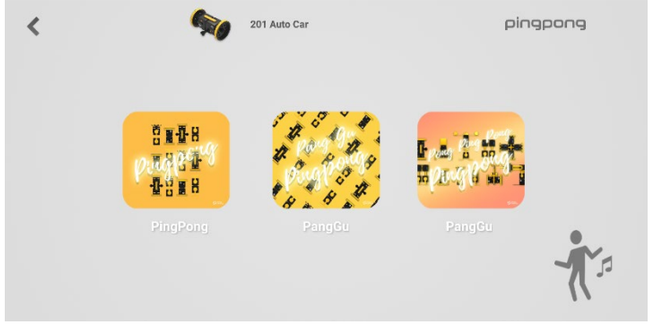
APP OPERATION

Drawing the basic figure



If you press the desired figure, it moves according to the specified figure. In case of Drawing Bot, you will draw a figure by lowering and lifting a pen.

Dancing to the music



If you press the icon, it will dance according to the predetermined motion with the theme song of PingPong Robot.

APP OPERATION

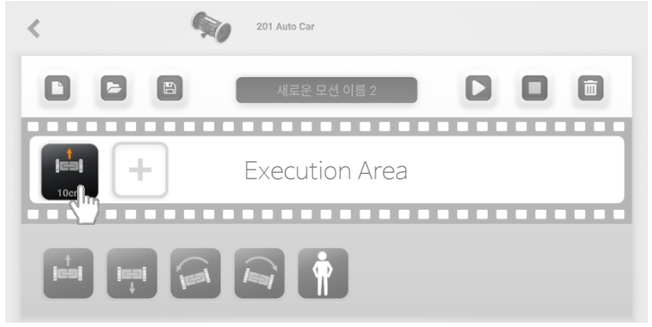
Motion Maker (To create motion)

It is the menu to create the desired motion and move the PingPong Robot at will.

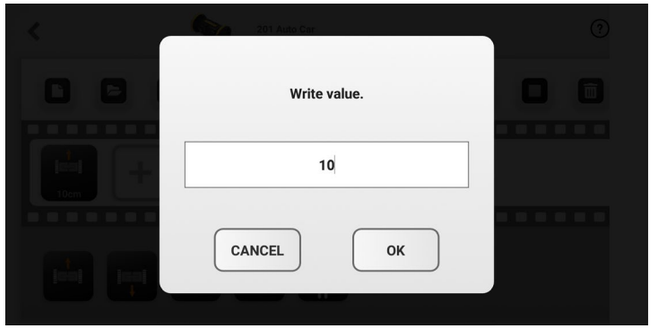
After pressing and dragging the icons below, you will create the motion by placing them in order in the execution area of the film shape.

APP OPERATION

Motion Maker (To modify motion)

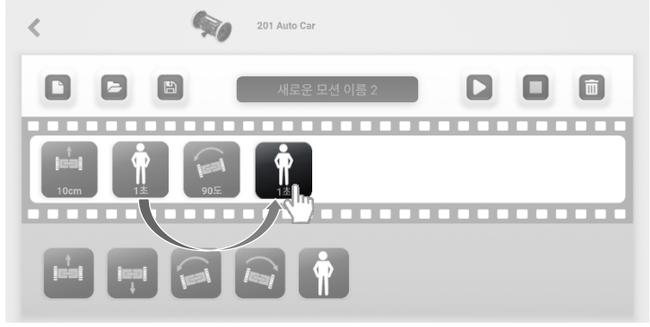


By pressing the motion icon in the execution area, you can change the values (movement distance, rotation angle and waiting time) for each motion.



APP OPERATION

Motion Maker (To change the sequence and to play)

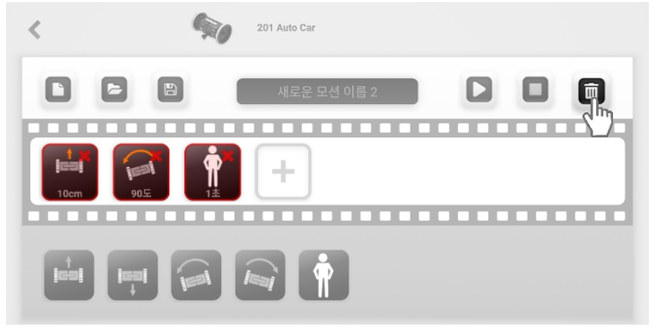


If you press the motion icon that you want to change and move it to another place, the sequence of motion is changed.

If you press the play button, the PingPong Robot moves in the order of the icons.

APP OPERATION

Motion Maker (To delete motion)



You can delete unnecessary motion by pressing the trash button.
When deleting is completed, press the trash button again to clear the delete mode.

New — Clearing all the motions in the execution area and creating the new ones..

Play — PingPong Robot moves according to the sequence of the icons in the execution area..

Open — Invoking the saved motion.

Stop — Stopping the motion of a moving PingPong Robot.

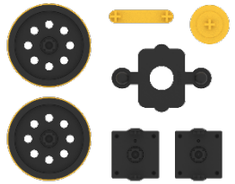
Save — Saving the motion in the execution area to a Smartphone.

Delete — Deleting unwanted motions in the execution area.

PINGPONG ROBOT G SERIES

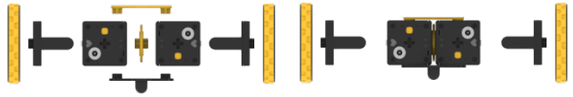
ROBOT OPERATION AND APP FUNCTION

PINGPONG G2 AUTO CAR

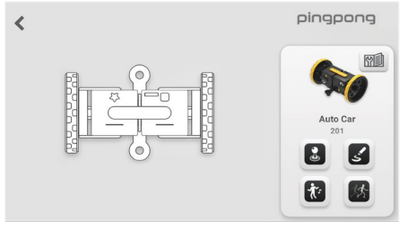


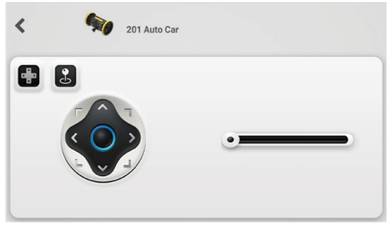
Links

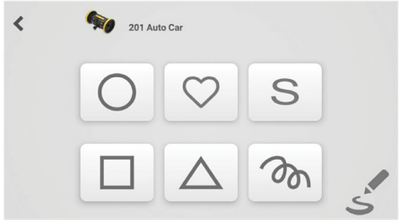
Cubes



Assembly







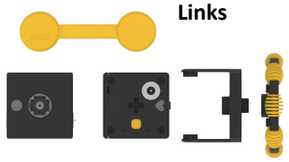
App functions

PINGPONG G2 ROLLING CAR

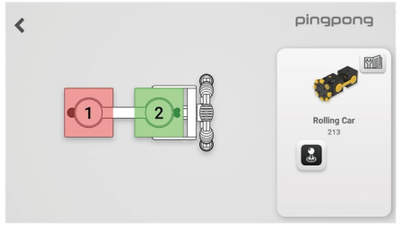
PINGPONG
G SERIES

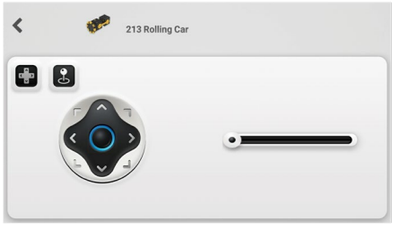
Links

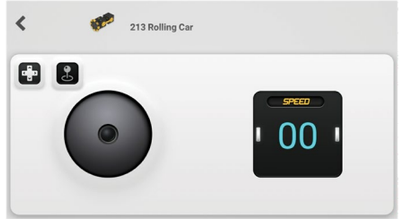
Cubes



Assembly

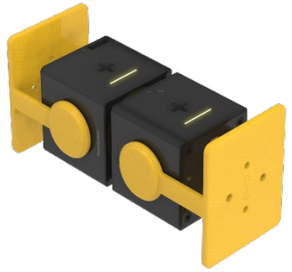






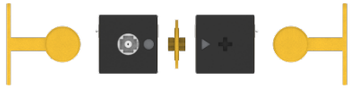
App functions

PINGPONG G2
WORM BOT

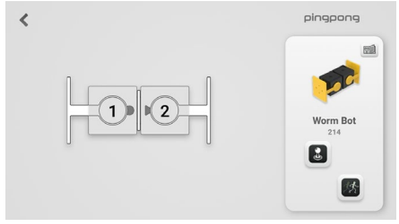


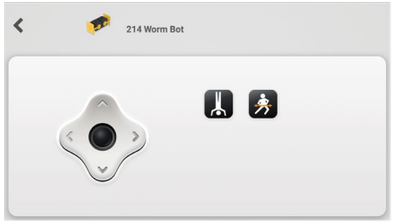
Links

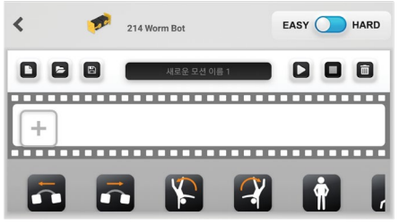
Cubes



Assembly



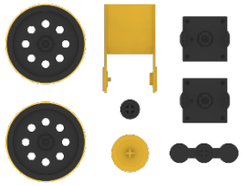




App functions

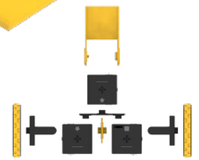
PINGPONG G3
BATTLE BOT

PINGPONG
G SERIES



Links

Cubes



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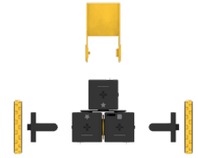
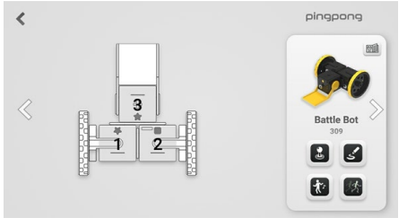
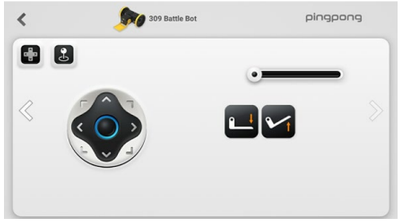
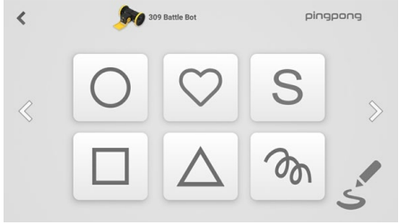


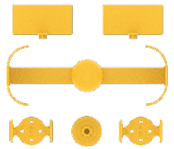






App functions

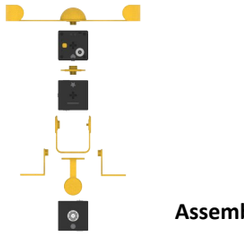
PINGPONG G3 HUMAN BOT



Links

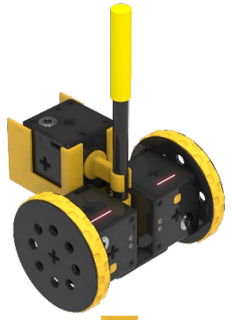
Cubes

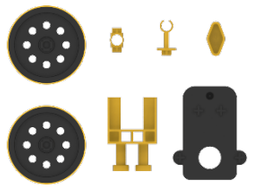
Assembly



App functions

PINGPONG G3 DRAWING BOT





Links

Cubes

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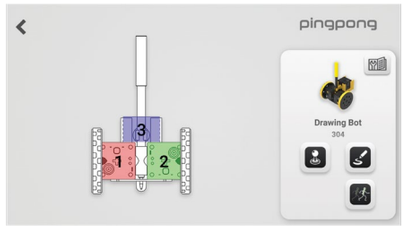
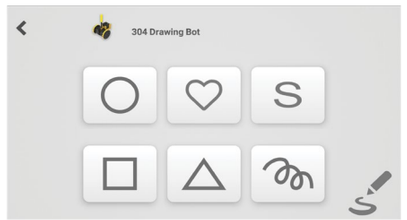
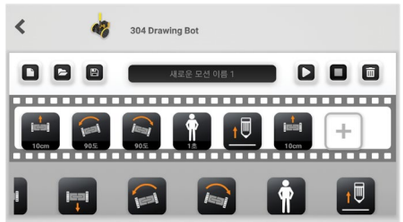
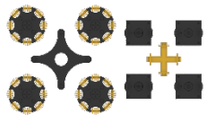






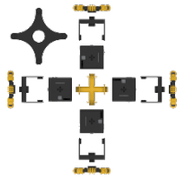
App functions

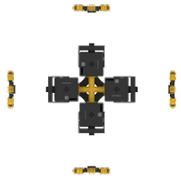
PINGPONG G4 OMNI BOT



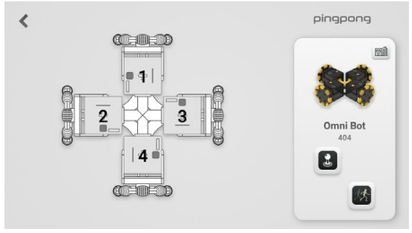
Links

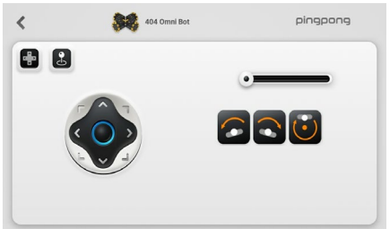
Cubes

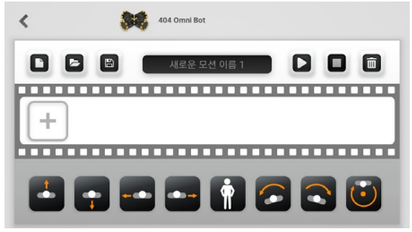




Assembly



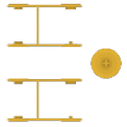




App functions

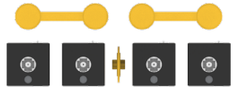
PINGPONG G4 CRAWING BOT

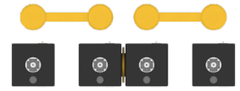
PINGPONG G SERIES



Links

Cubes





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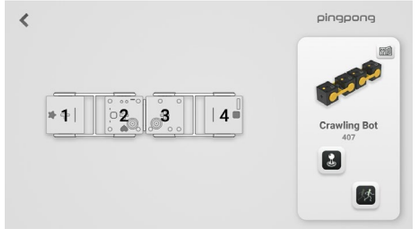
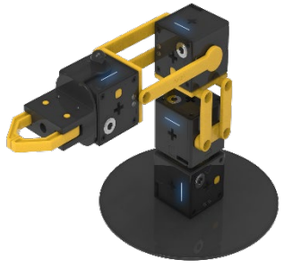
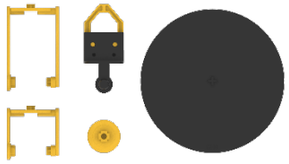


App functions

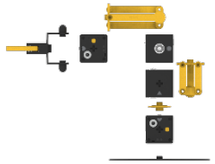
PINGPONG G4 ROBOT ARM

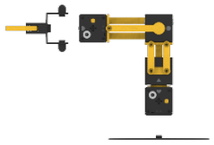




Links

Cubes





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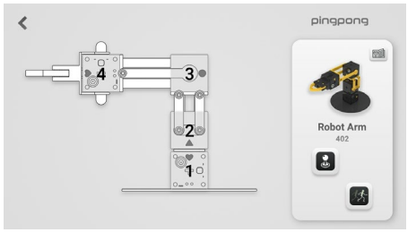
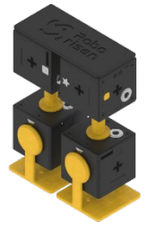
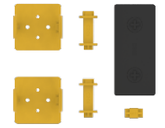


App functions

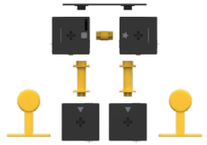
PINGPONG G4 DANCING BOT

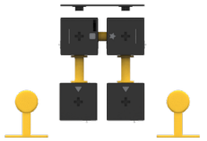




Links

Cubes





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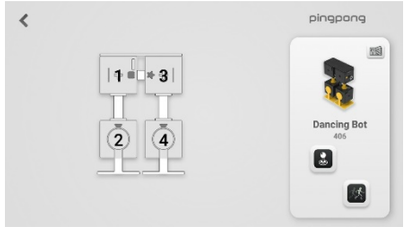
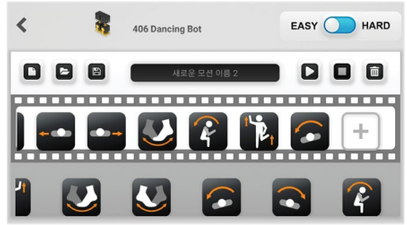
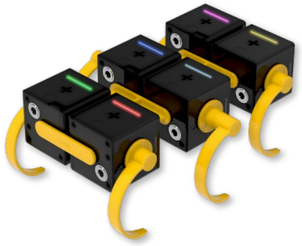
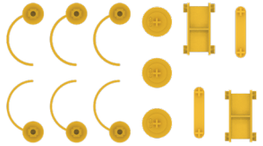




App functions

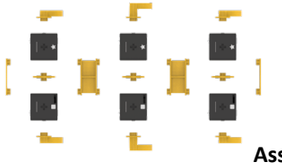
PINGPONG G6
HEX BOT

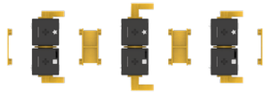




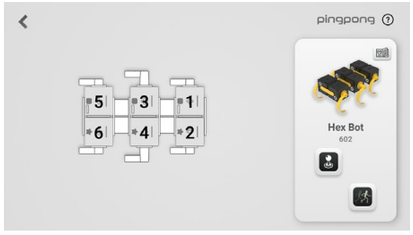
Links

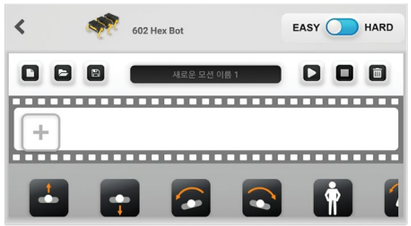
Cubes





Assembly

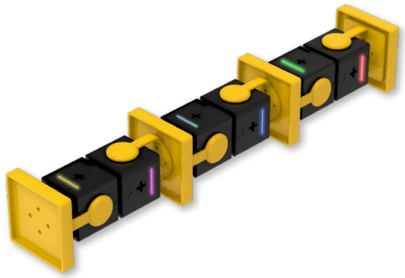


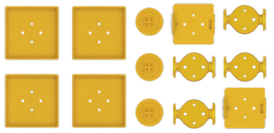


App functions

PINGPONG G6
TWIST BOT(6)

PINGPONG
G SERIES

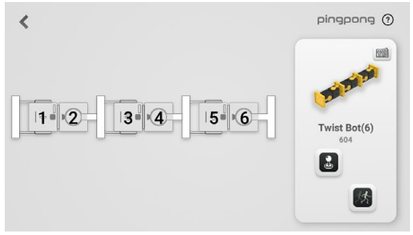


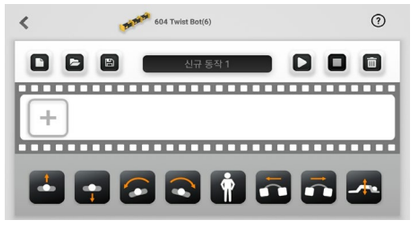


Links

Cubes

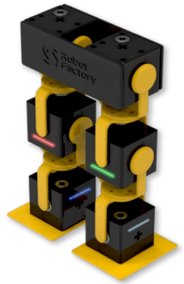
Assembly

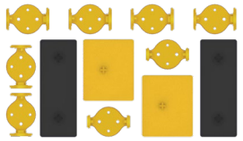




App functions

PINGPONG G6
BIPED BOT

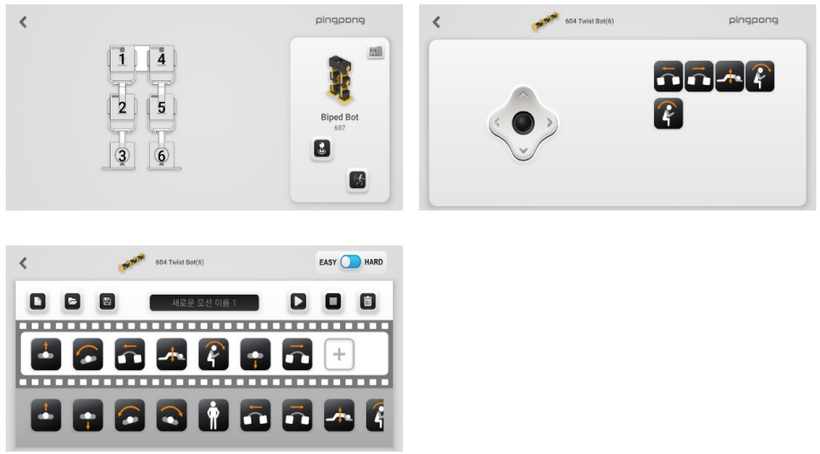




Links

Cubes

Assembly



App functions

PINGPONG ROBOT
G SERIES

Assembly flowchart

G2.
AUTO CAR
ROLLING CAR
WORM BOT

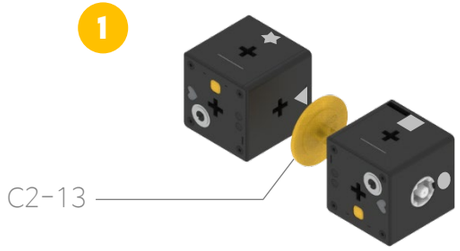
G3.
BATTLE BOT
DRAWING BOT
HUMAN BOT

G4.
CRAWING BOT
DANCING BOT
OMNI BOT
ROBOT ARM

G6.
HEX BOT
TWIST BOT(6)
BIPED BOT

PINGPONG G2 AUTO CAR ASSEMBLY

1



Assemble a round link(C2-13) according to the shape of figure and the position of button.

2

Combine the rod Link (C2-08) on the upper side and Ball Caster (C2-07) on the bottom.

3

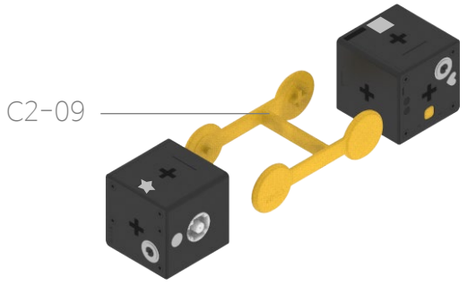
Combine the Acceleration Gear (MD-01) nearby the Cube. If the Link does not enter well, turn the cross (+) shape of the gear to adjust the groove of the motor.

4

Connect the Wheel (WL-04) to the Acceleration Gear.

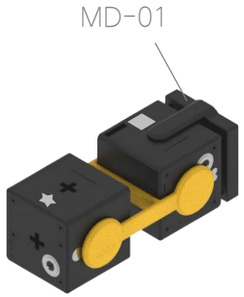
PINGPONG G2 ROLLING CAR ASSEMBLY

1



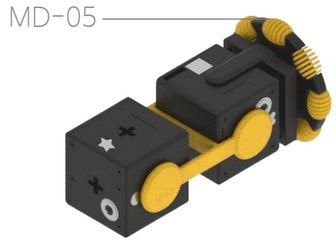
According to the shape of figure and the position of button, combine the first Cube on the long side of H-type Link (C2-09), and combine the Second Cube on the short side.

2



Combine the Acceleration Gear (MD-01) with second Cube (short Link). If the Link does not fit well, turn the cross (+) shape of the gear to adjust the groove of the motor.

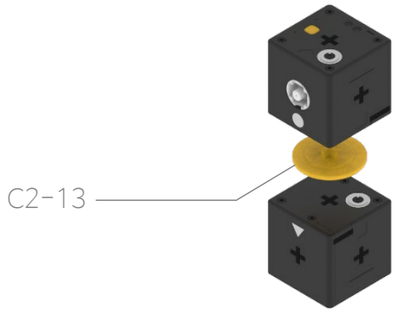
3



Connect the Wheel (MD-05) to the Acceleration Gear.

PINGPONG G2 WORM BOT ASSEMBLY

1

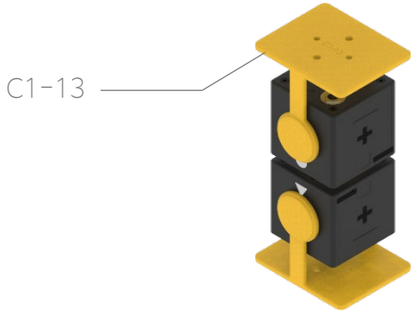


Assemble a round link(C2-13) according to the shape of figure and the position of button.

2

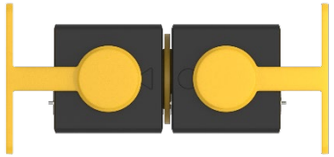
Connect the Link (C2-13) in the middle of Cube.

3



Connect foot Links (C1-13) to two Cubes.

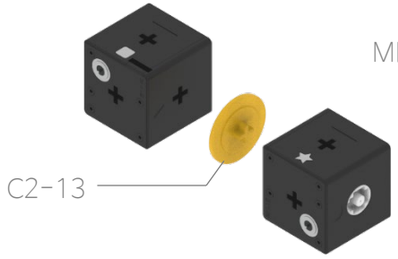
4



Before moving, lay Worm bot on its side as shown in the picture below.

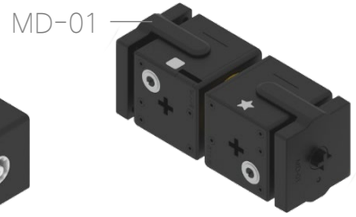
PINGPONG G3 BATTLE BOT ASSEMBLY

1



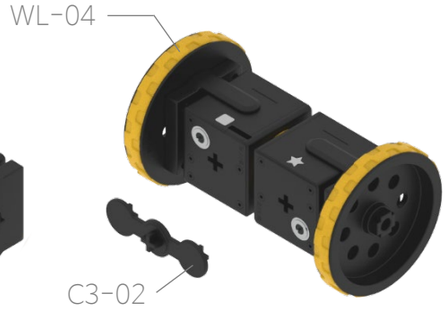
Assemble the link(C2-13) according to the shape of figure and the position of button.

2



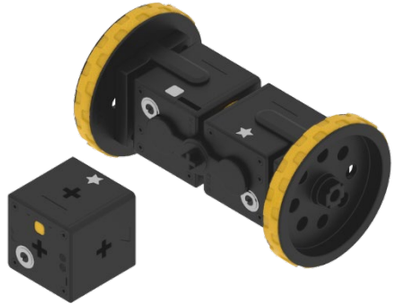
Combine the Acceleration Gear (MD-01) on both sides. If the Link does not enter well, turn the cross (+) shape of the gear to adjust the groove of the motor.

3



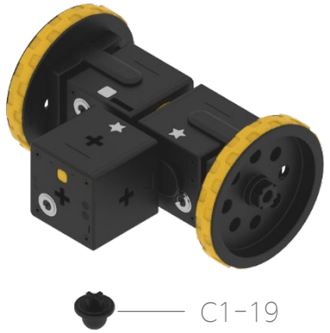
Inset the wheel into the Acceleration Gear. Combine Link(C3-02) according to the shape

4



Attach Cube according to the position of the figure shape.

5



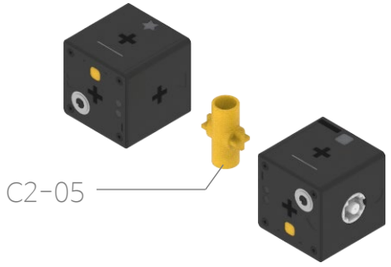
Attach the Link (C1-19) to the bottom of the Cube.

6

Attach the Link (C1-03) to both sides of the Cube.

PINGPONG G3 DRAWING BOT ASSEMBLY

1

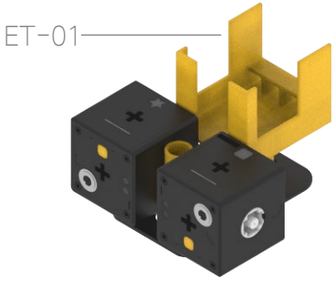


Assemble a tube link (C2-05) according to the shape of figure and the position of button.

2

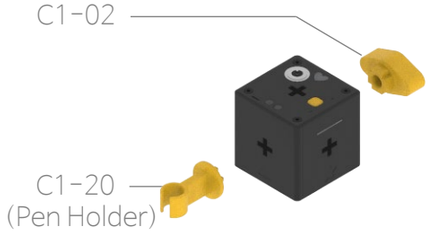
Attach the Link (C2-04) under two Cubes.

3



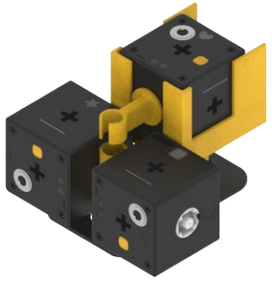
Combine the Link (ET-01).

4



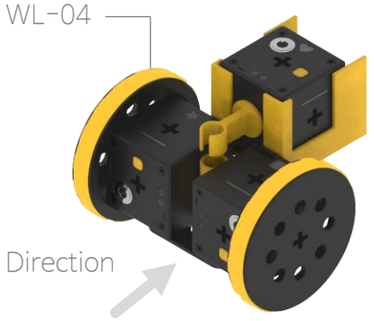
Attach the Pulley Link (C1-20) and the Pen Holder Link (C1-02).

5



Insert the assembled third Cube onto the Link (ET-01).

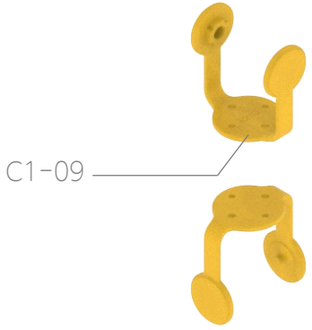
6



Attach the Wheel (WL-04) to both sides of Step 5 Cube.

PINGPONG G3 HUMAN BOT ASSEMBLY

1

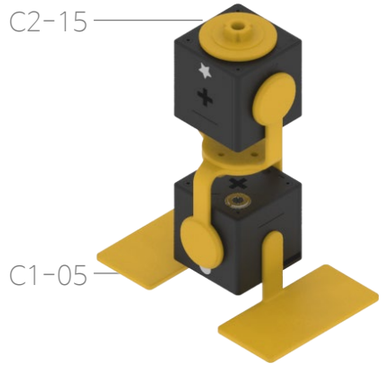


Combine two Links (C1-09) with small screws.

2

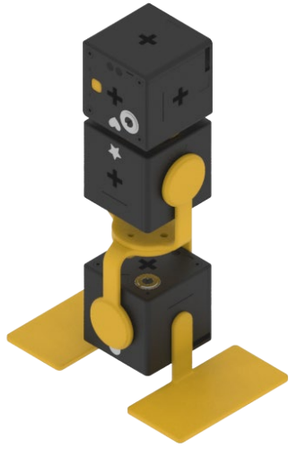
Attach two Cubes to the Link (C1-09). Assemble it according to the shape of button.

3



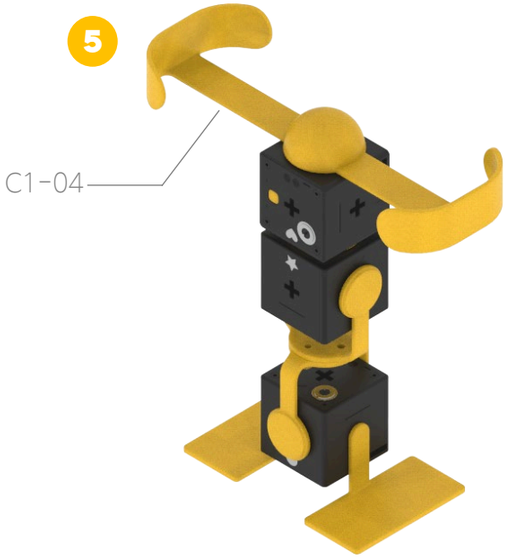
Attach the Link (C2-15) to the top of the Cube. Attach two Links (C1-05) to be the legs on both sides.

4



Assemble it according to the shape of figure and the position of button.

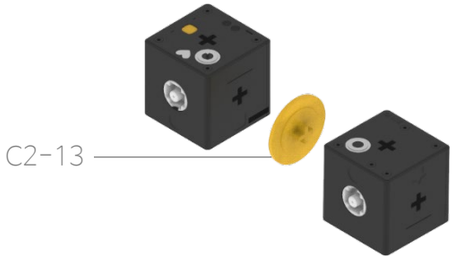
5



Attach the Link (C1-04) to the Cube.

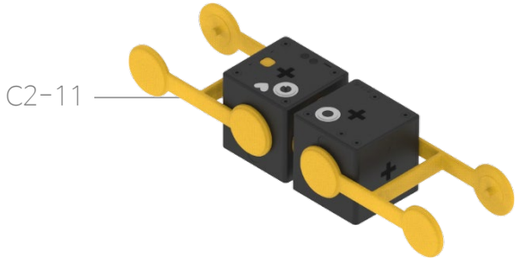
PINGPONG G4 CRAWING BOT ASSEMBLY

1



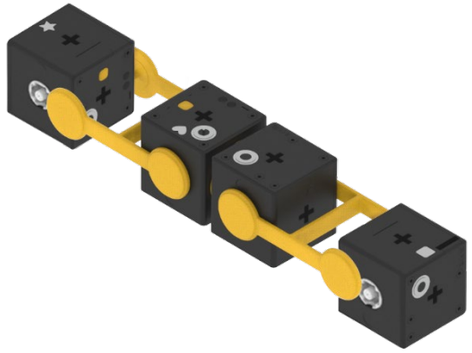
Assemble a round link (C2-13) according to the shape of figure and the position of button.

2



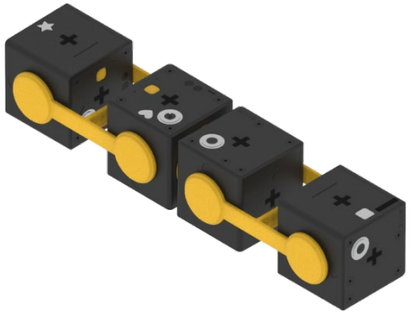
Attach two Links (C2-11) to Cube.

3



Assemble Cube according to the shape of figure and the position of button.

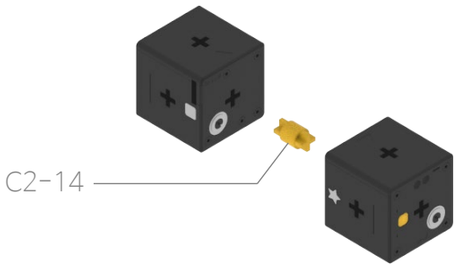
4



Complete the robot.

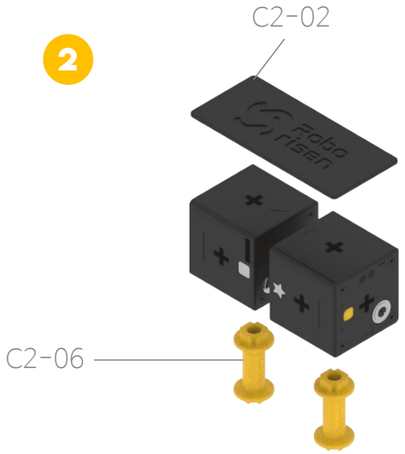
PINGPONG G4 DANCING BOT ASSEMBLY

1



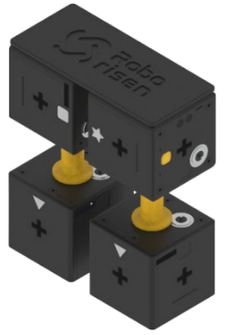
Assemble it according to the shape of figure and the position of button.

2



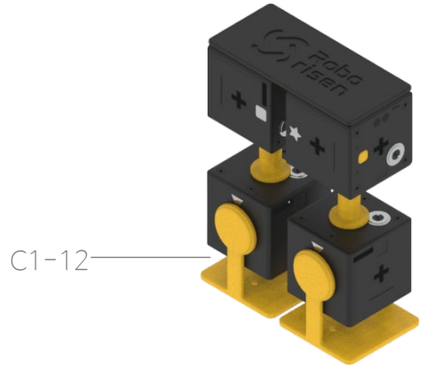
Attach two Links (C2-06) to the Cube.

3



Attach both Cubes.

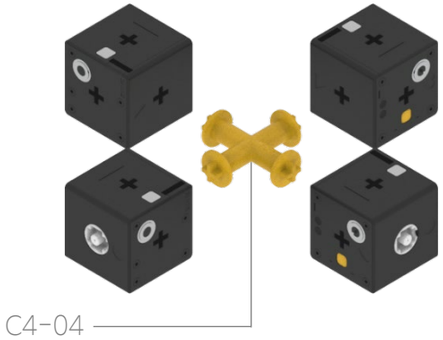
4



Attach leg links (C1-12) to the Cube.

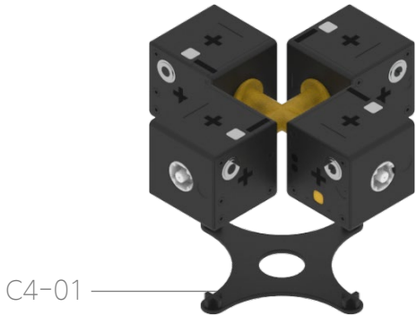
PINGPONG G4 OMNI BOT ASSEMBLY

1



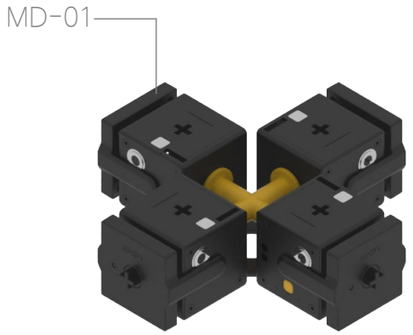
Assemble it according to the shape of figure and the position of button.

2



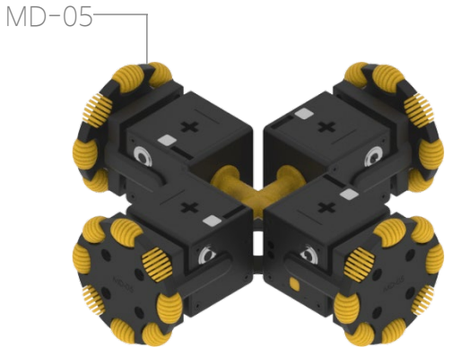
Attach Link (C4-01) to the Cube.

3



Assemble four Acceleration Gears (MD-01) to the Cube according to the position.

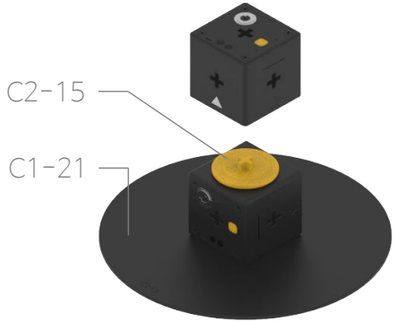
4



Attach the Wheel (MD-05) to the Acceleration Gear.

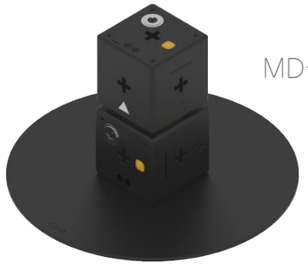
PINGPONG G4 ROBOT ARM ASSEMBLY

1

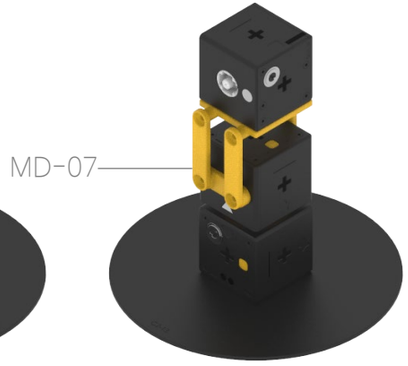


Assemble it according to the shape of figure and the position of button.

2

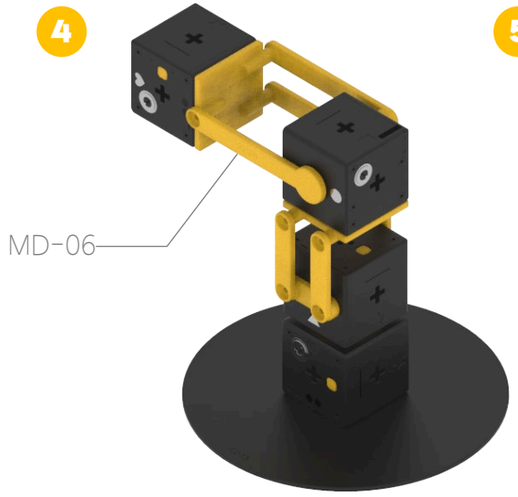


3



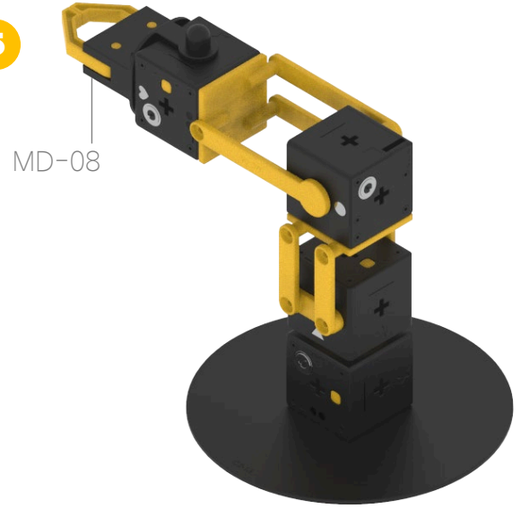
Attach Link (MD-07) to the Cube.

4



Attach Link (MD-06) to the Cube.

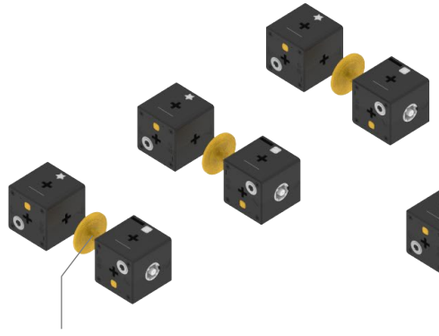
5



Attach Link (MD-08) to the Cube.

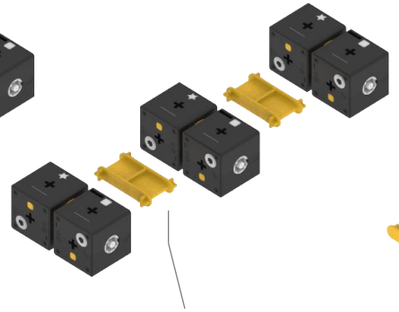
PINGPONG G6 HEX BOT ASSEMBLY

1



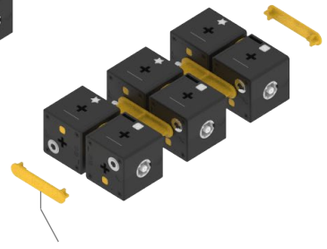
Assemble the three links (C2-13) according to the shape of figure and the position of button.

2



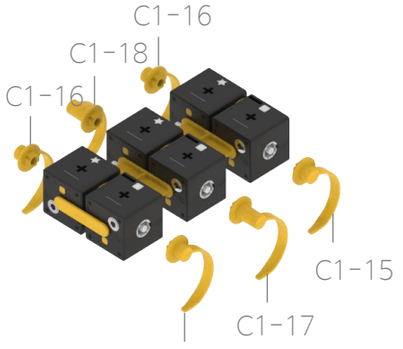
Attach two links(C4-03) in between twin cubes.

3



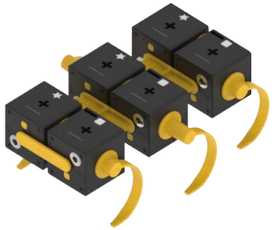
Add two links(C2-08) in front & back of robot.

4



Attach the links(C1-15, C1-16) to the front & hind legs, and the rest links(C1-17, C1-18) to the middle legs.

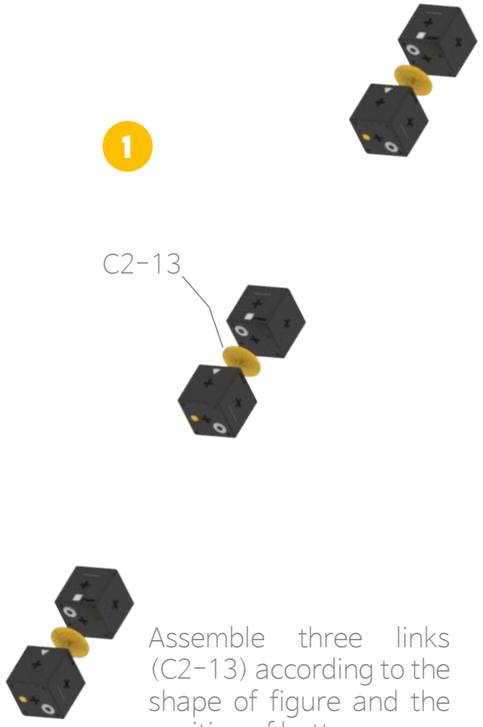
5



Assembly completed.

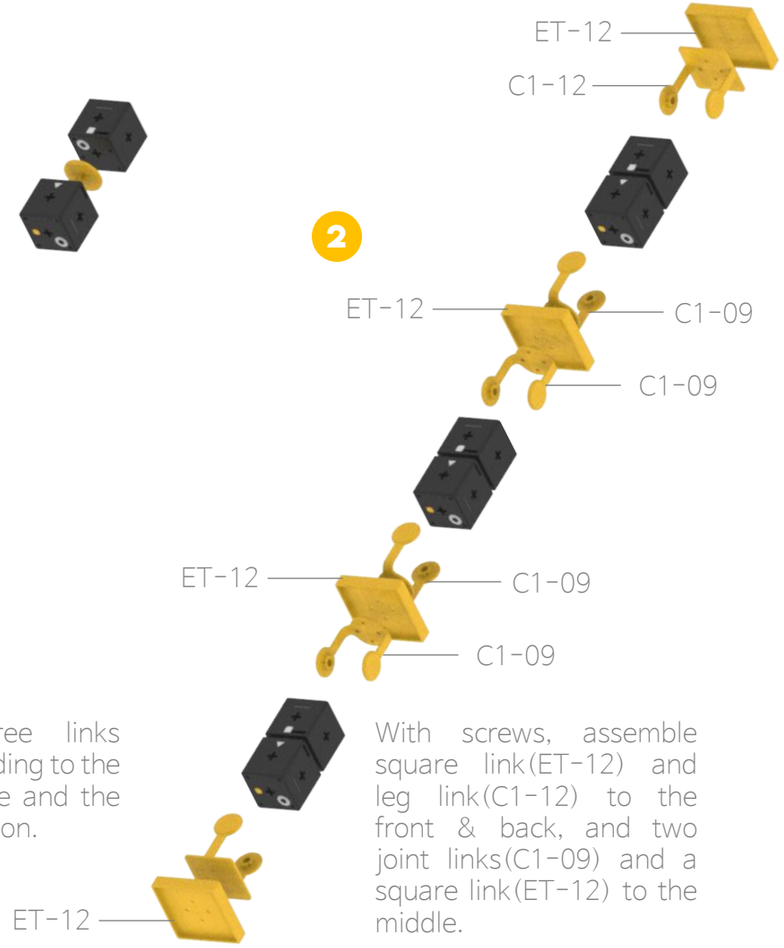
PINGPONG G6 TWIST BOT(6) ASSEMBLY

1



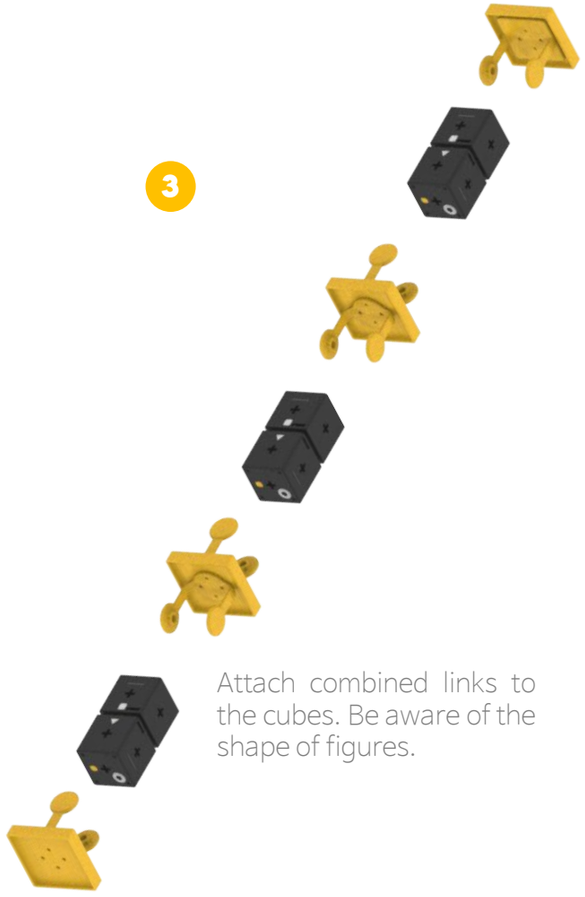
Assemble three links (C2-13) according to the shape of figure and the position of button.

2



With screws, assemble square link(ET-12) and leg link(C1-12) to the front & back, and two joint links(C1-09) and a square link(ET-12) to the middle.

3



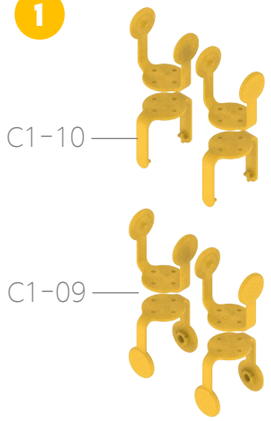
Attach combined links to the cubes. Be aware of the shape of figures.

4

Assembly completed.

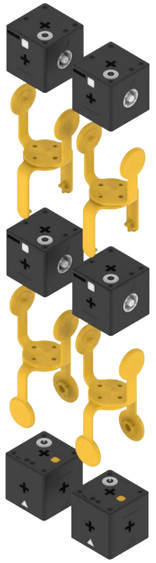
PINGPONG G6 BIPED BOT ASSEMBLY

1



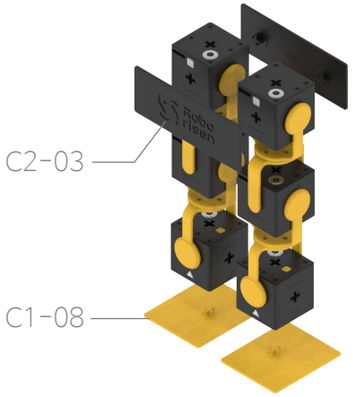
With screws, assemble the links(C1-10 to C1-09), and two links(C1-09). Be aware of its positions.

2



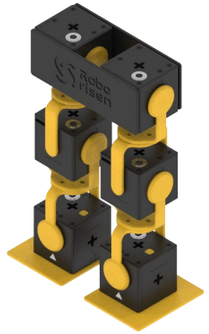
Assemble four combined links according to the shape of figure and the position of button.

3



Attach two plate links (C2-03) to the front and back of the robot, and two foot links (C1-08) to the bottom.

4



Assembly completed.

PINGPONG ROBOT
G SERIES

CONTACT INFORMATION

*IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT QNA@ROBORISEN.COM
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www.roborisen.com