# Microbit Robotics Beginner Level 2

# Lesson 2

## Lifting platform

Presented by Advanced Superlogic Team

# Today's Topic

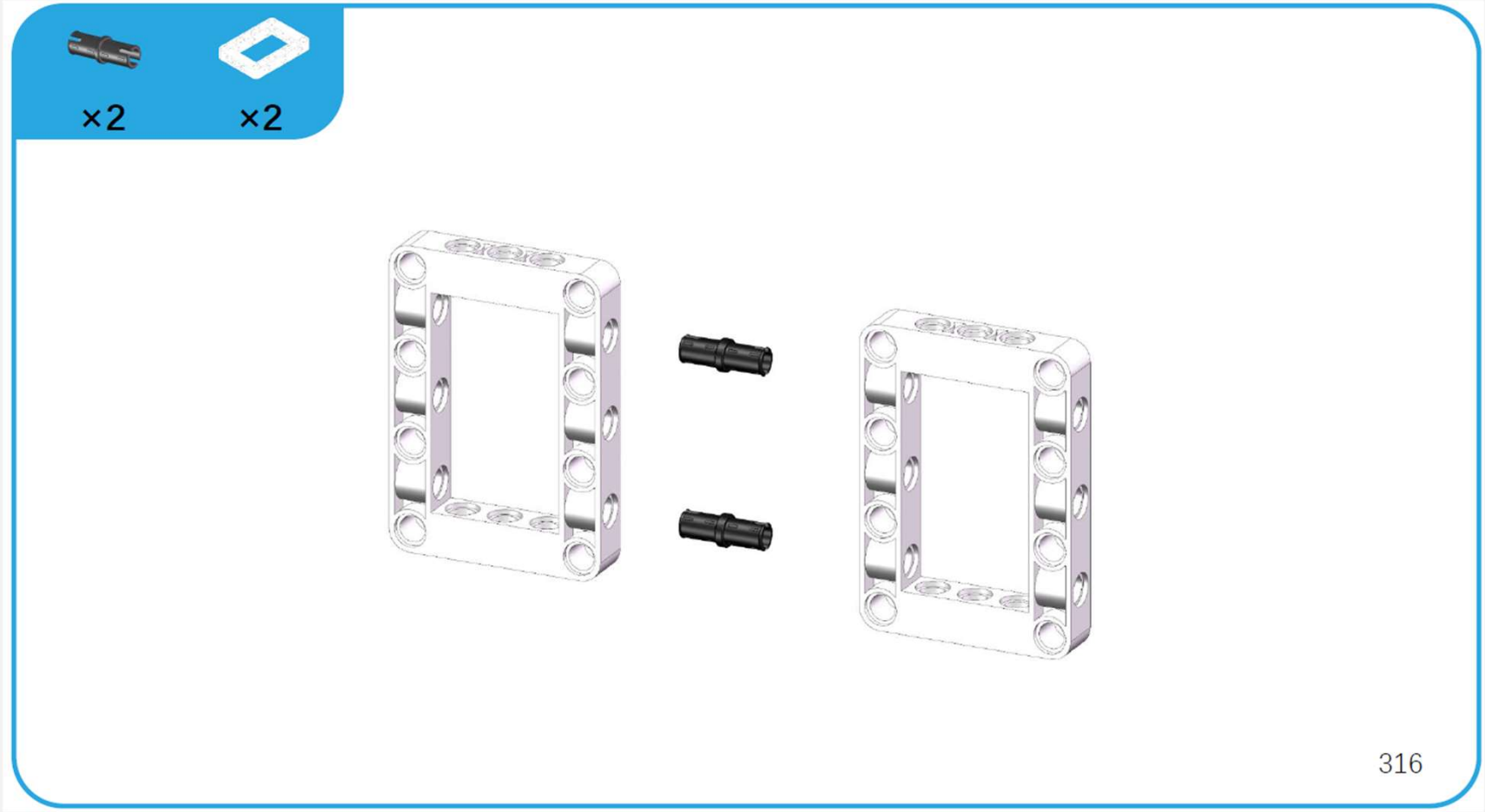
1. Build a Lifting platform with World of Modules
2. Servo programming
3. Function programming

# Learning Outcome

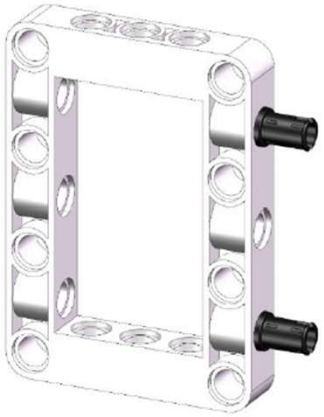
1. Able to build Lifting platform with instruction manual
2. Understand Servo programming work
3. Understand Function programming work
4. Able to program Lifting platform

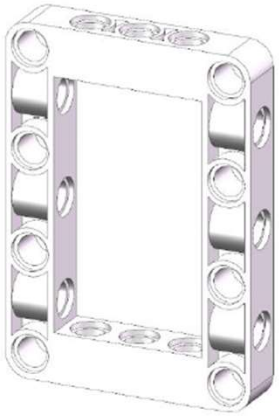
# Lets build Lifting Platform

# Step 1



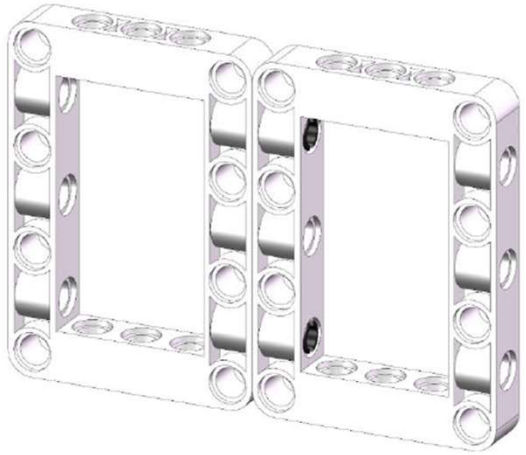
# Step 2





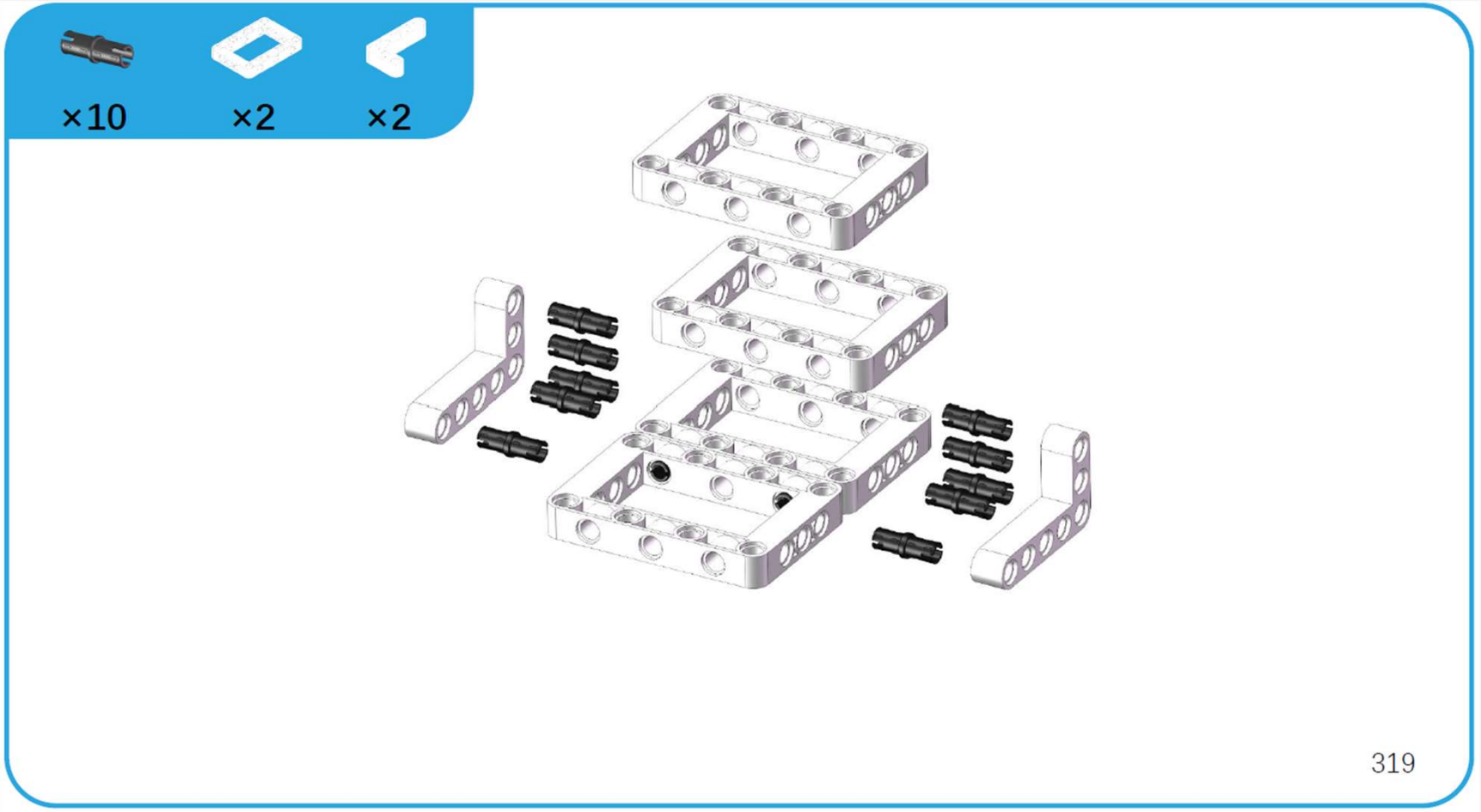
317

# Step 3

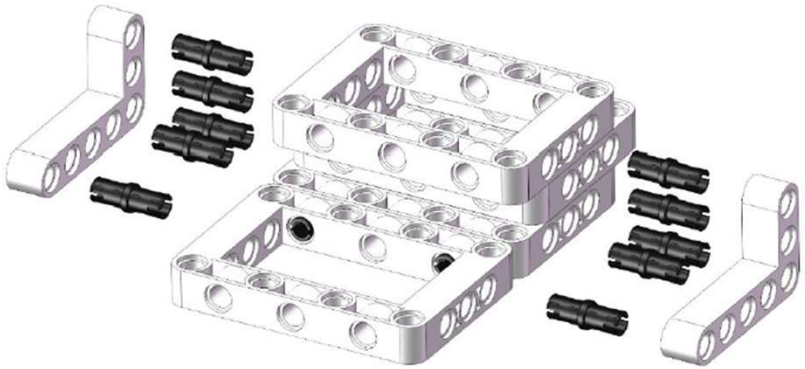


318

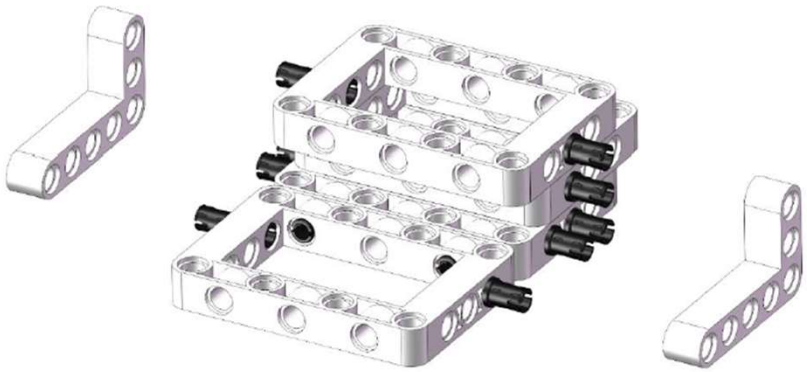
# Step 4



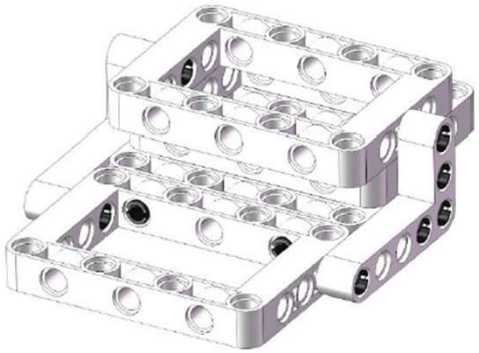
# Step 5



# Step 6

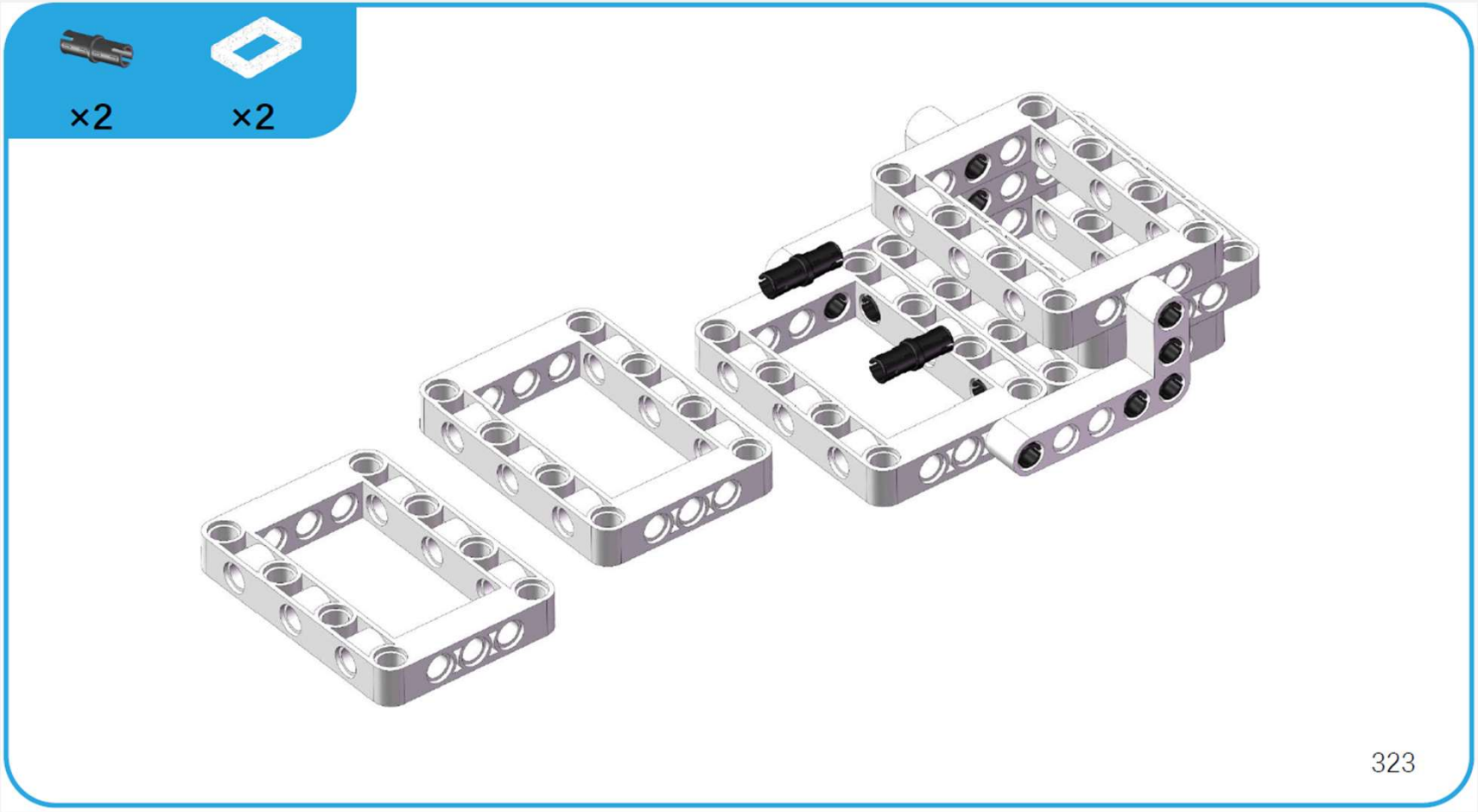


# Step 7

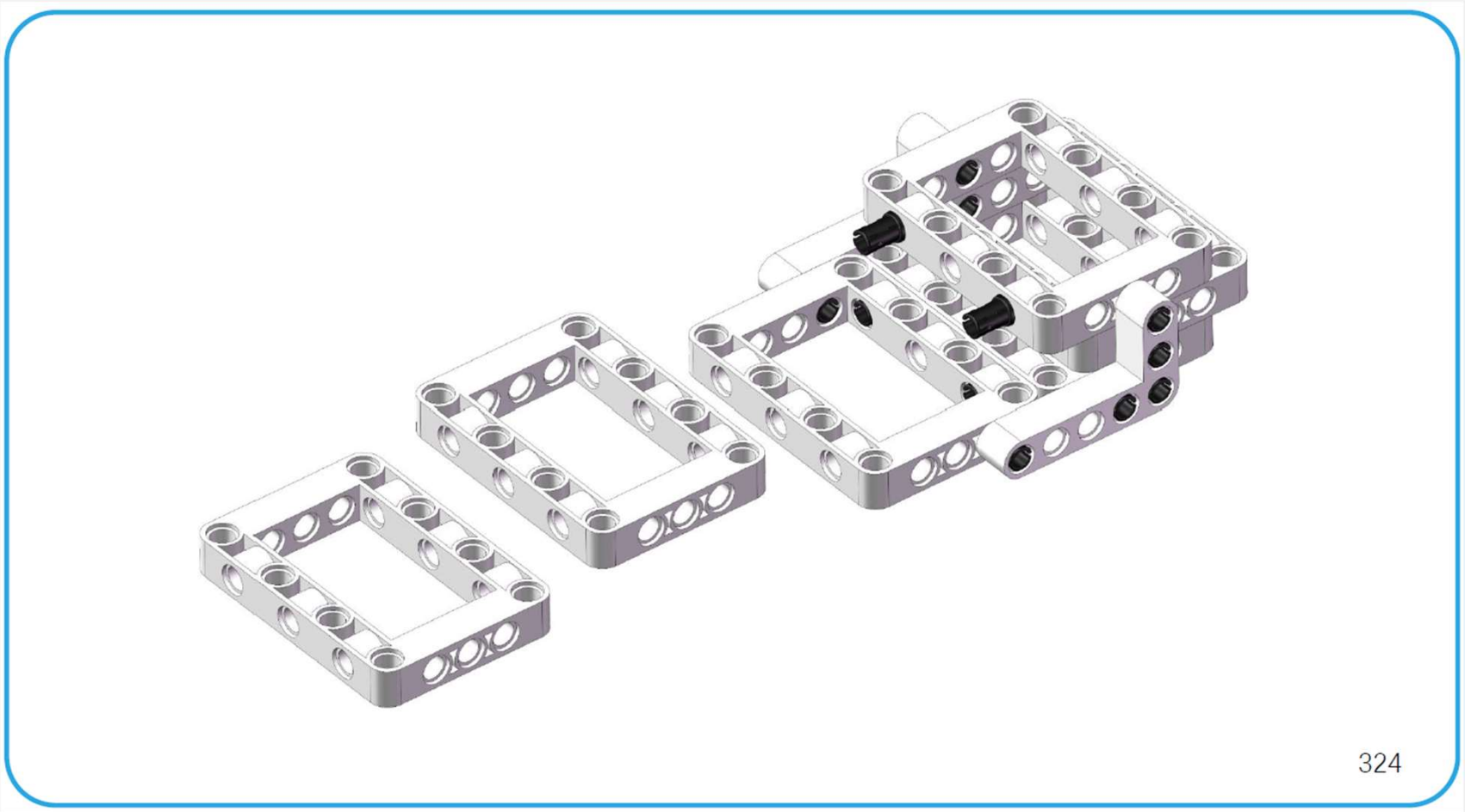


322

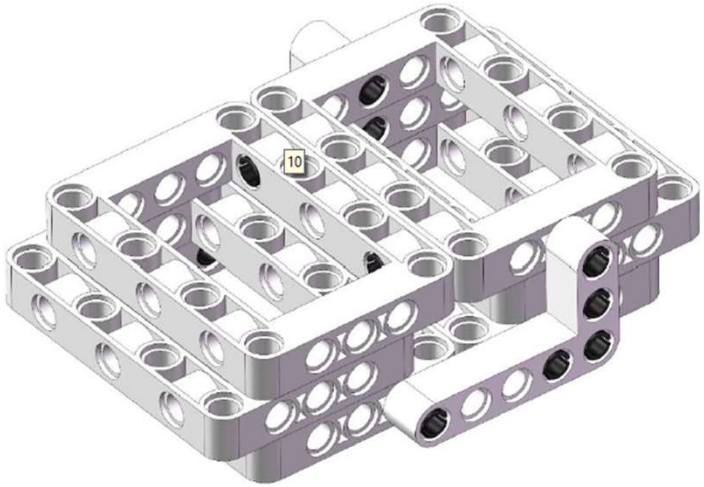
# Step 8



# Step 9

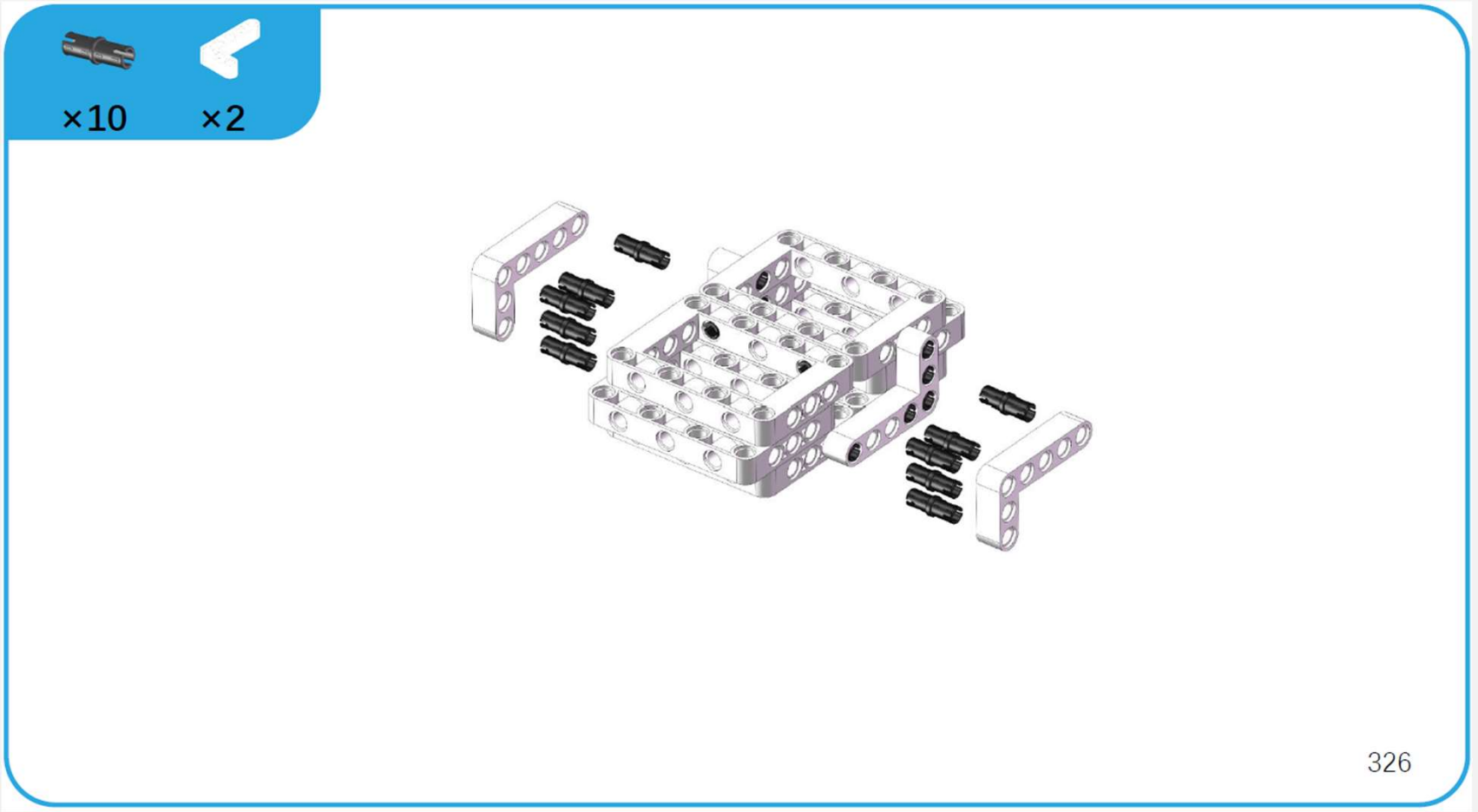


# Step 10

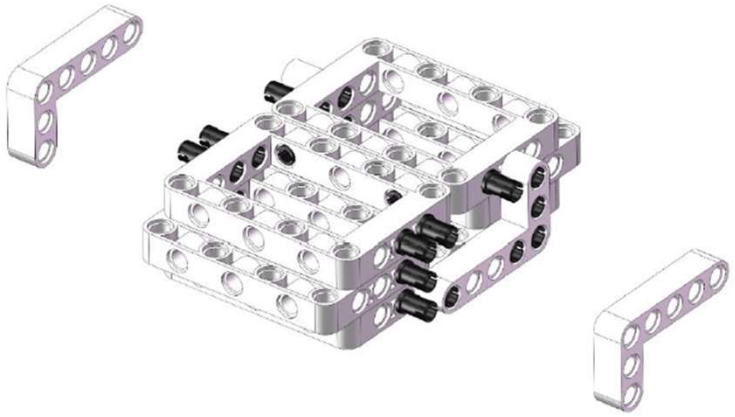



325

# Step 11

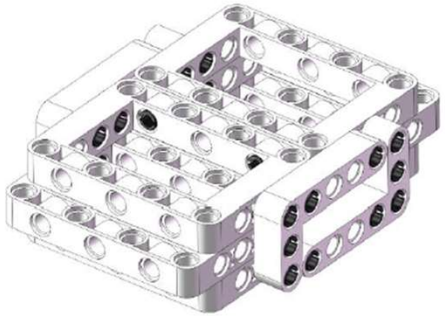


# Step 12



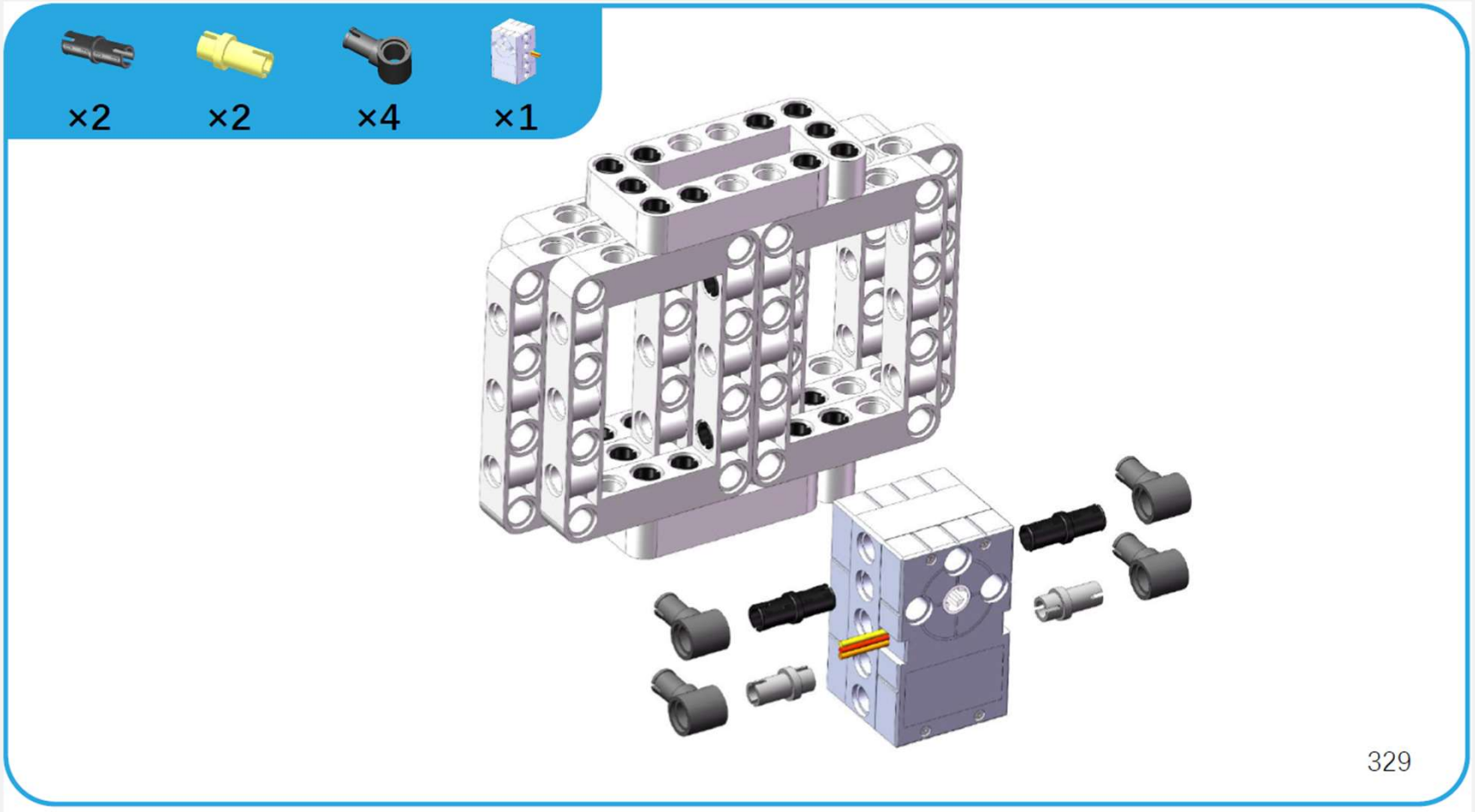
327

# Step 13

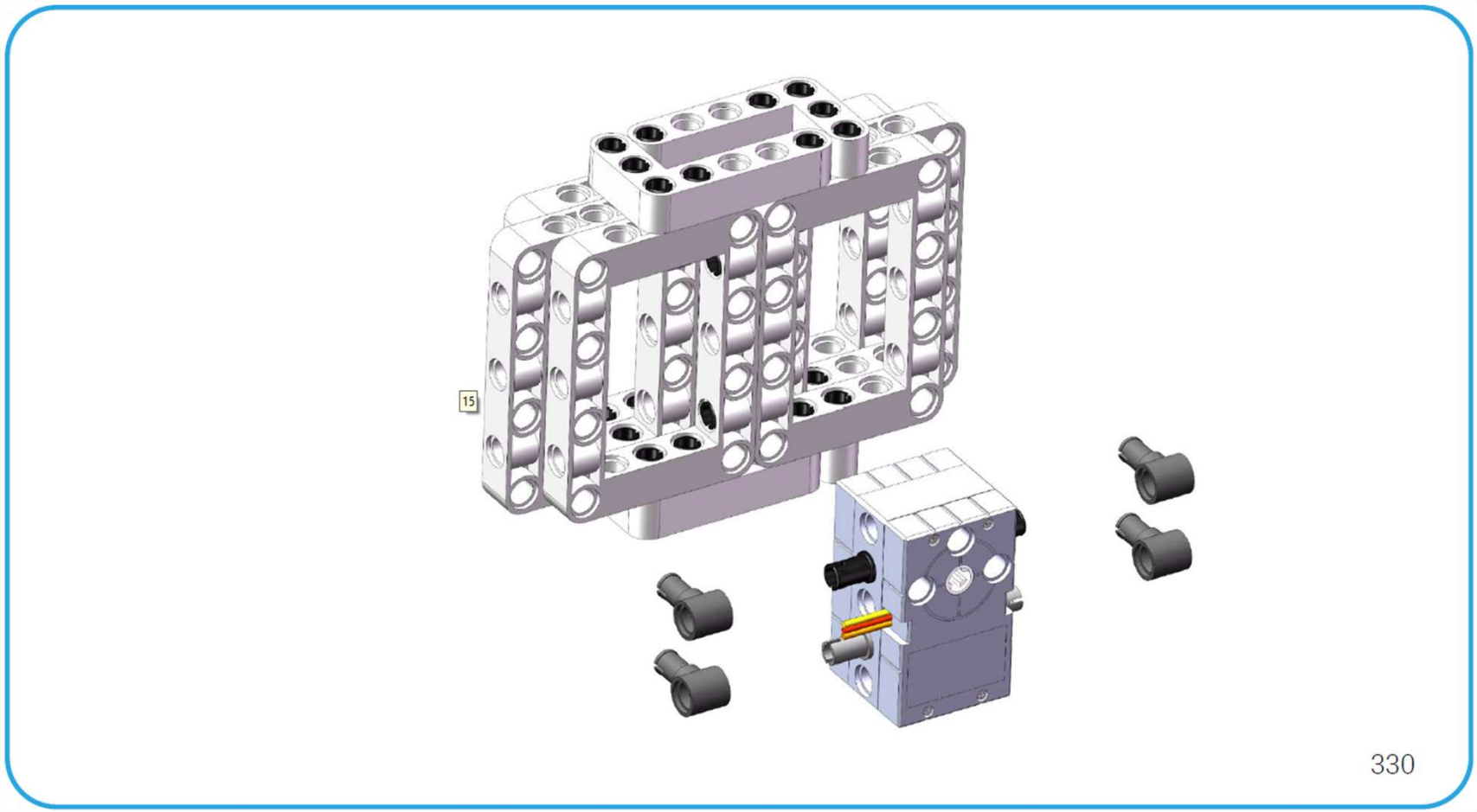


328

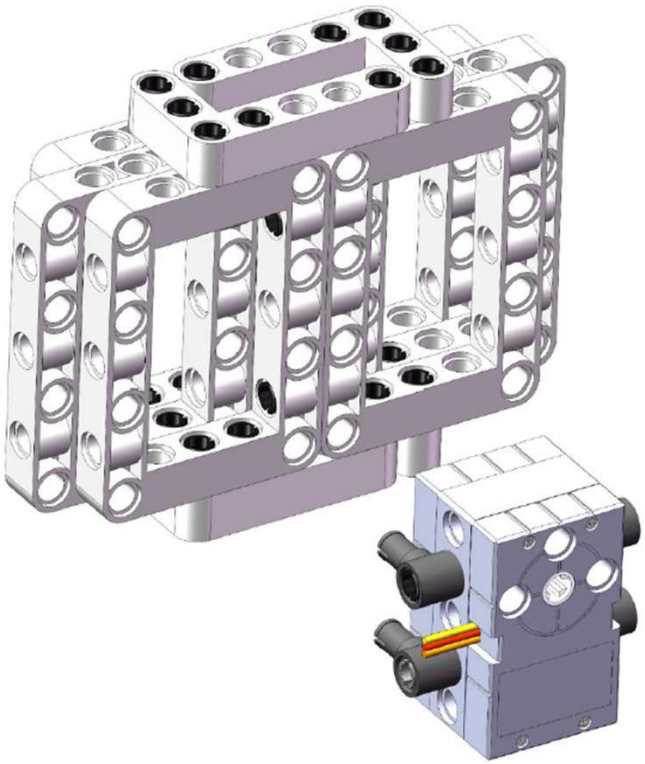
# Step 14



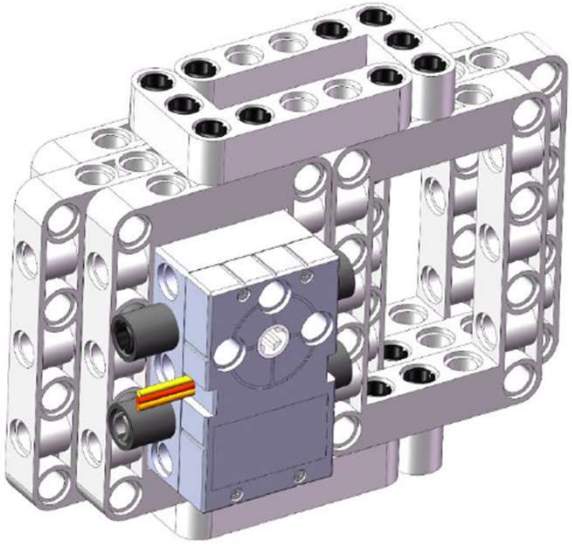
# Step 15



# Step 16

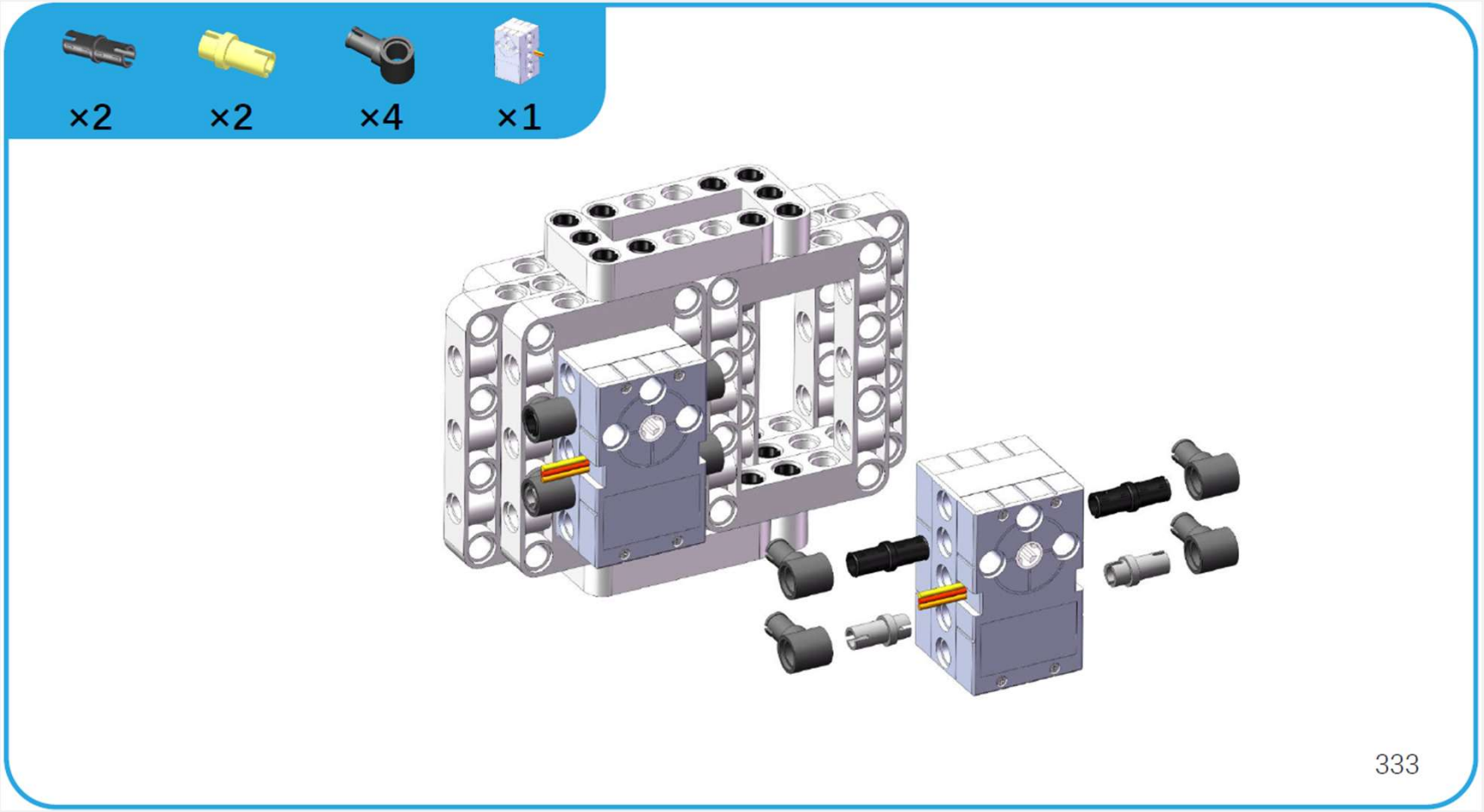


# Step 17

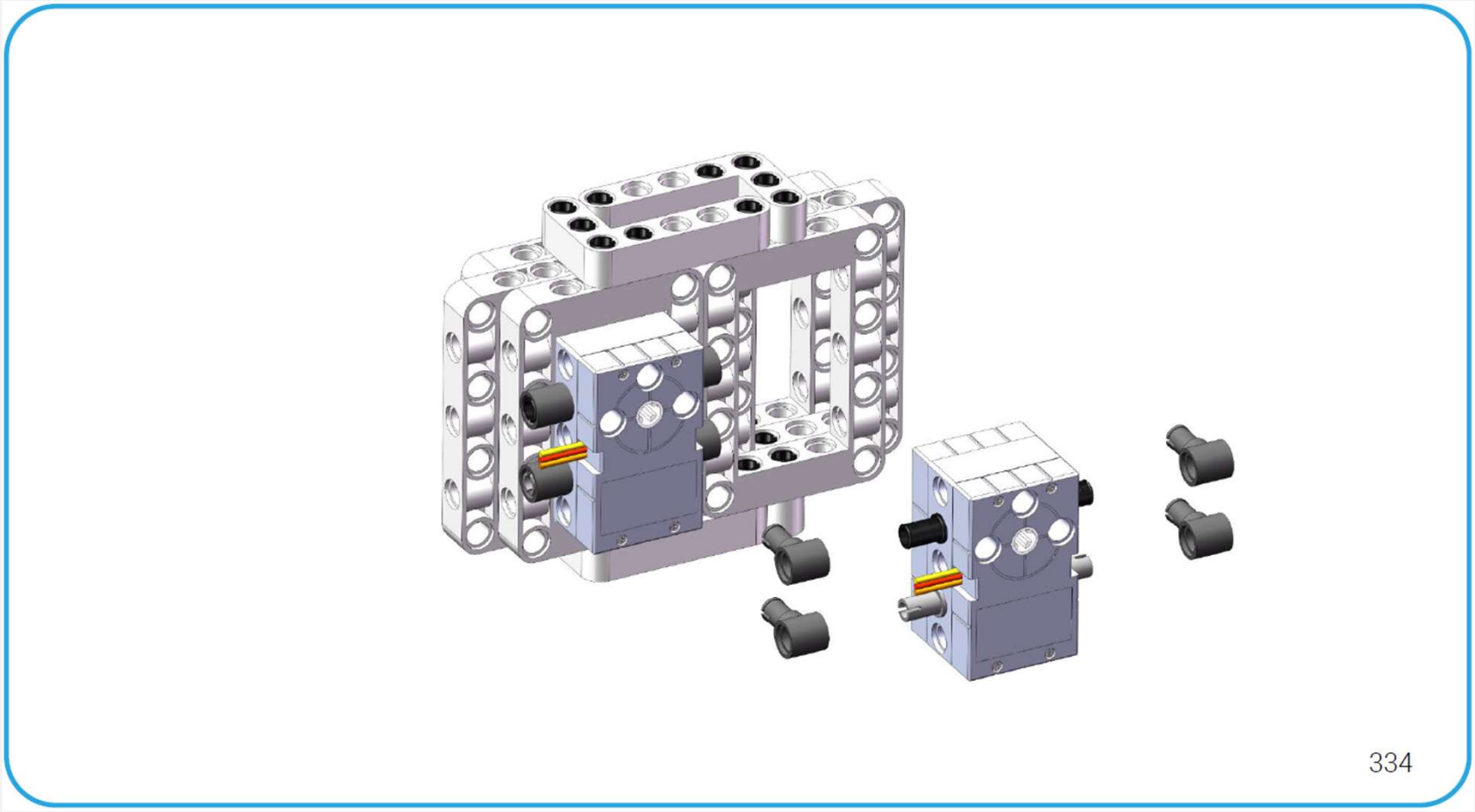


332

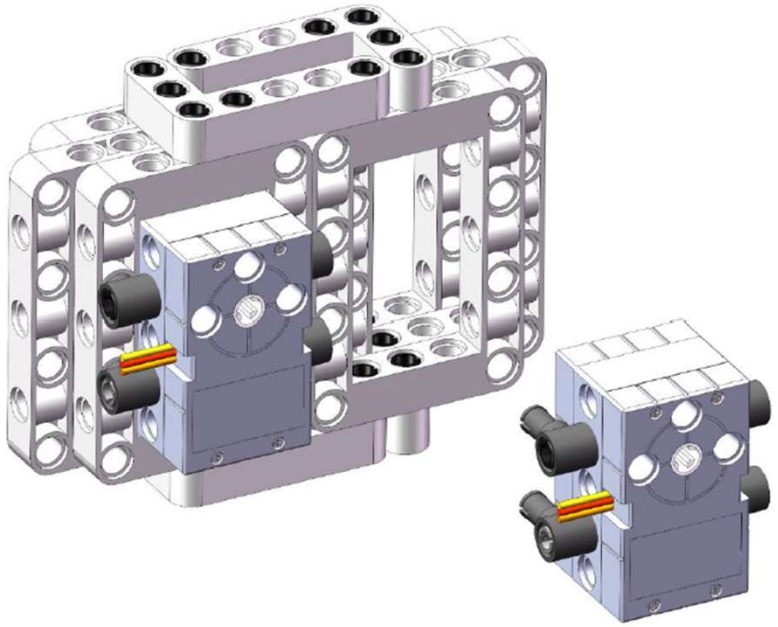
# Step 18



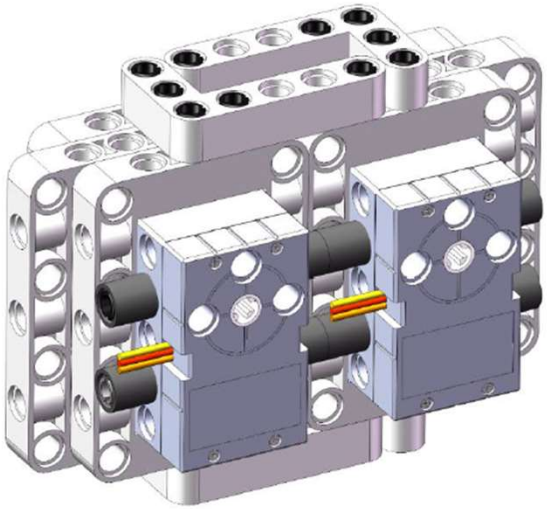
# Step 19



# Step 20

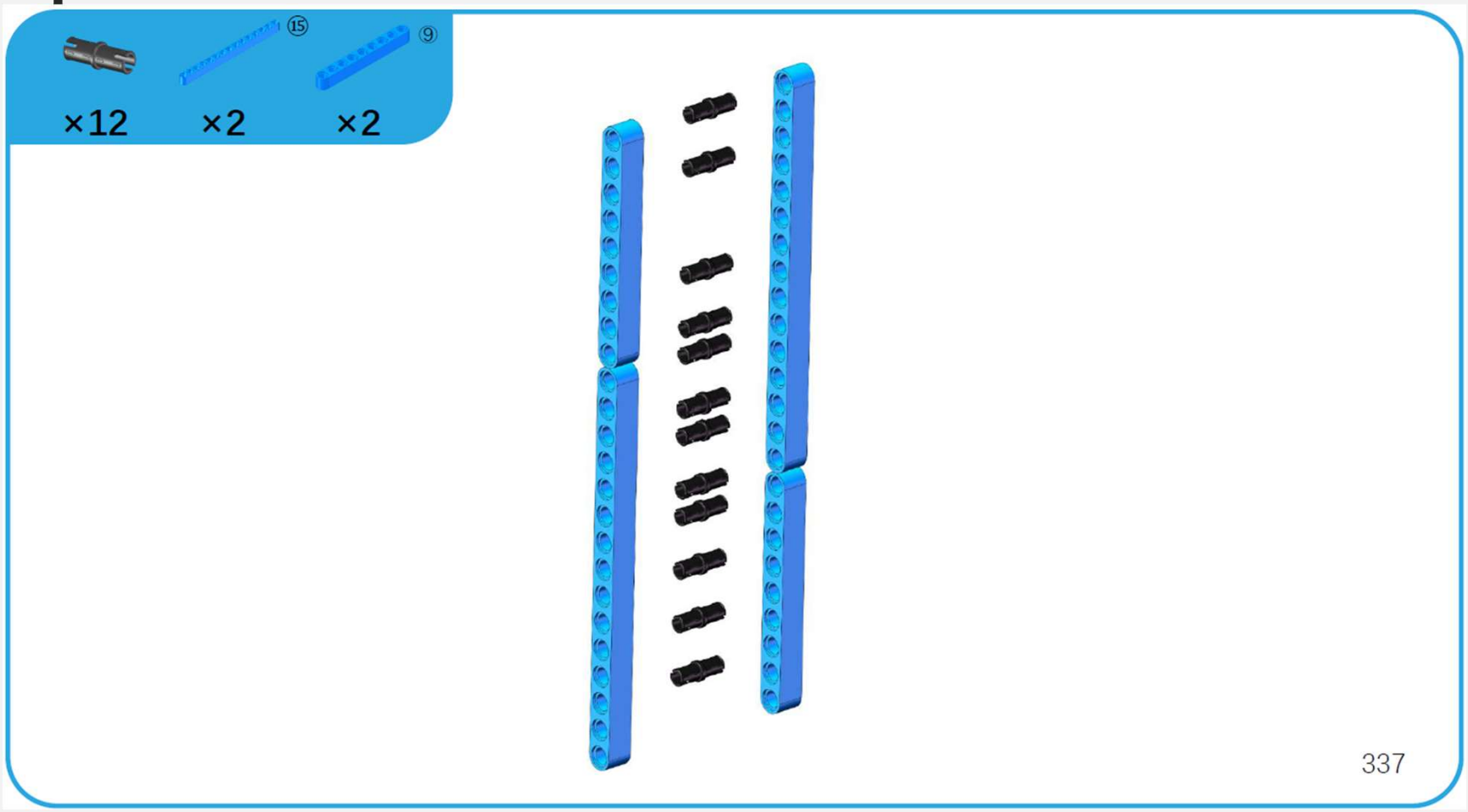


# Step 21

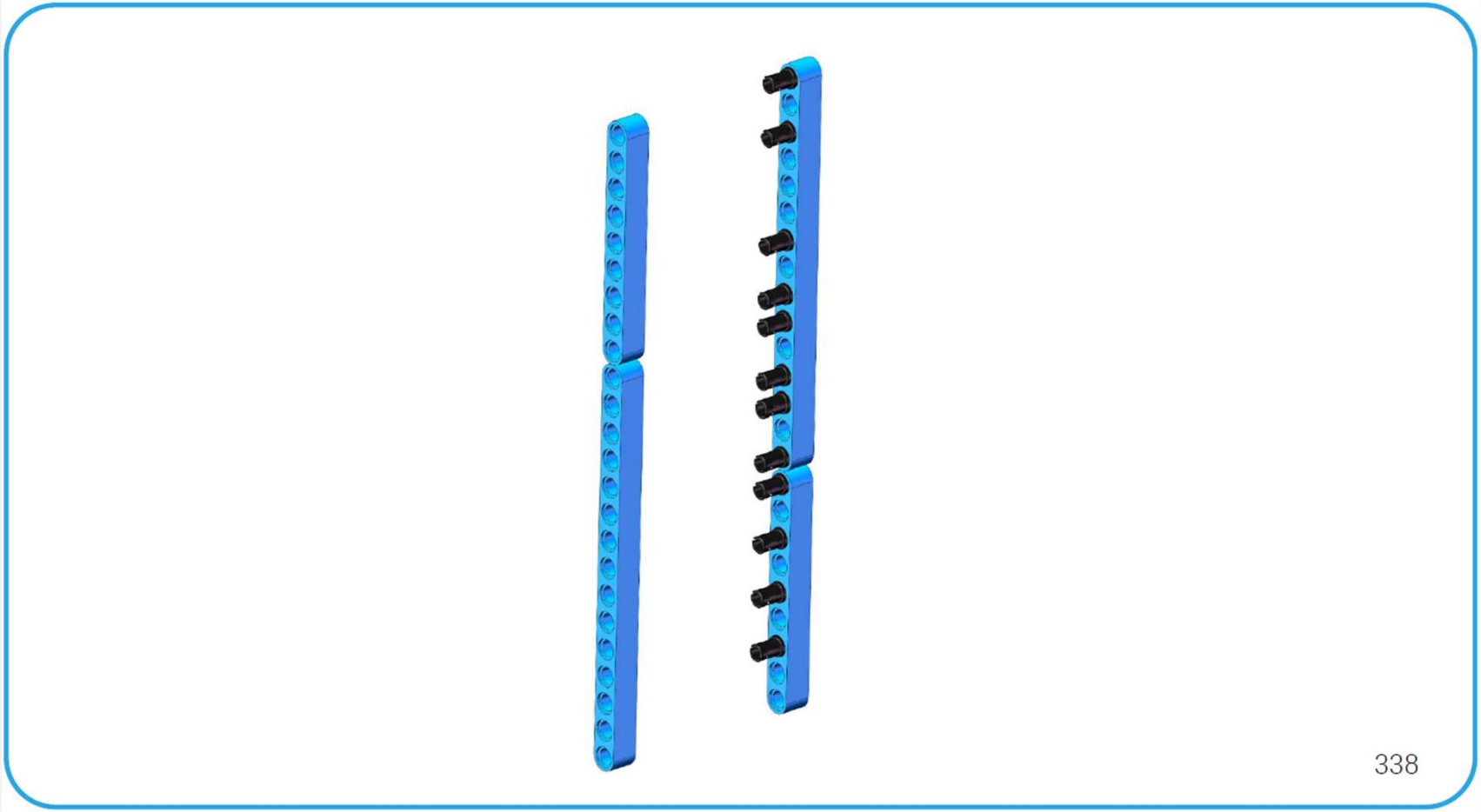


336

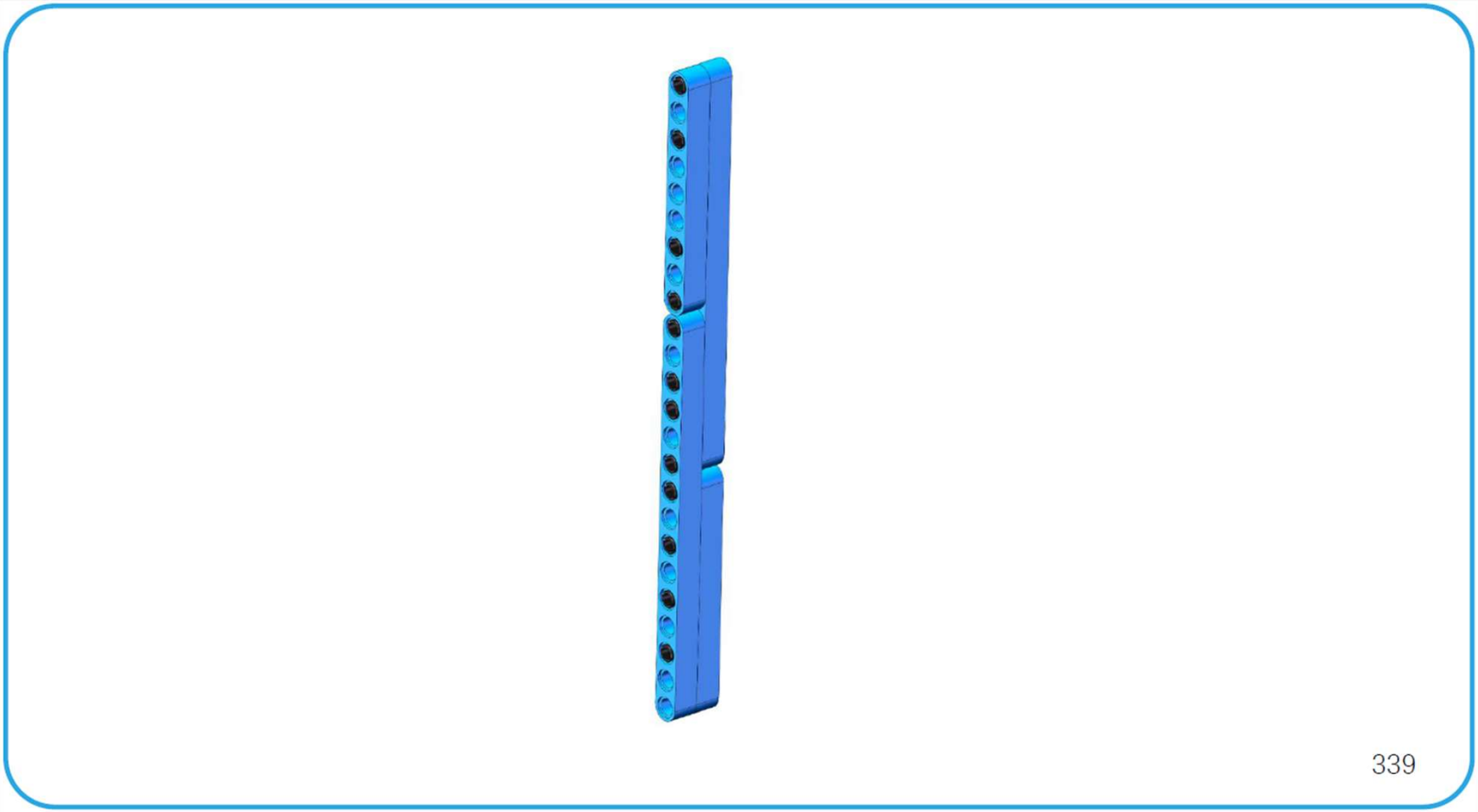
# Step 22



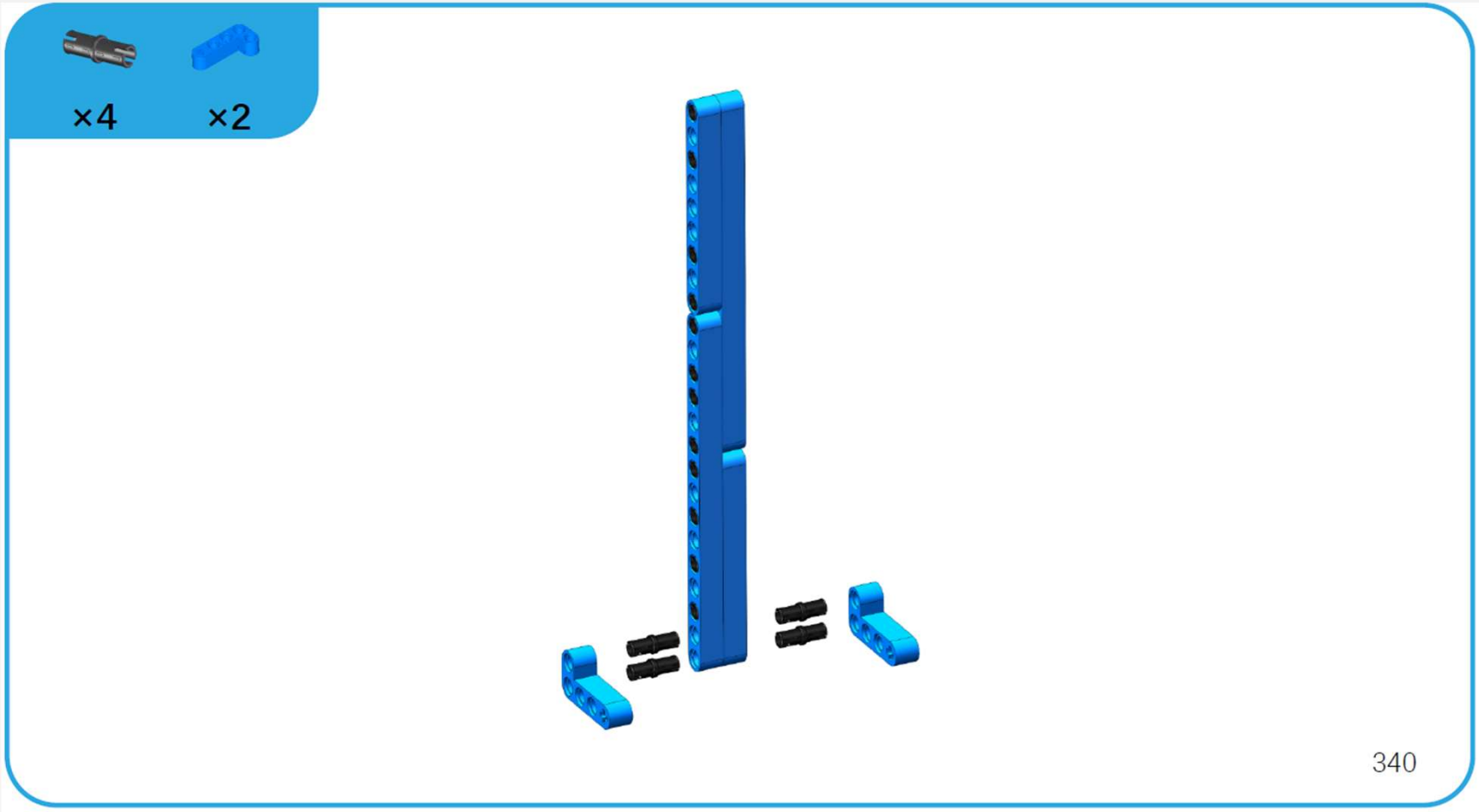
# Step 23



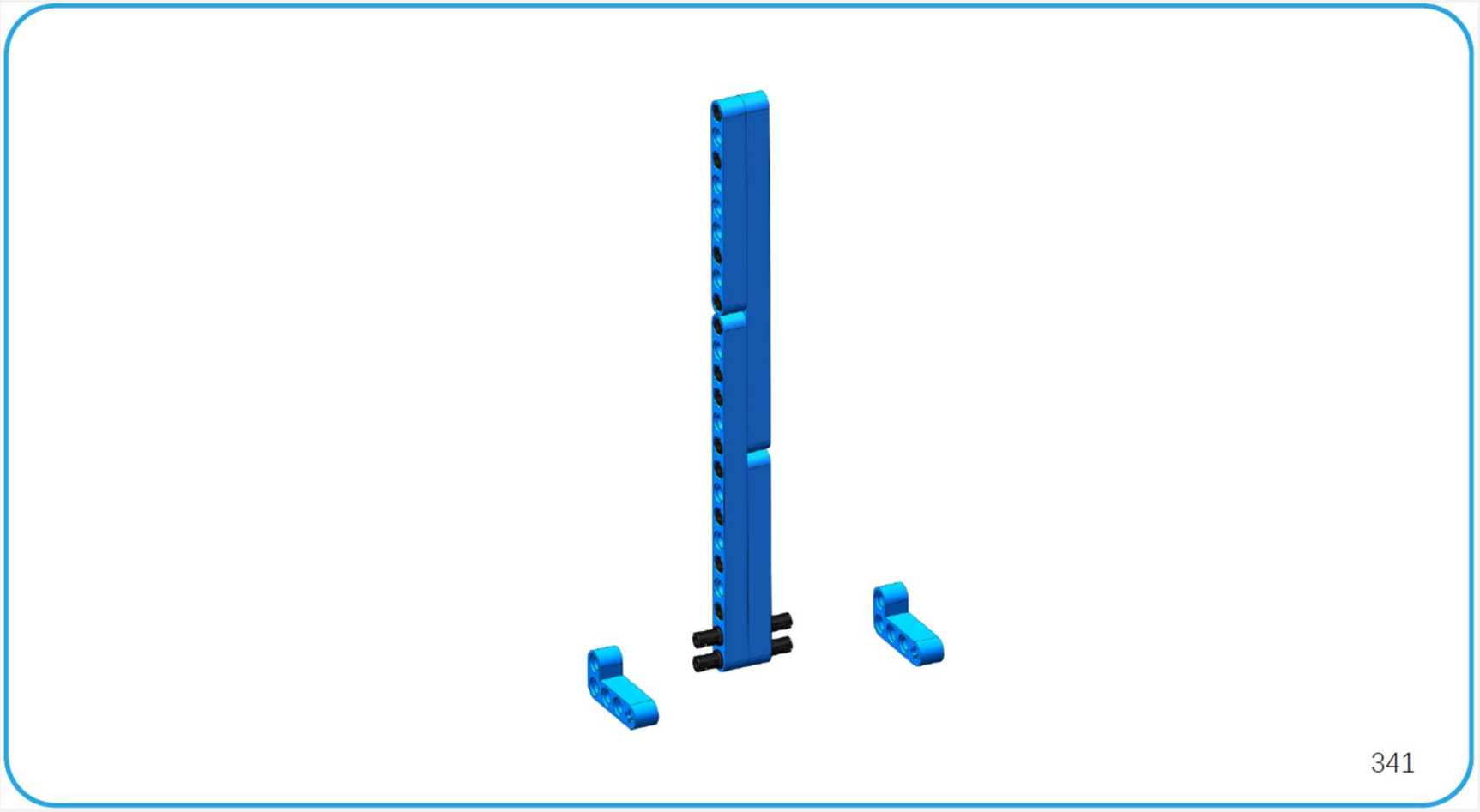
# Step 24



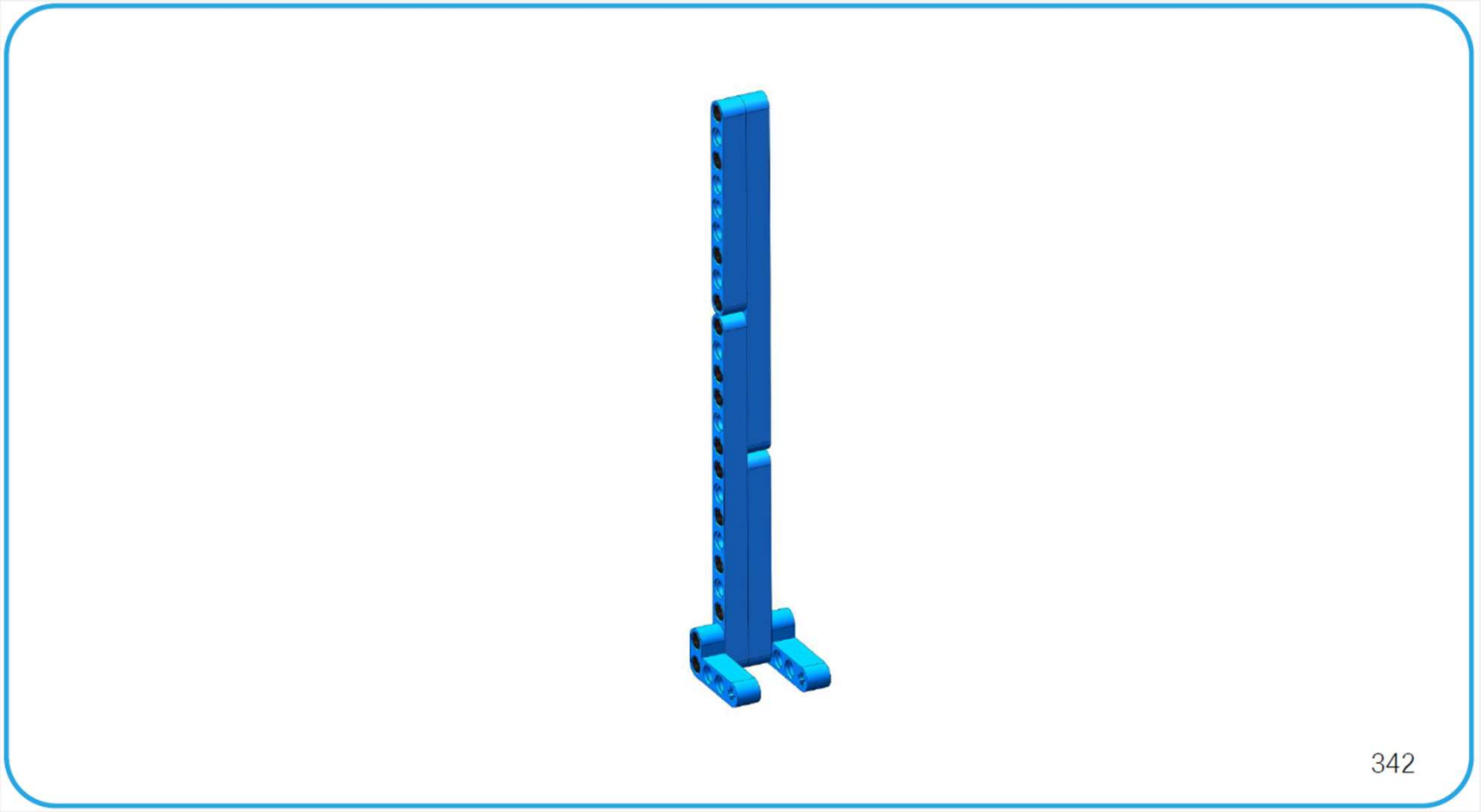
# Step 25



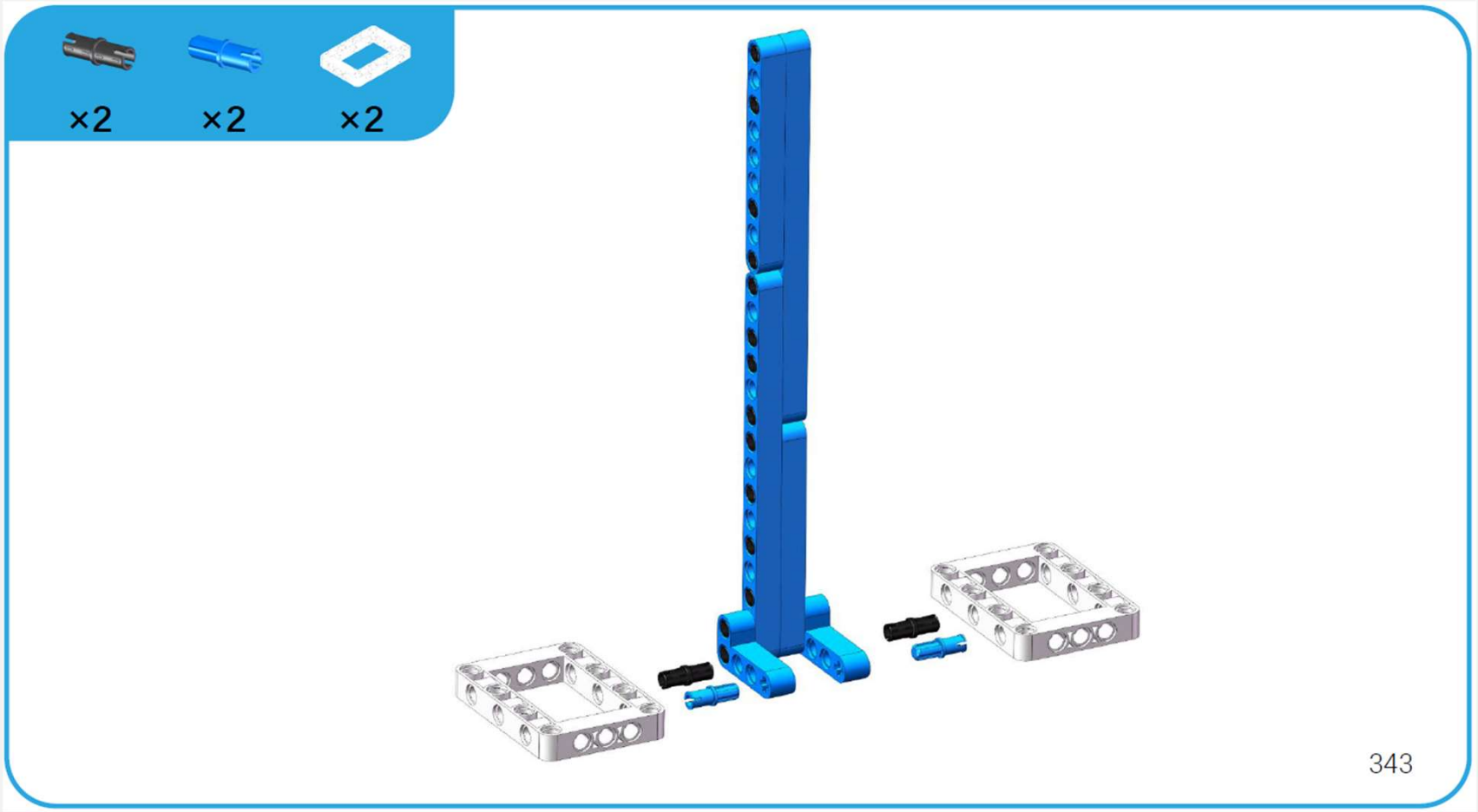
# Step 26



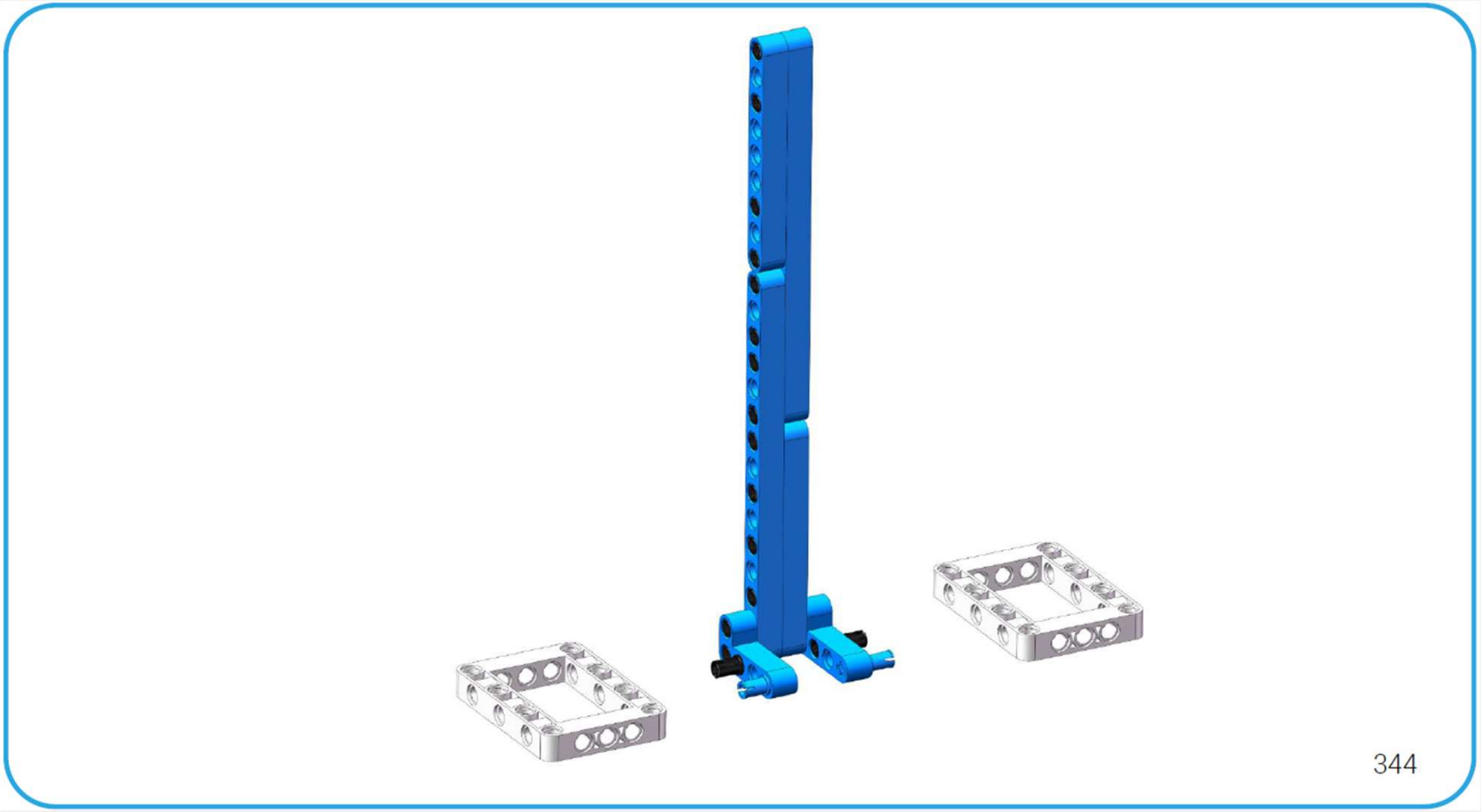
# Step 27



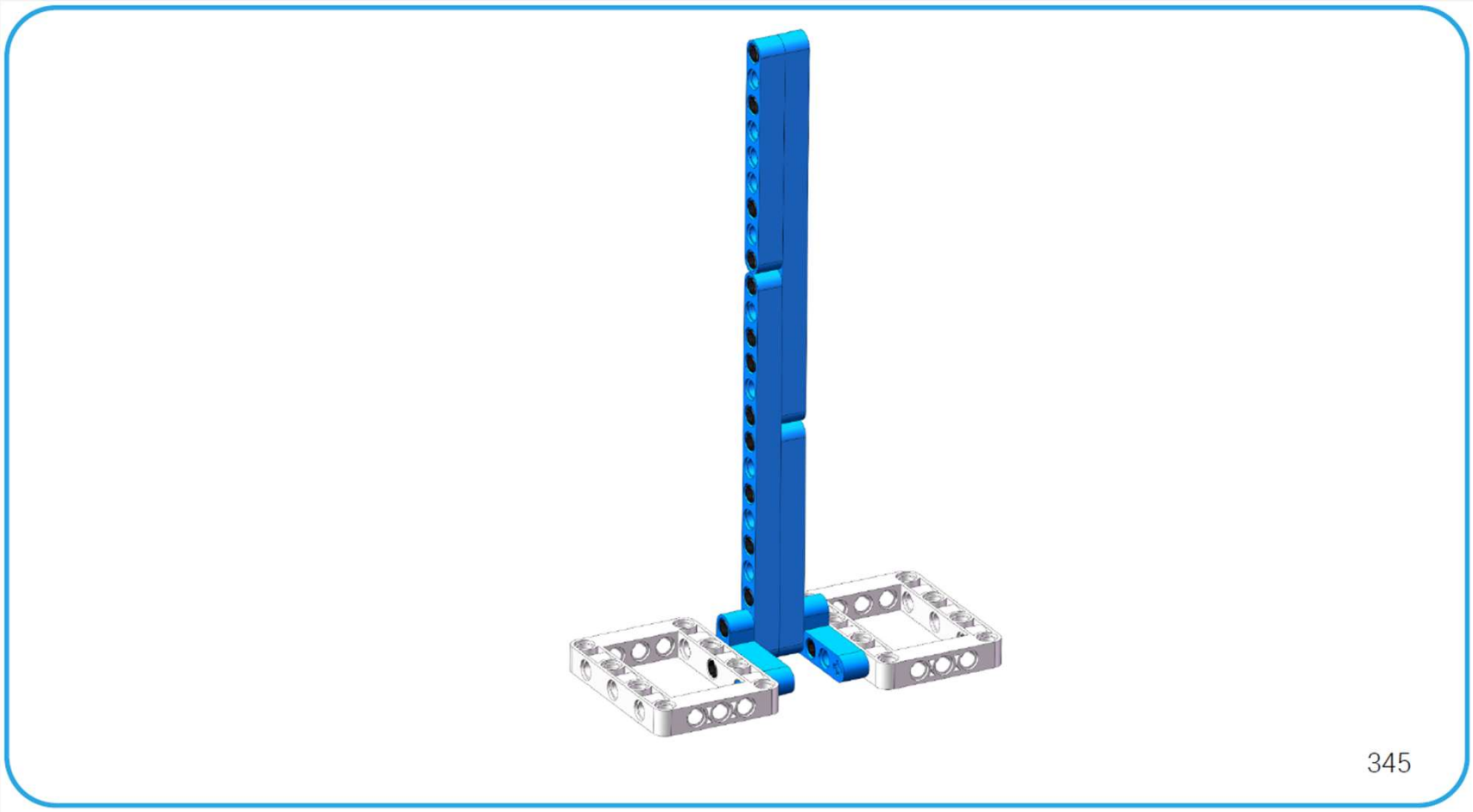
# Step 28



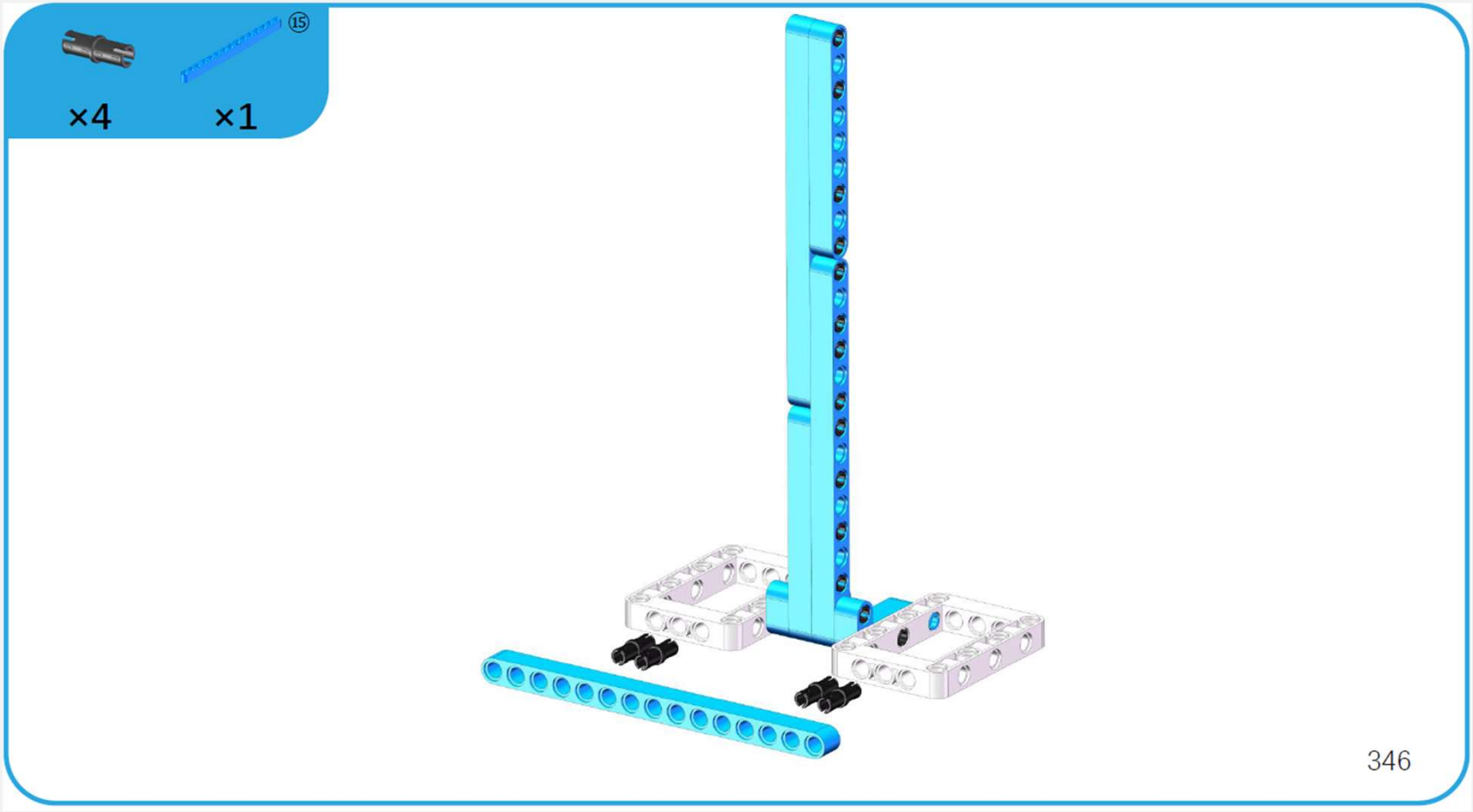
# Step 29



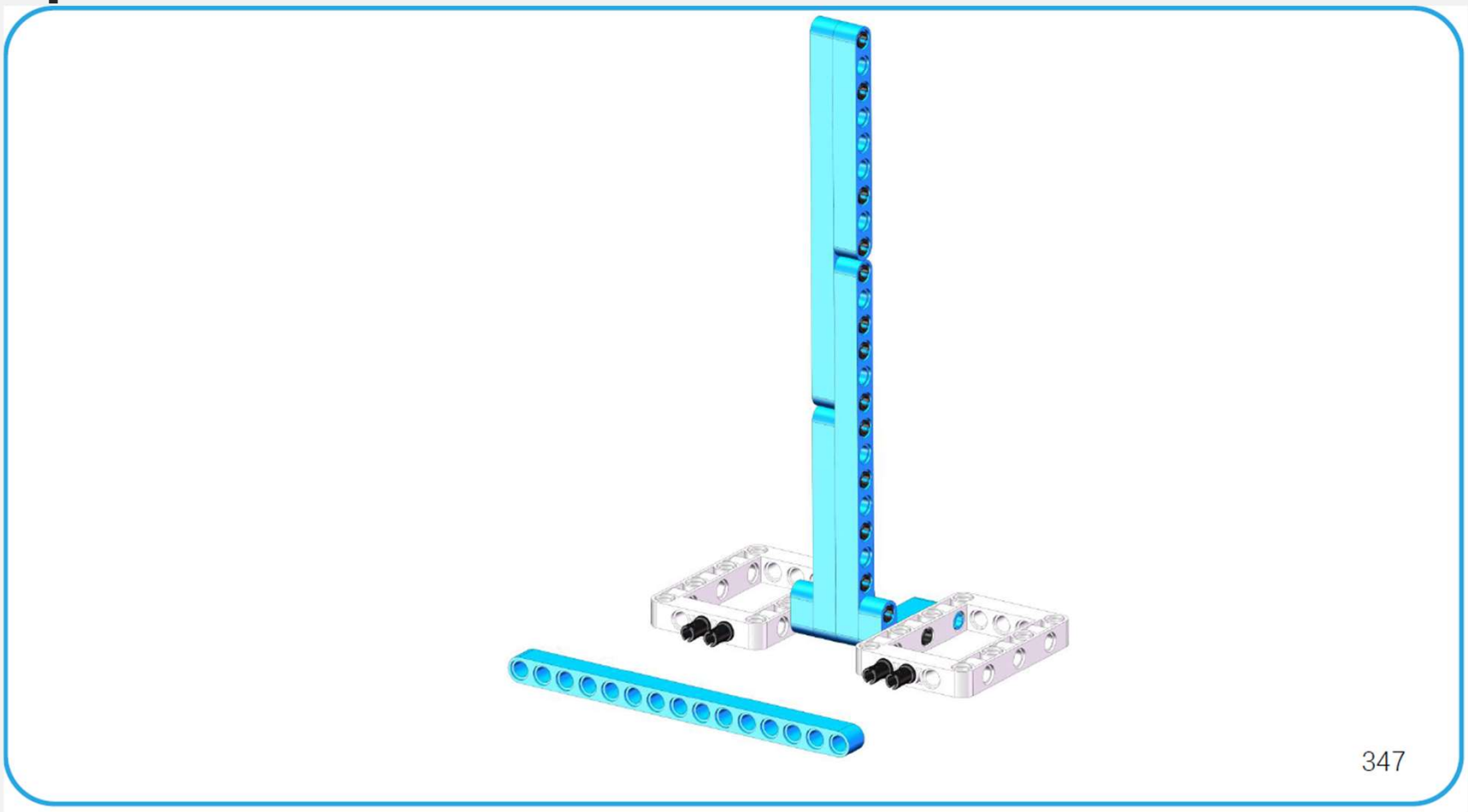
# Step 30



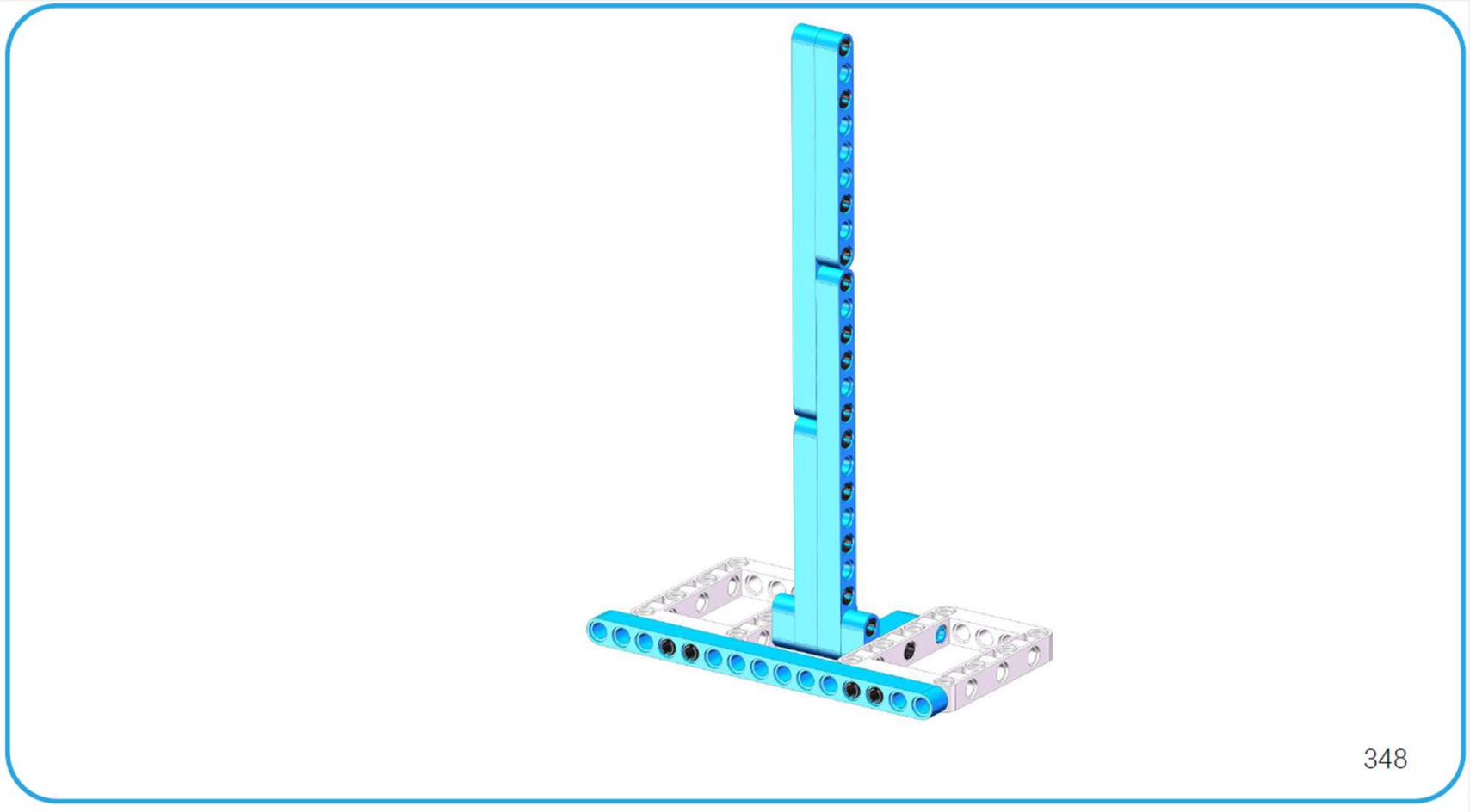
# Step 31



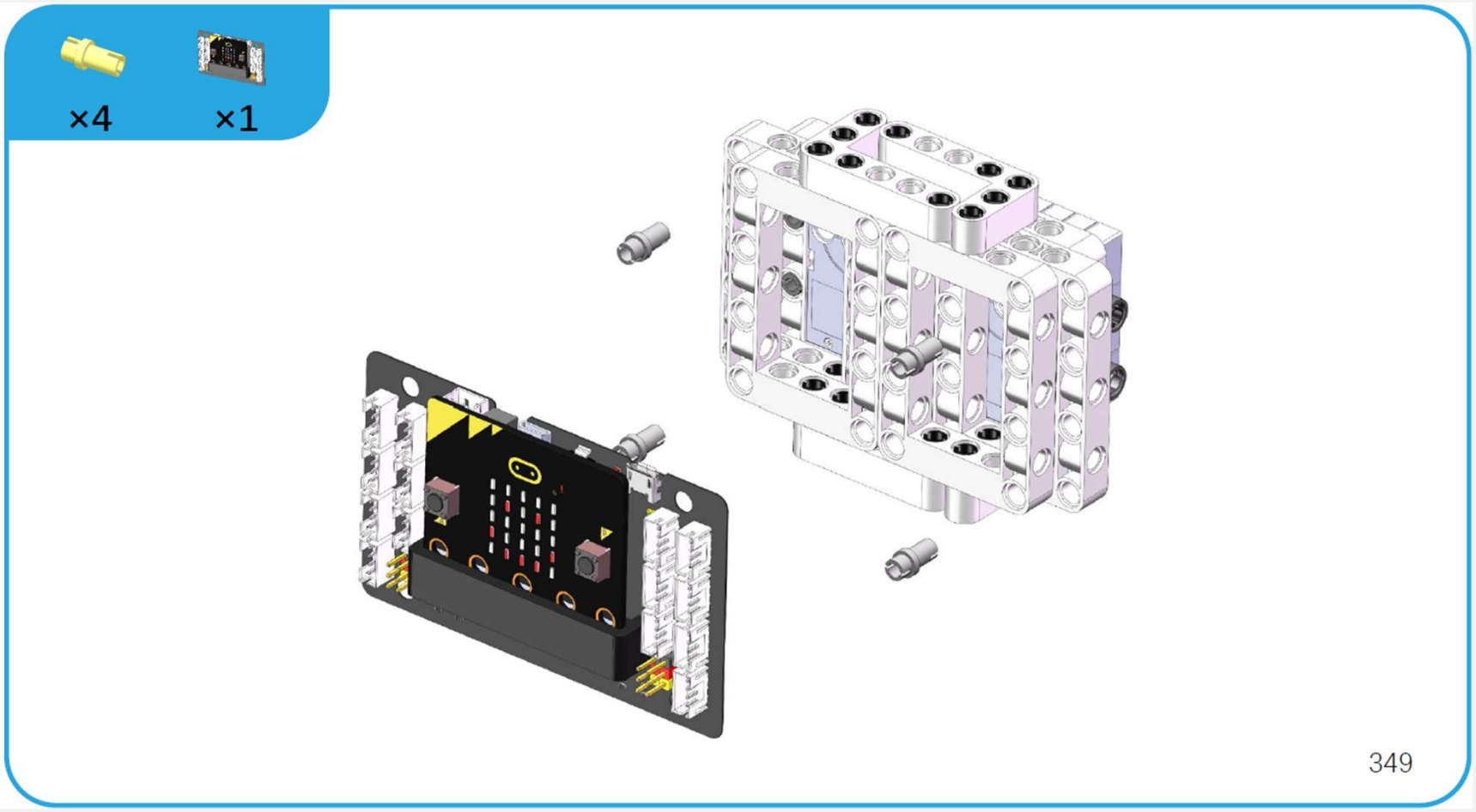
# Step 32



# Step 33

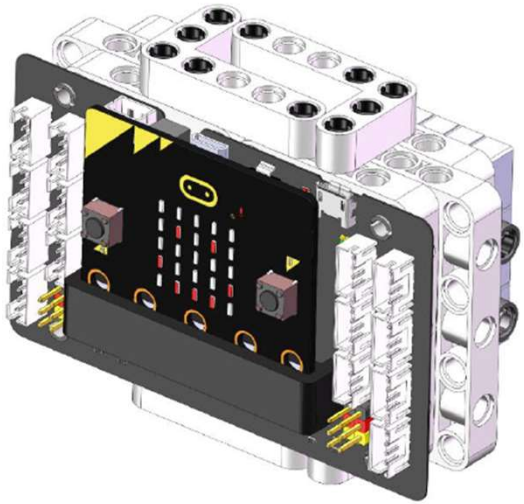


# Step 34



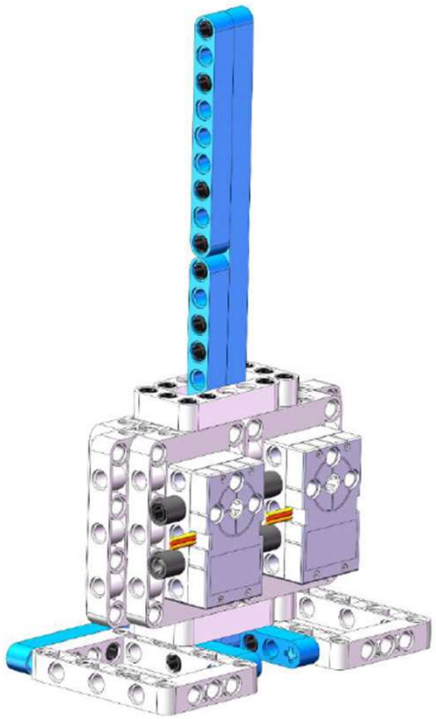
# Step 35

# Step 36



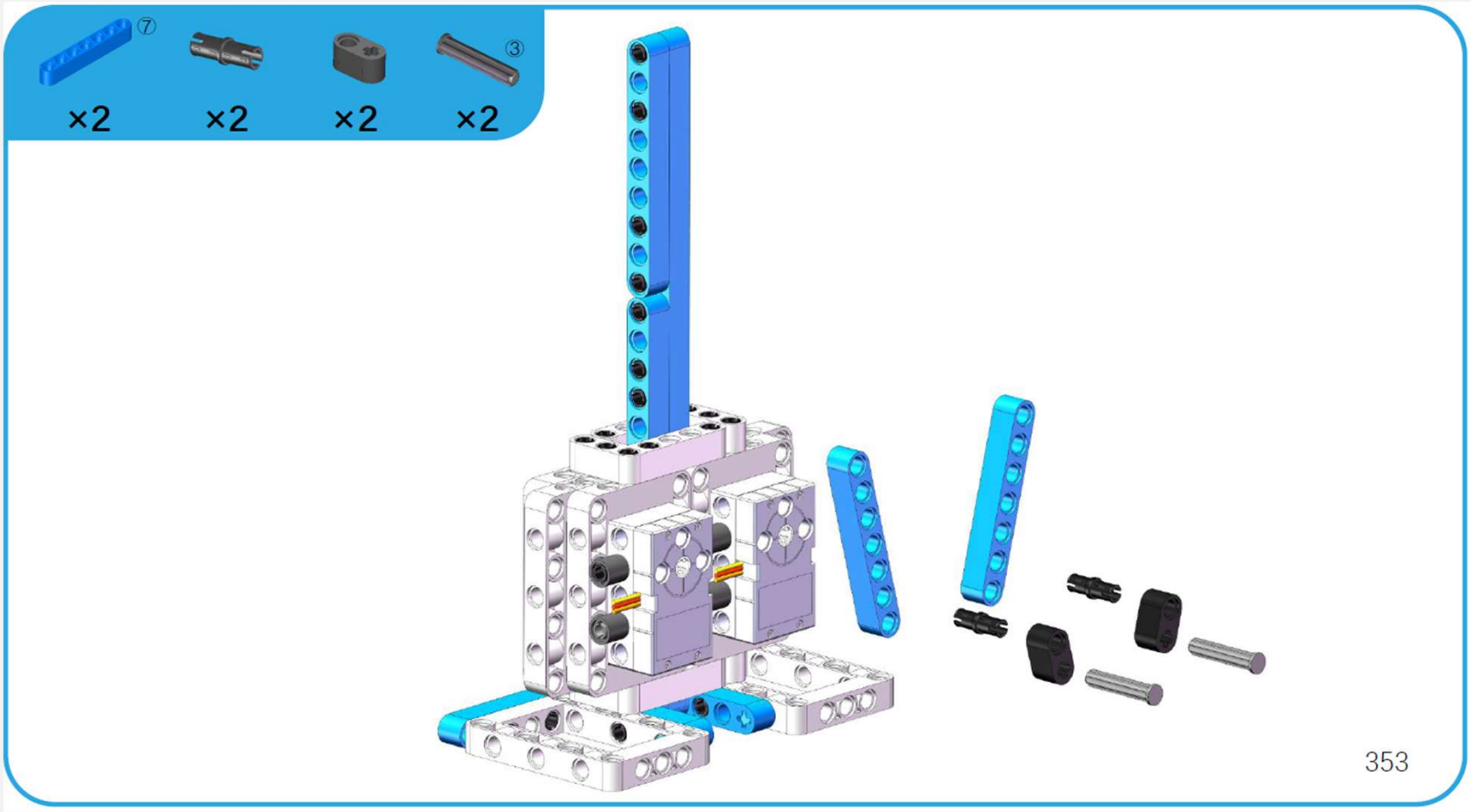
351

# Step 37

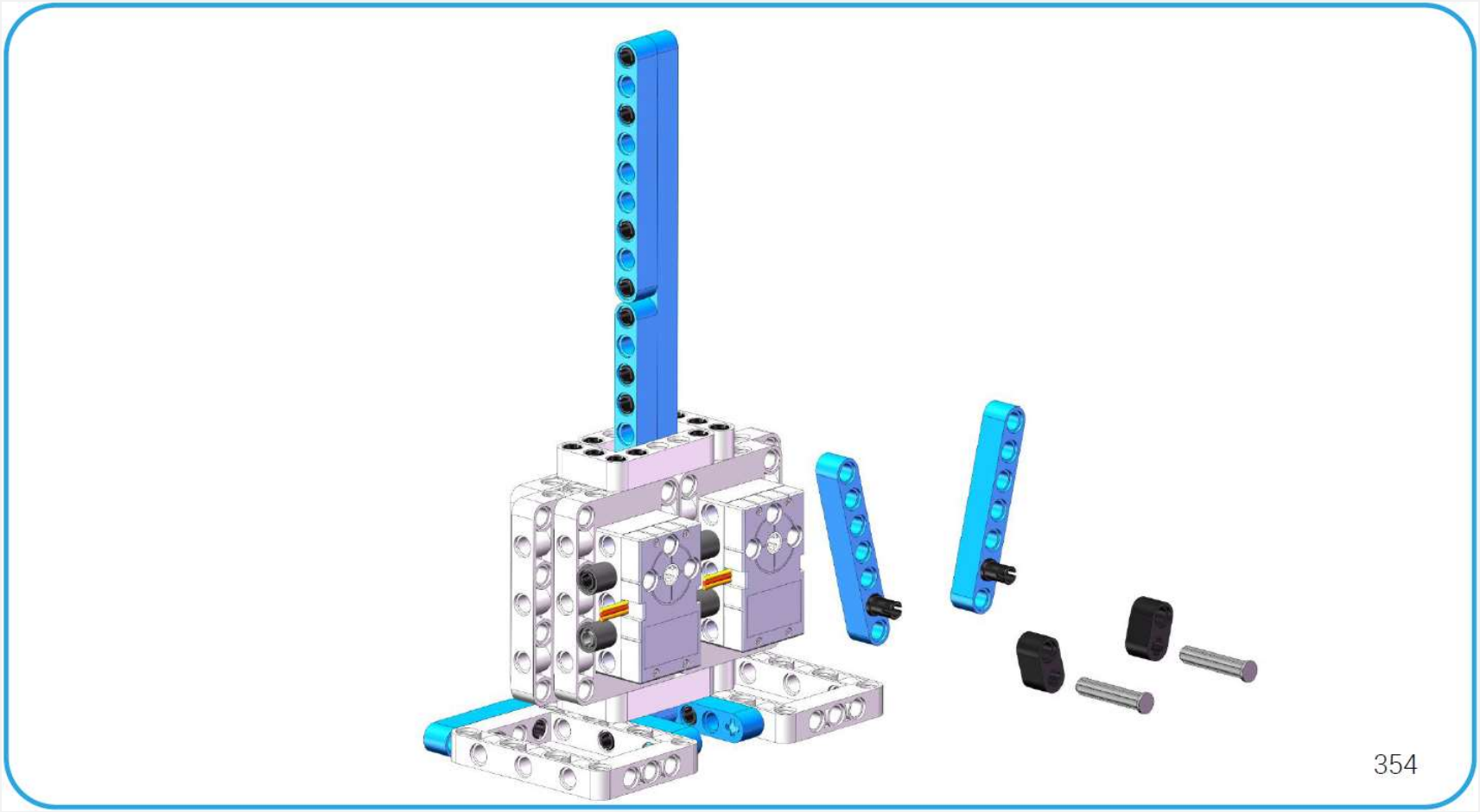


352

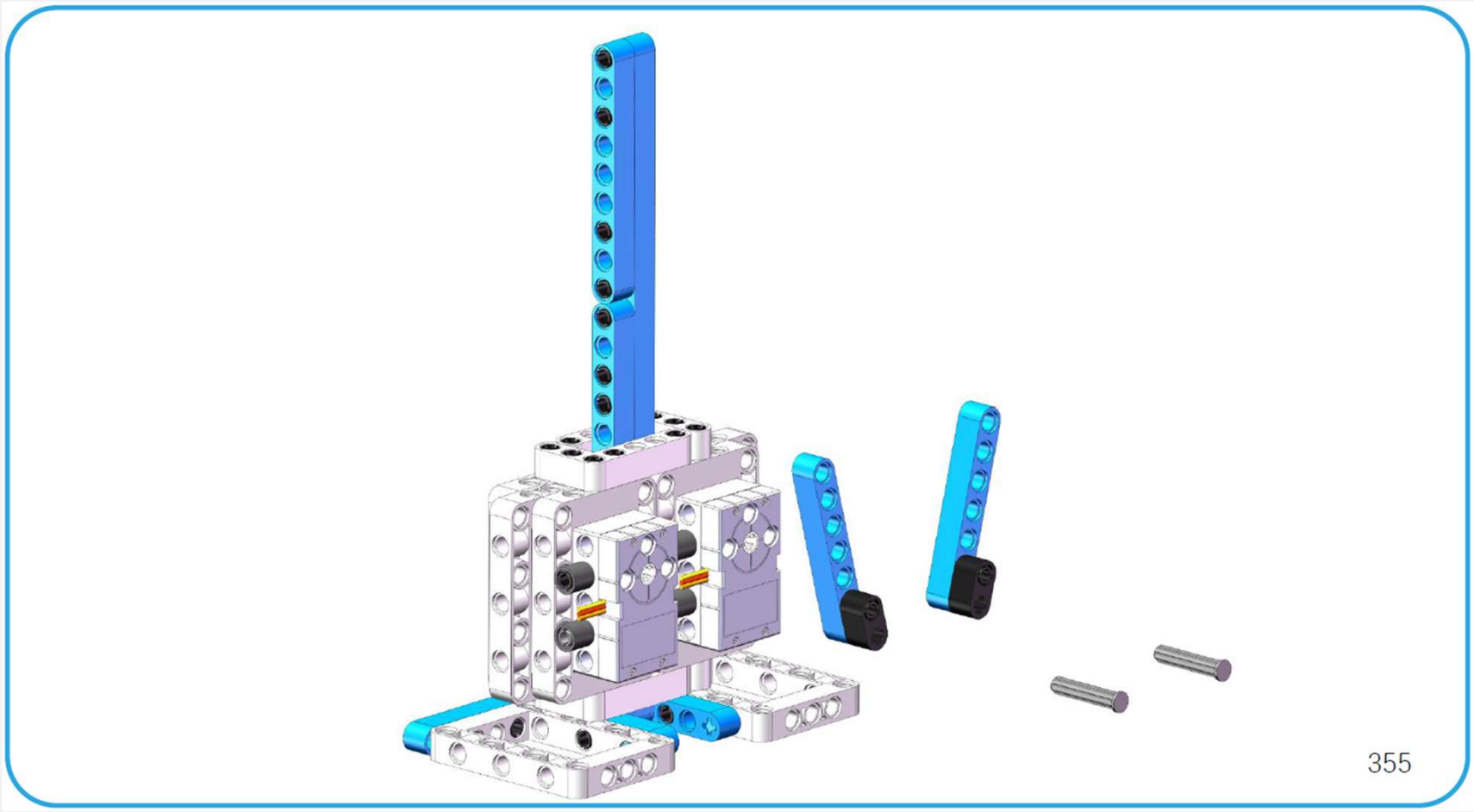
# Step 38



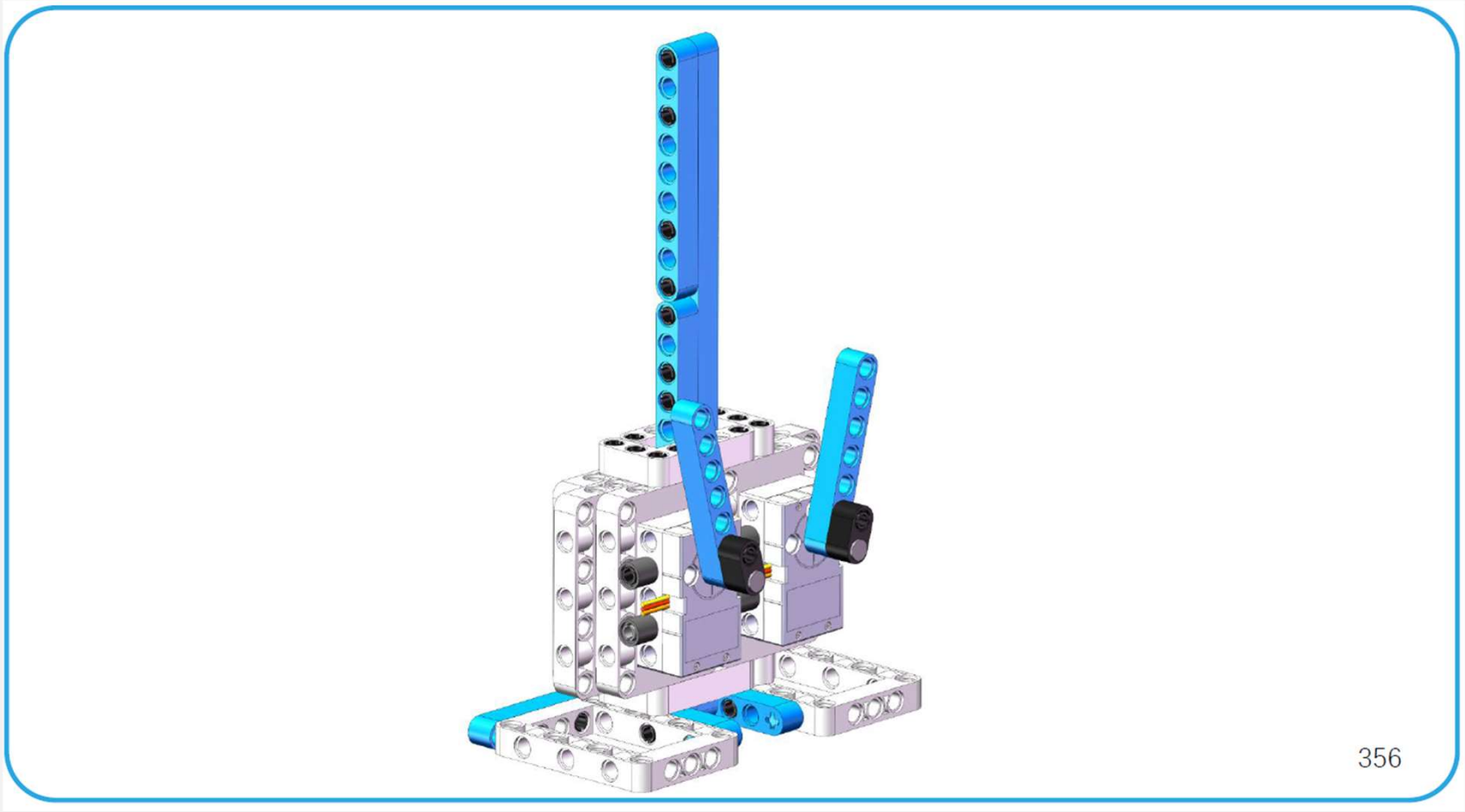
# Step 39



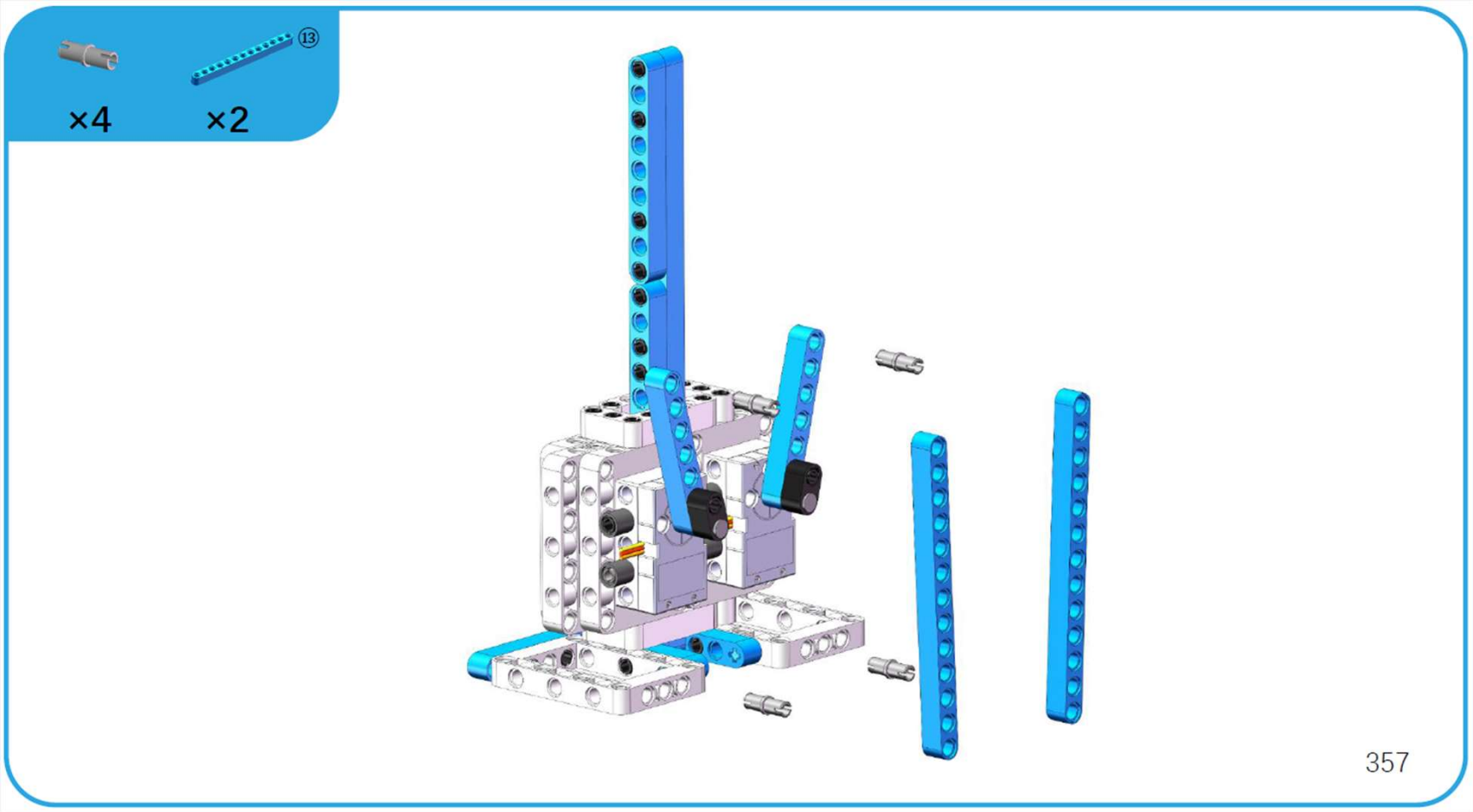
# Step 40



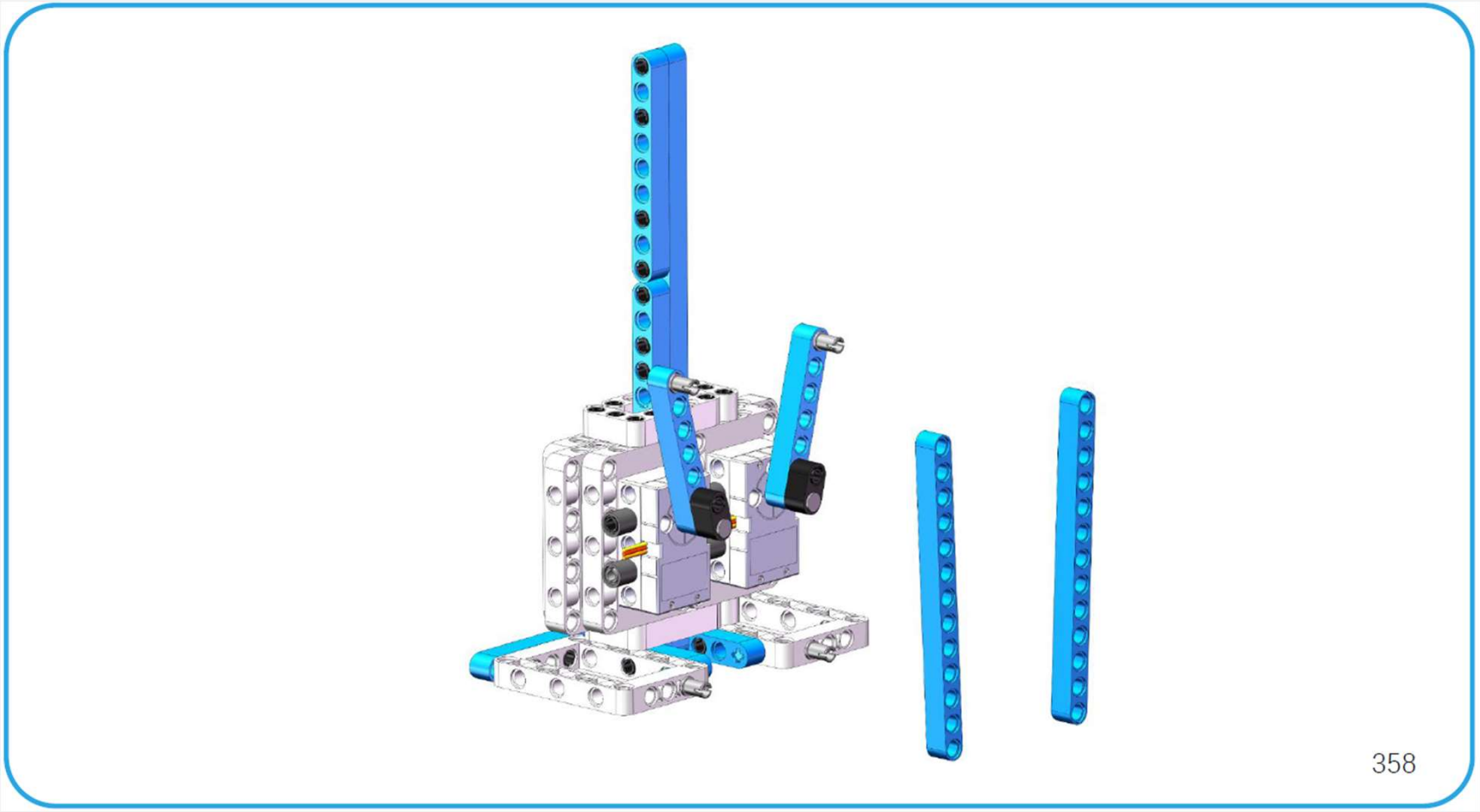
# Step 41



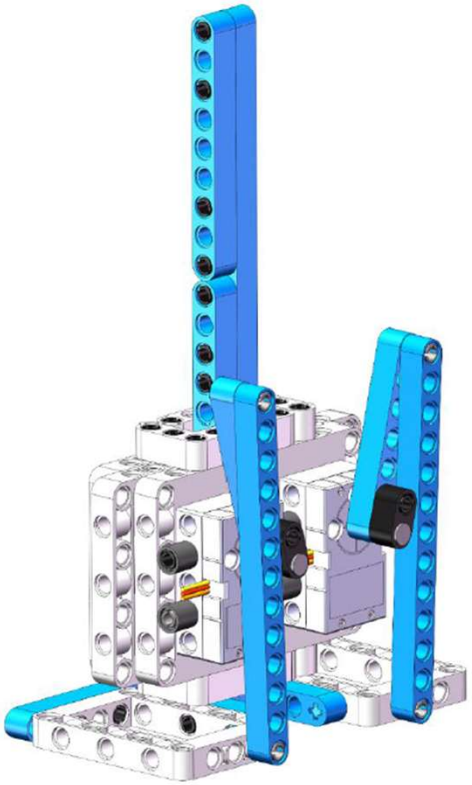
# Step 42



# Step 43

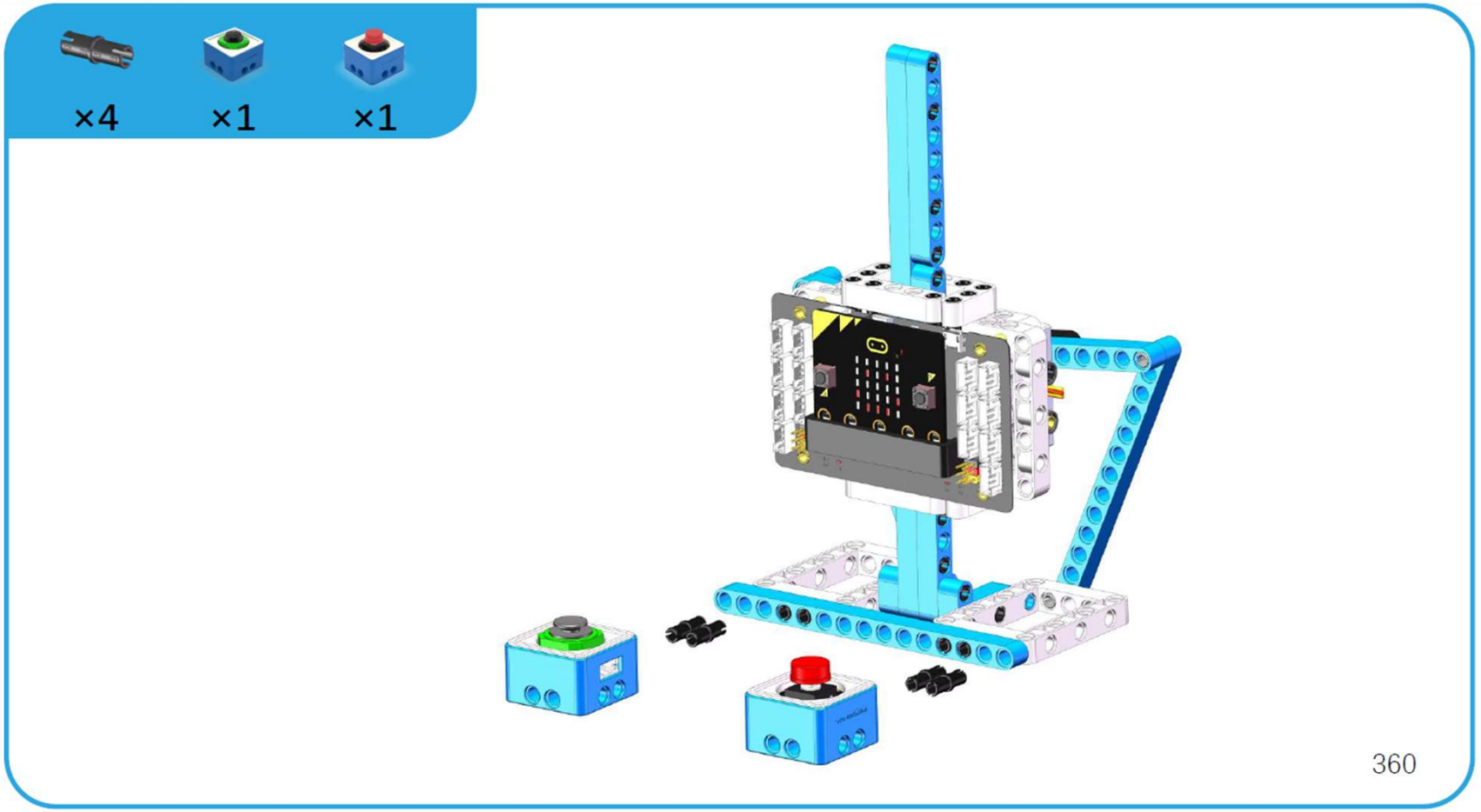


# Step 44

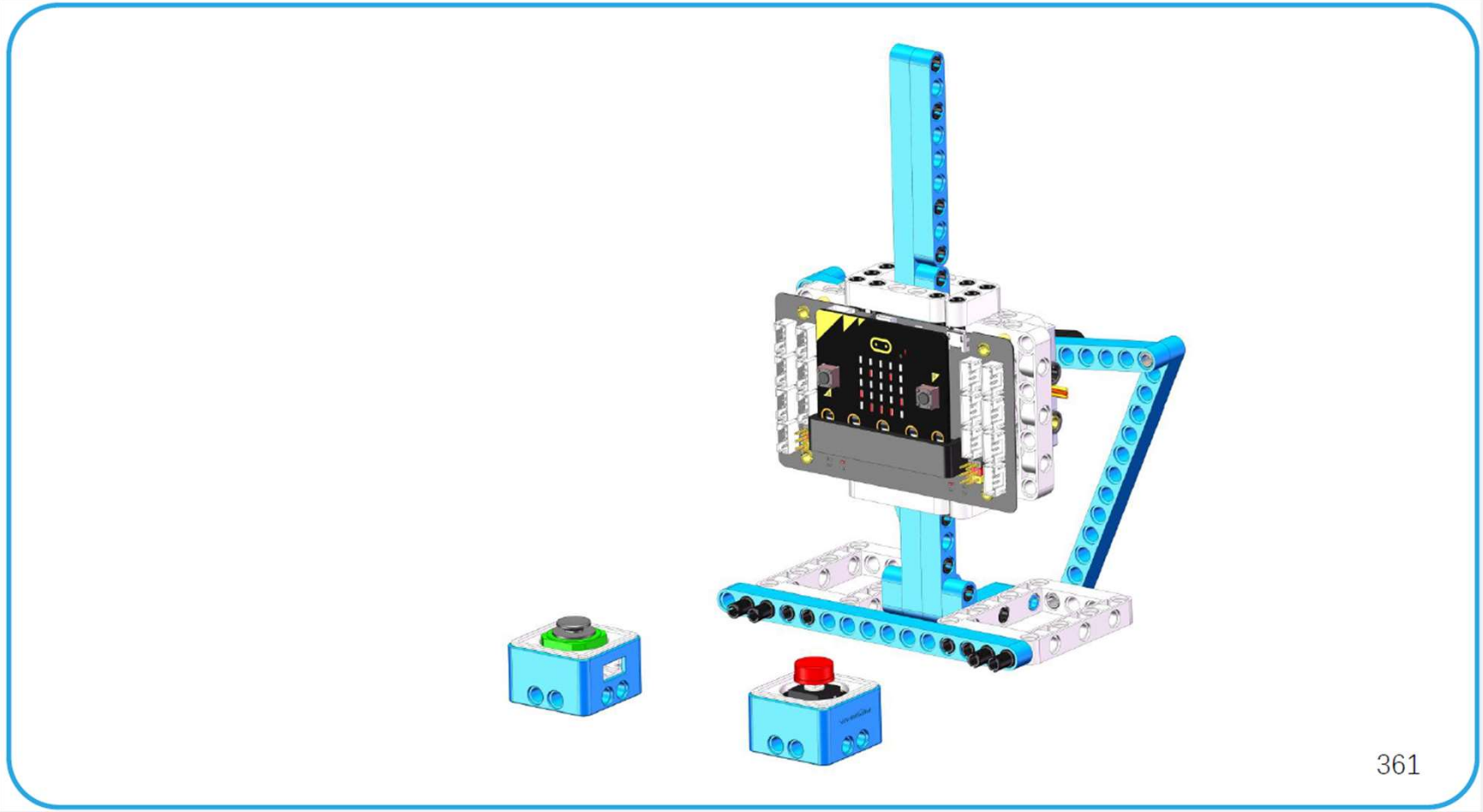


359

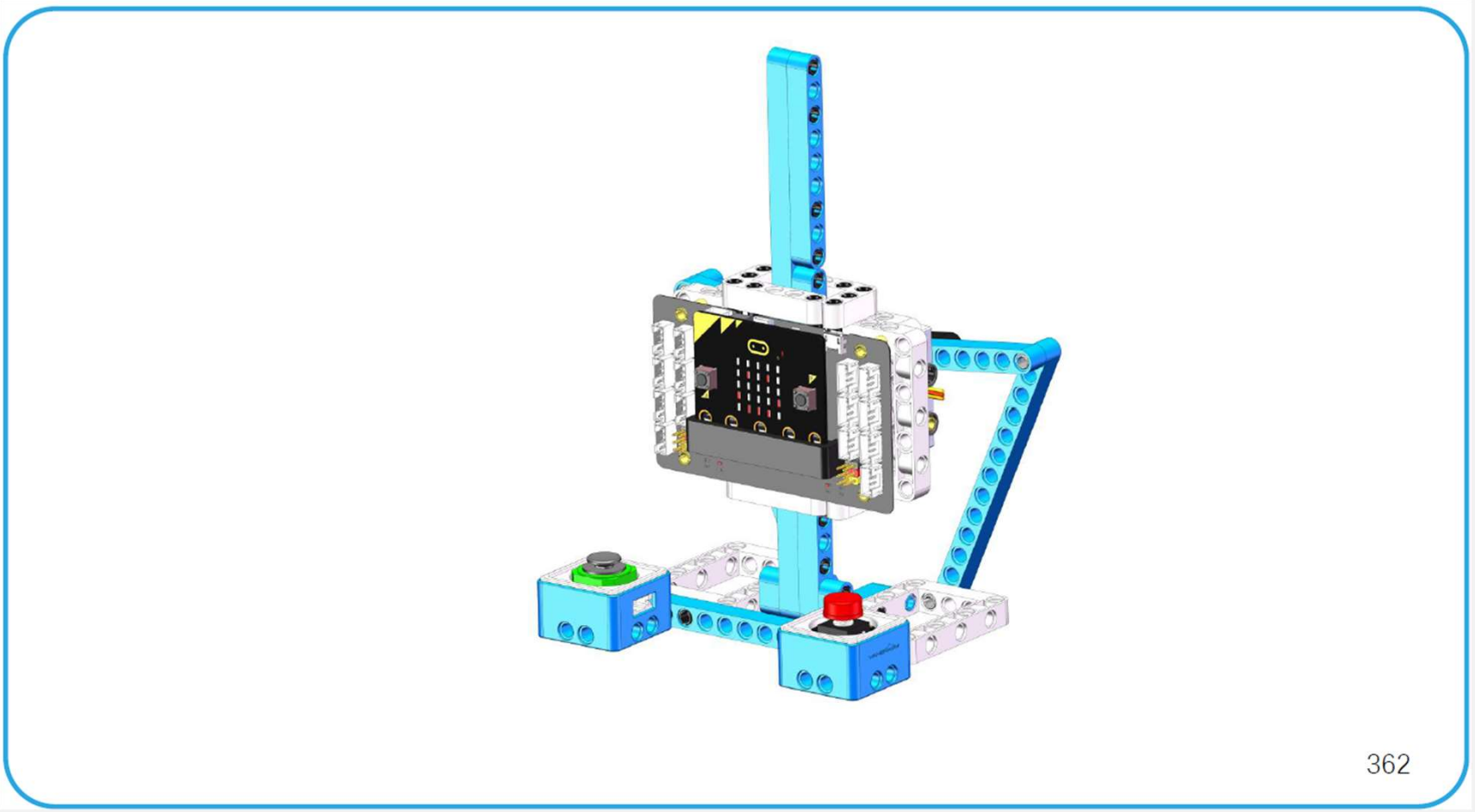
# Step 45



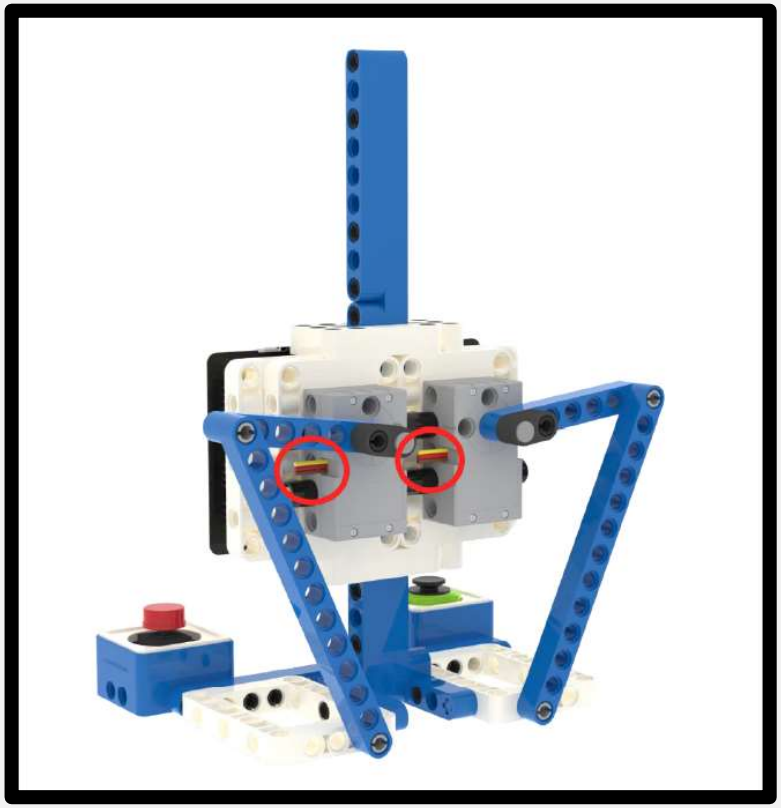
# Step 46



# Step 47



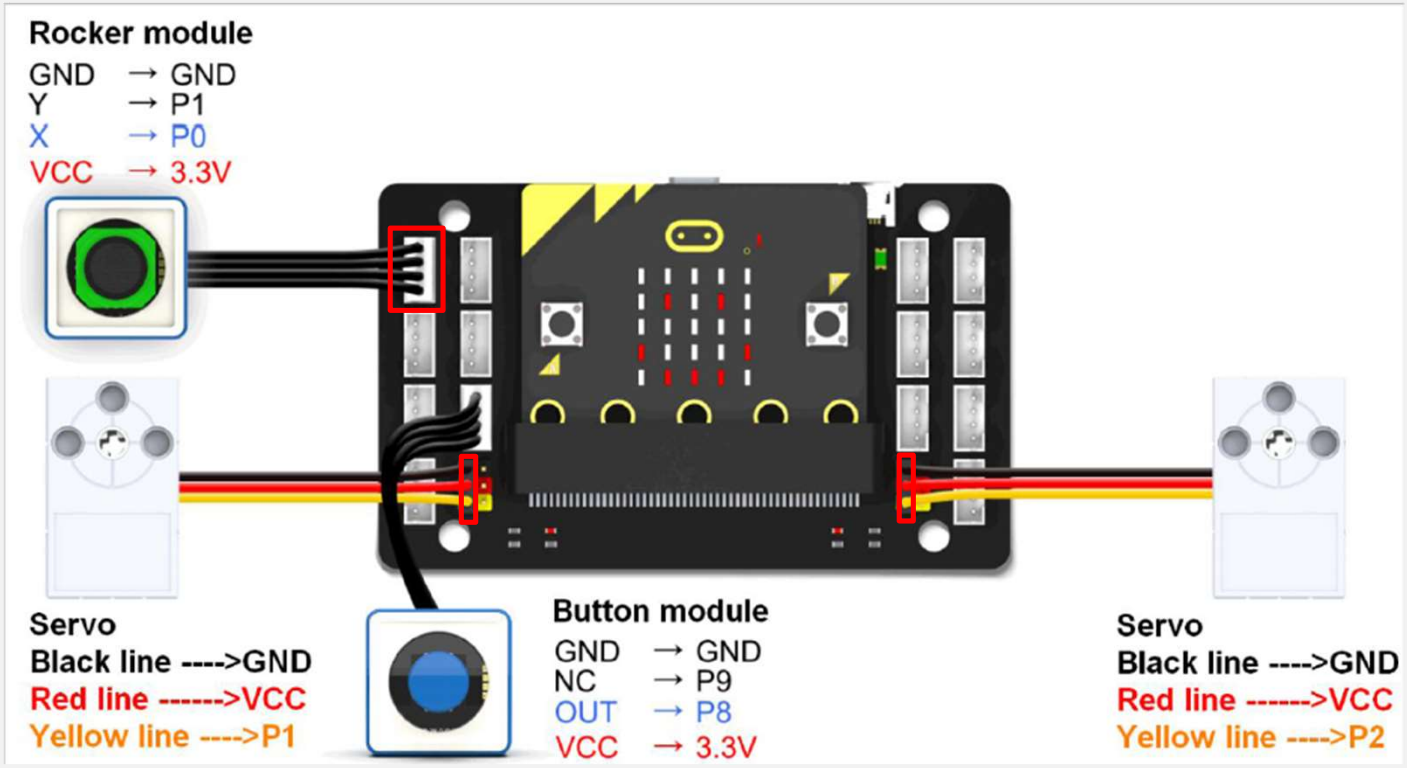
After the assembly is completed, please check the wiring of the servo as shown below.



30 Points

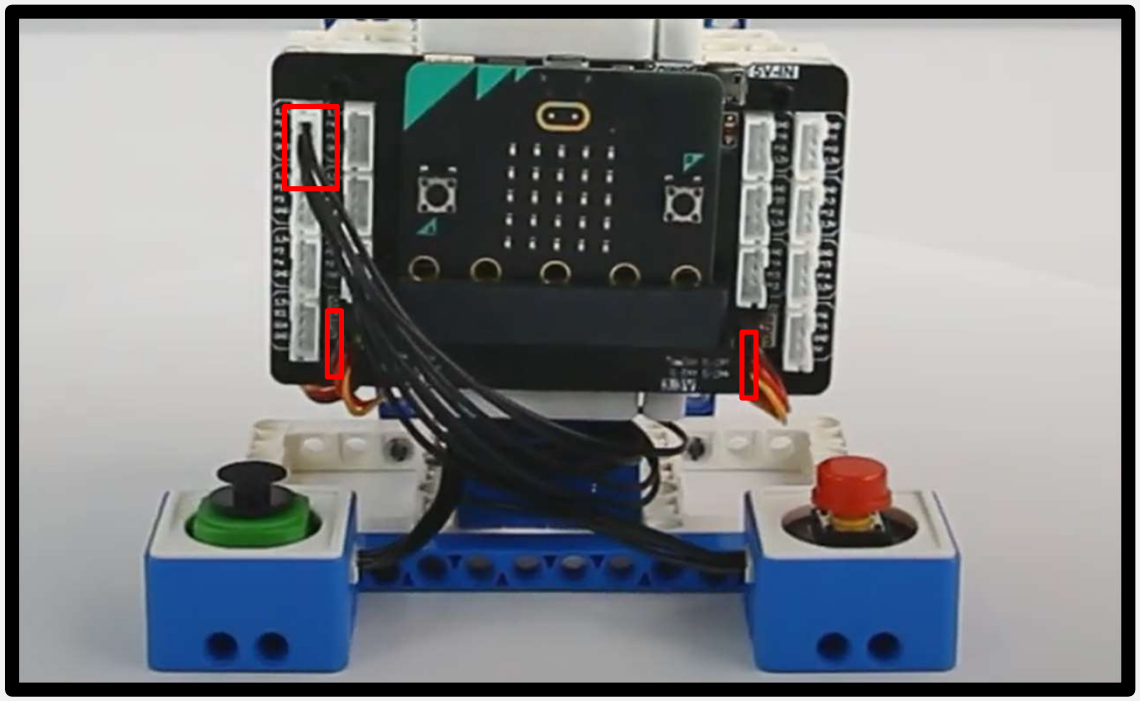
# Wire Connection

# Connect the modules




Let's connect the module like this.

# Connect the modules



Let’s connect the module like this.

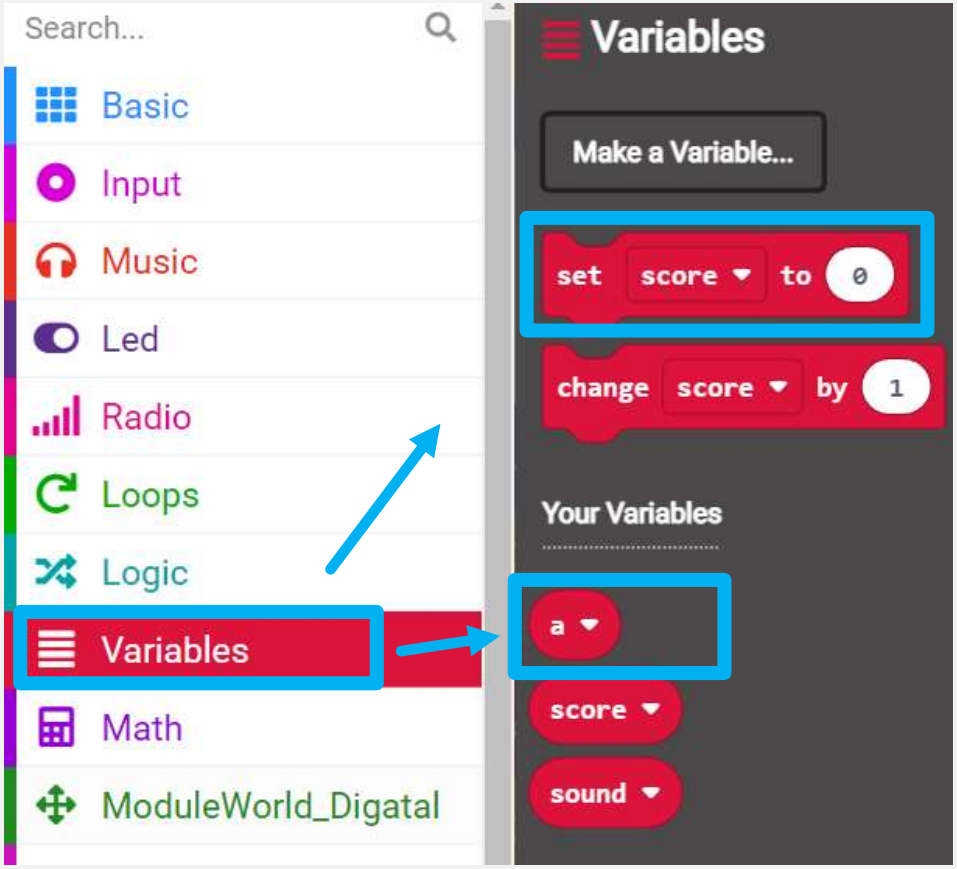
10 Points

# MakeCode Programming

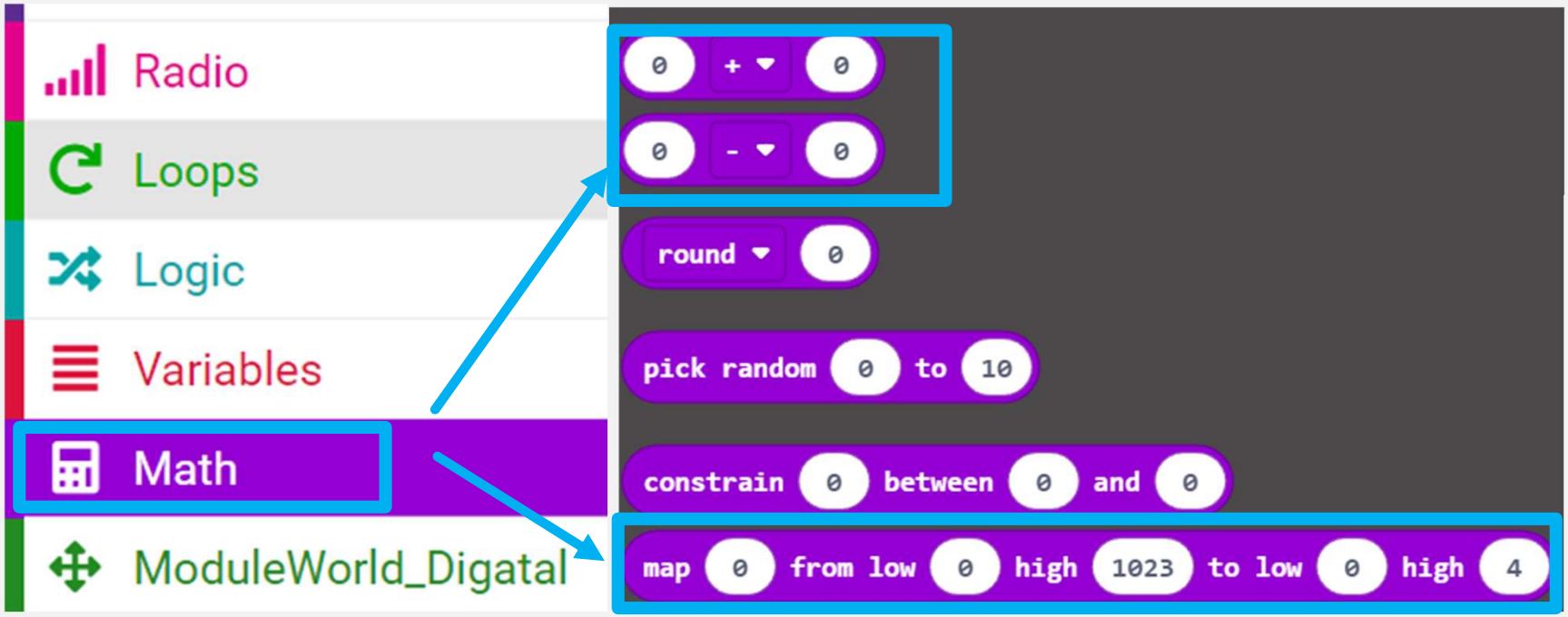
https://github.com/YahboomTechnology/Module-World.

**Or search YahboomTechnology/Module-World in the extension block**

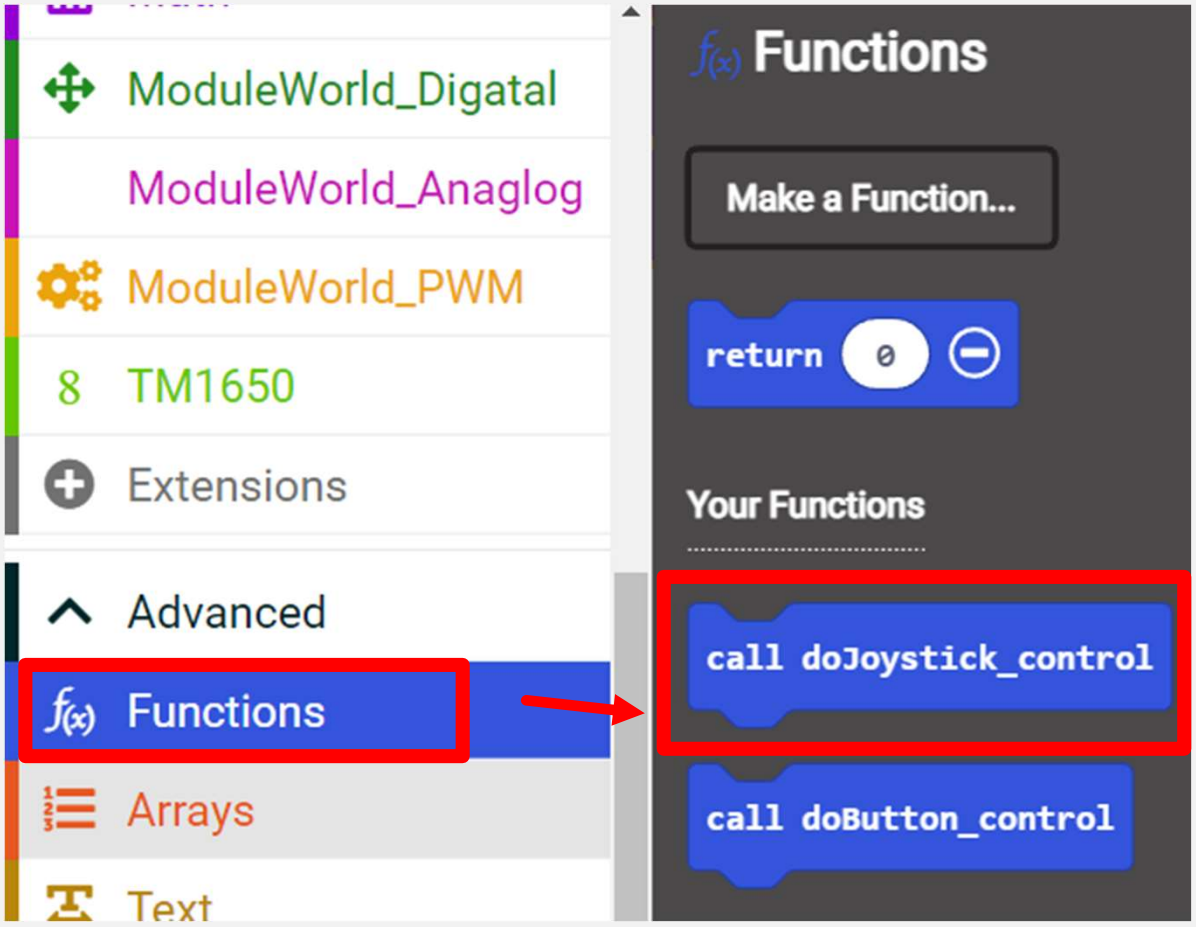
# Coding – Variables



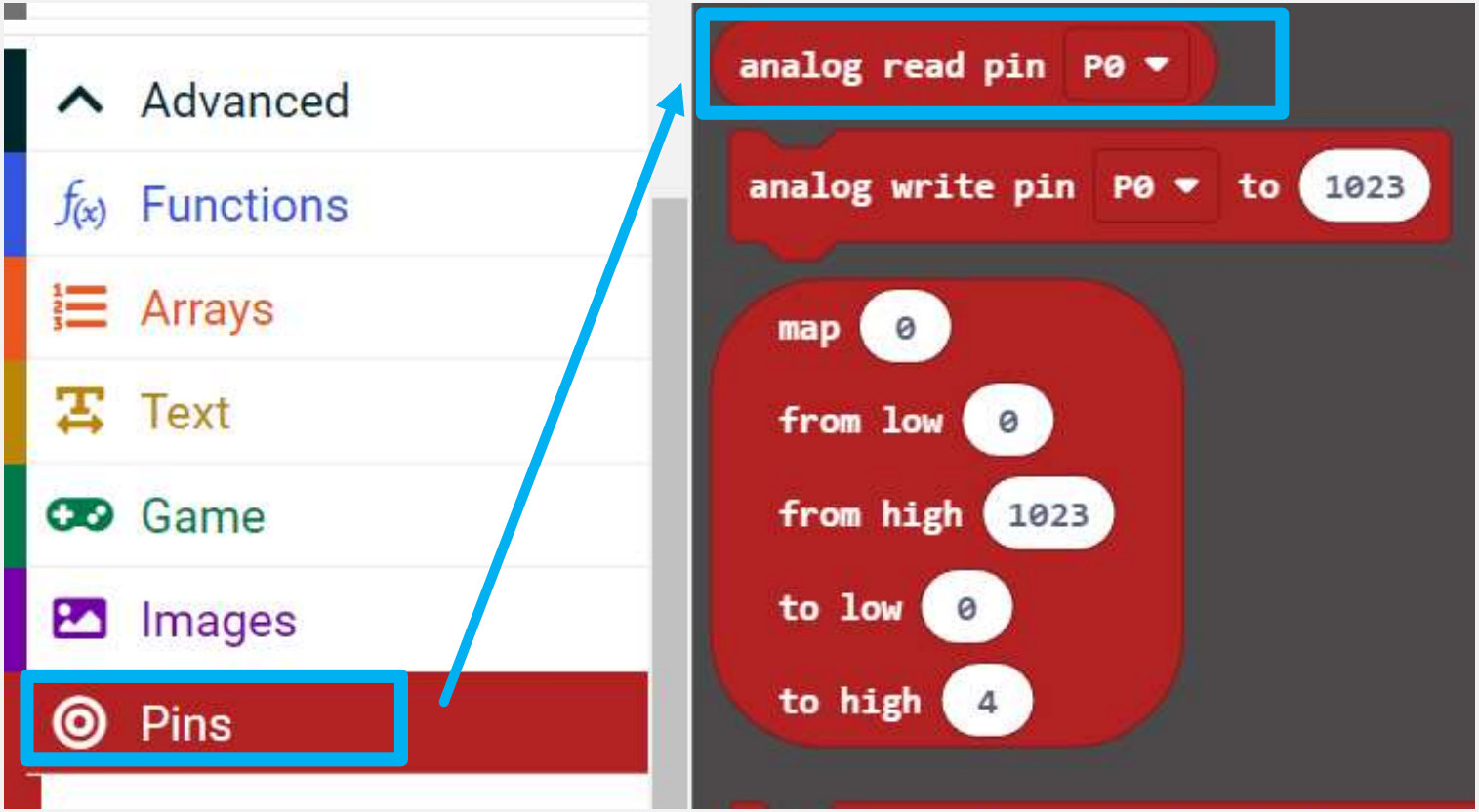
# Coding – Math



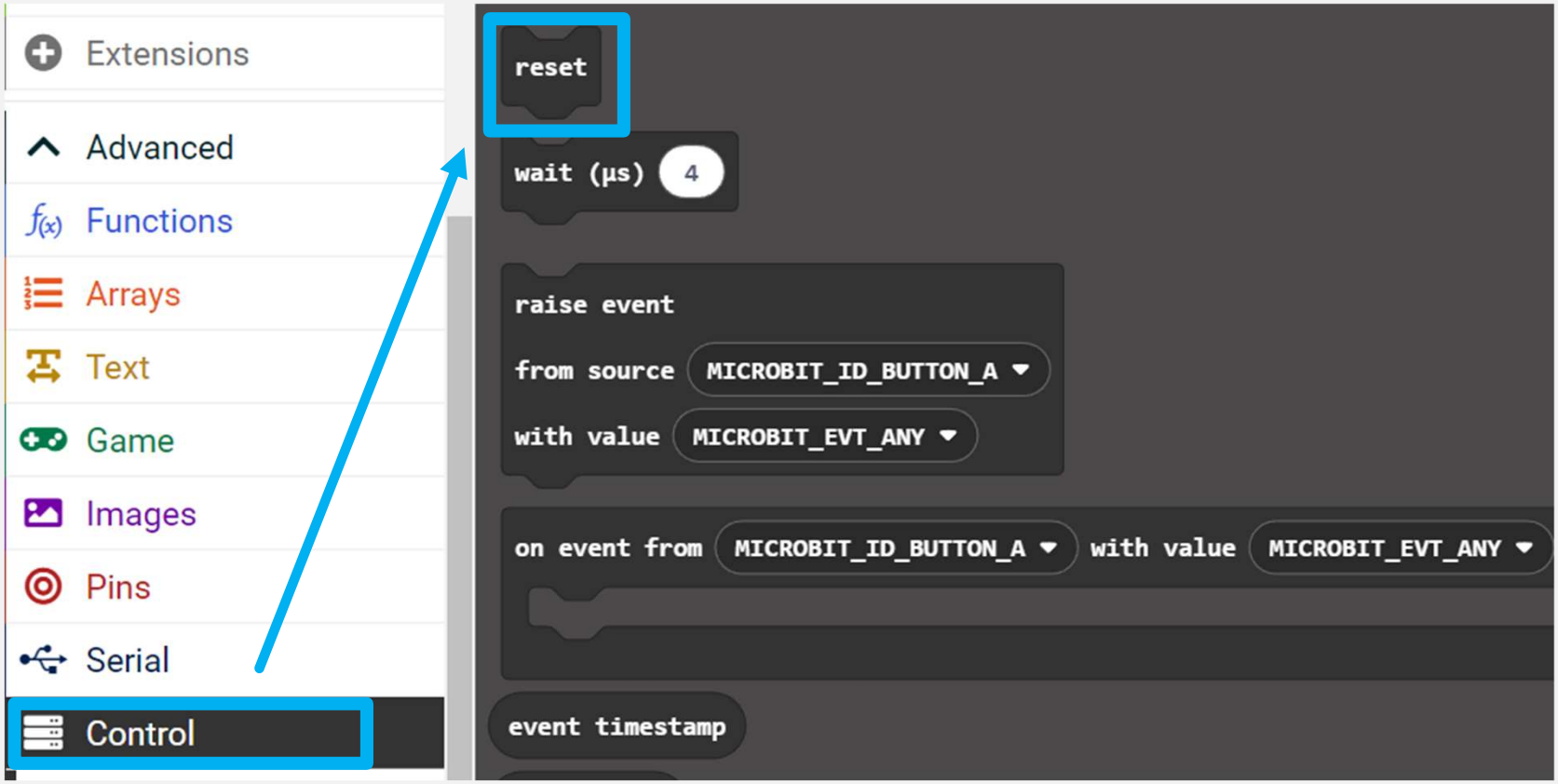
# Coding – Functions



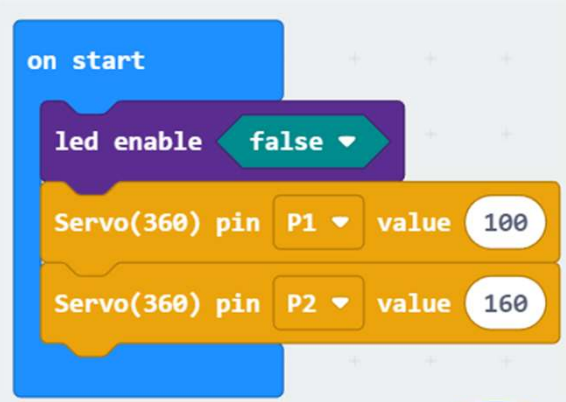
# Coding – Pins

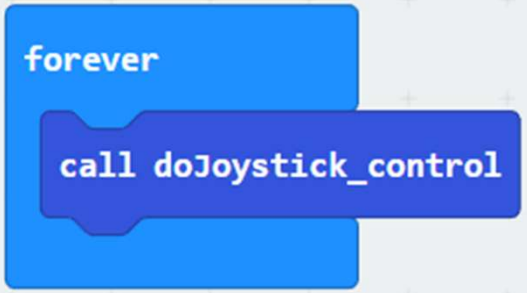


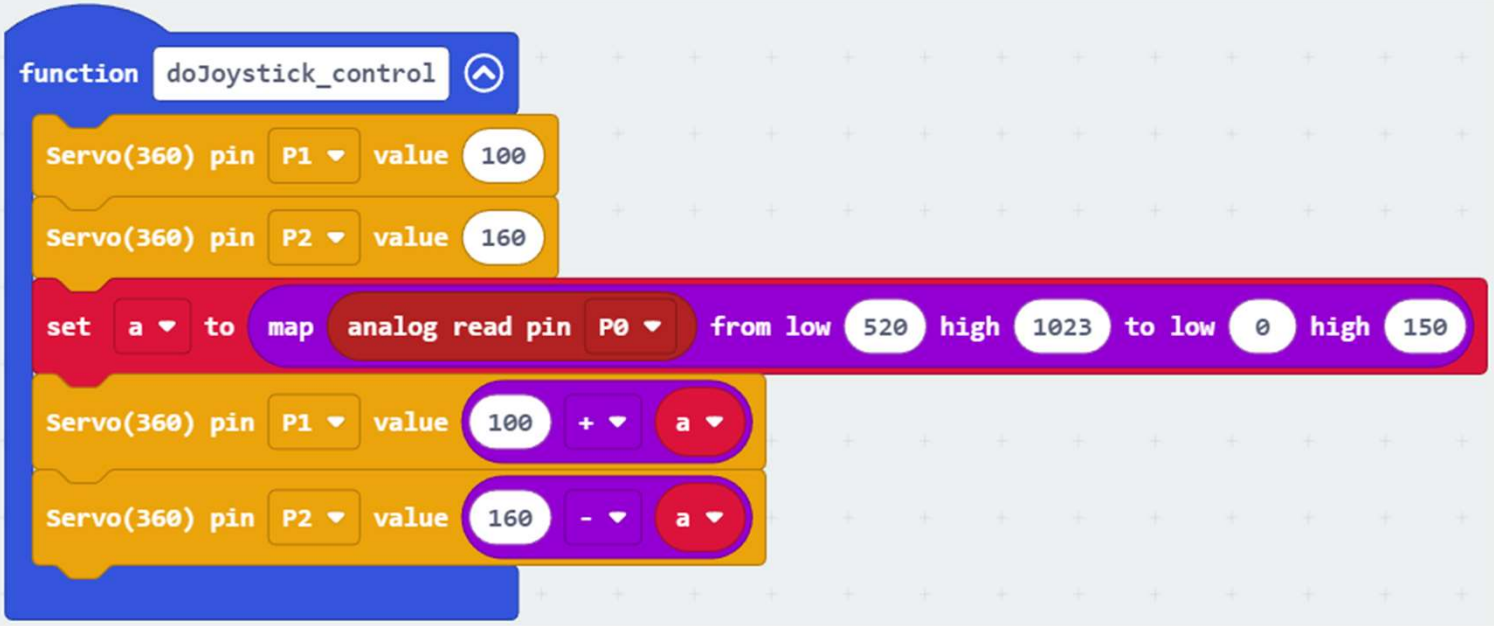
# Coding – Control



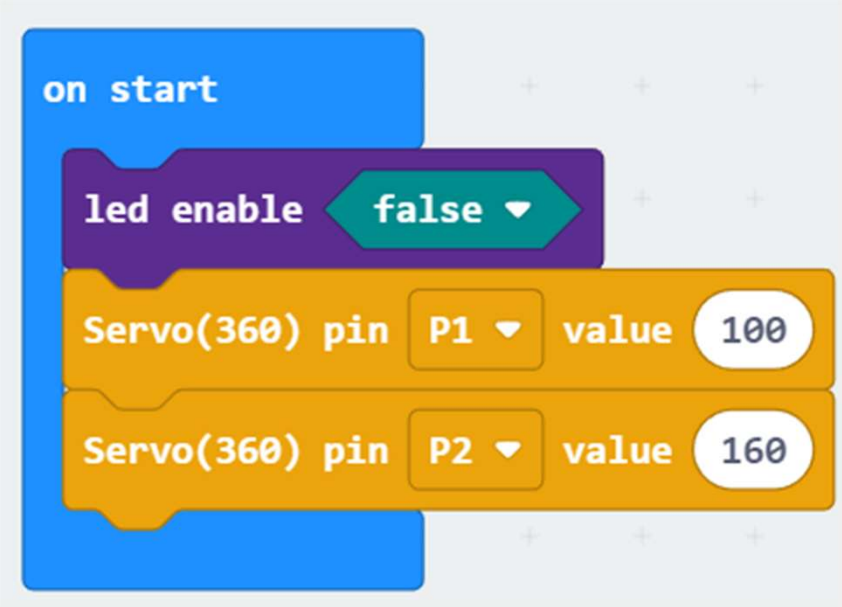
# Coding - Overview



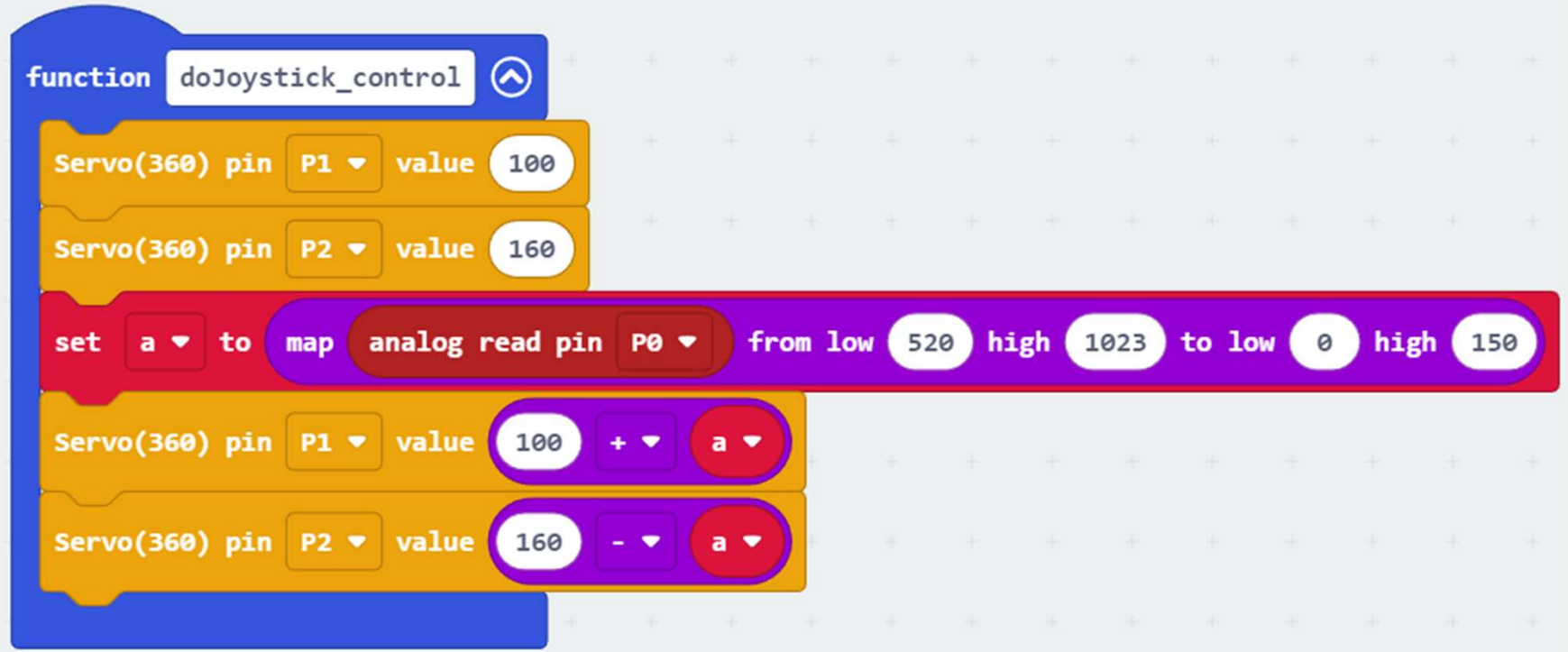



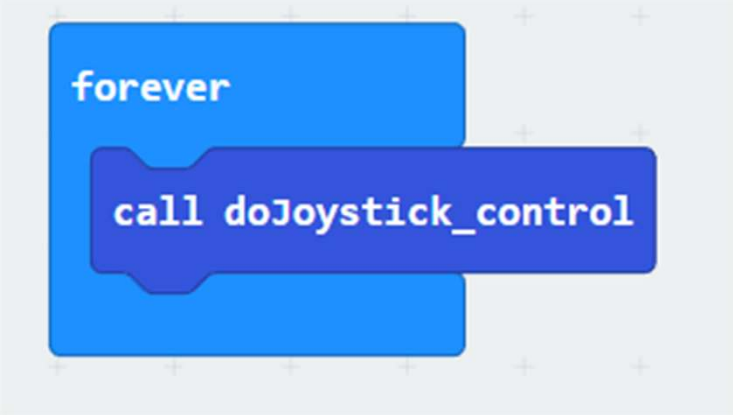
# Coding – On start



# Coding – rocker function,  doJoystick_control

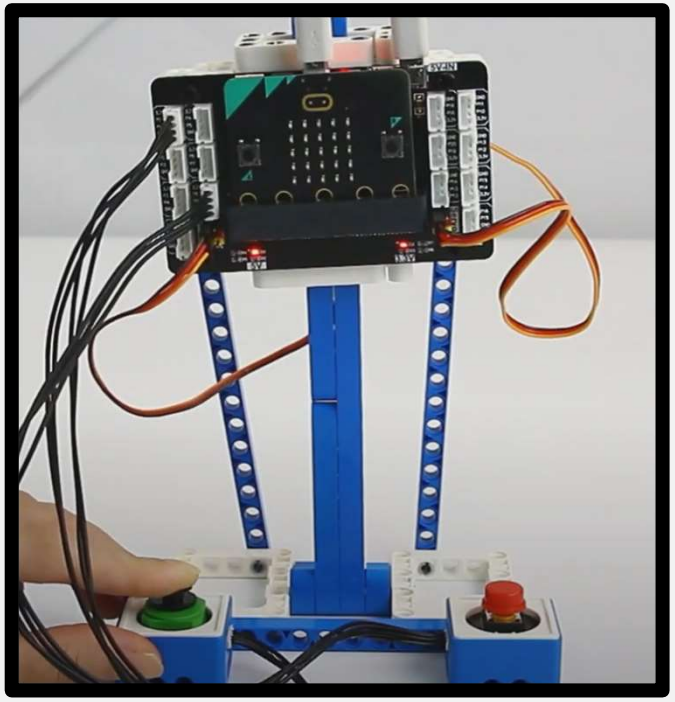


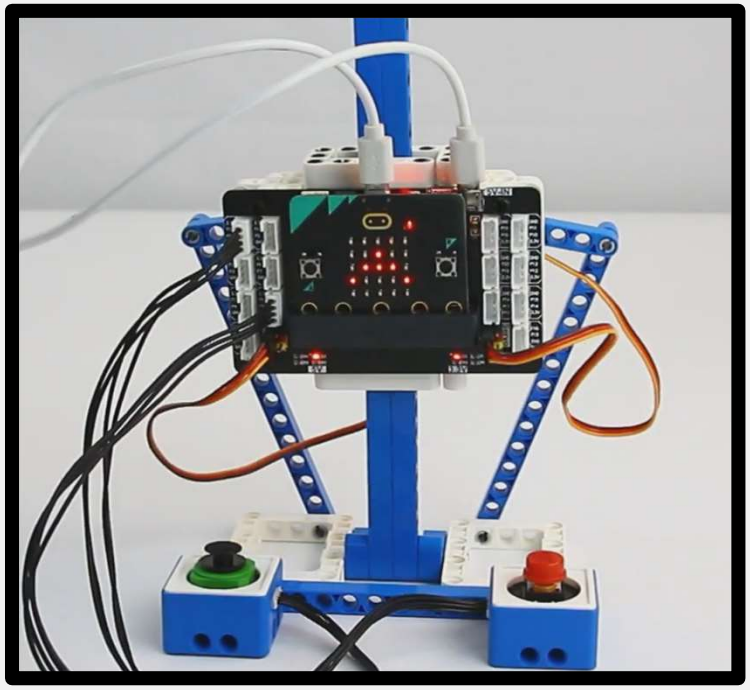
# Coding – forever



# Phenomenon

When we **push** the **rocker** forward, the lifting platform will **rise**,
When the rocker return to the **middle(no state)**, and the lifting platform will **fall** to the bottom.





**30 Points**

# CHALLENGE

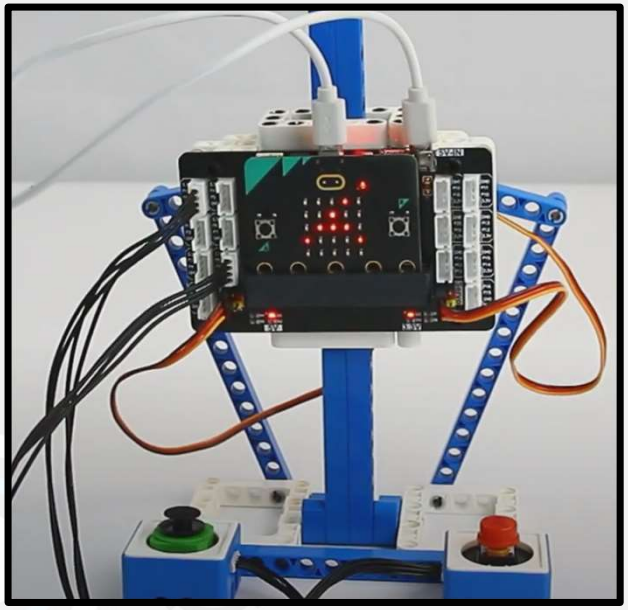
# for : Lesson 2

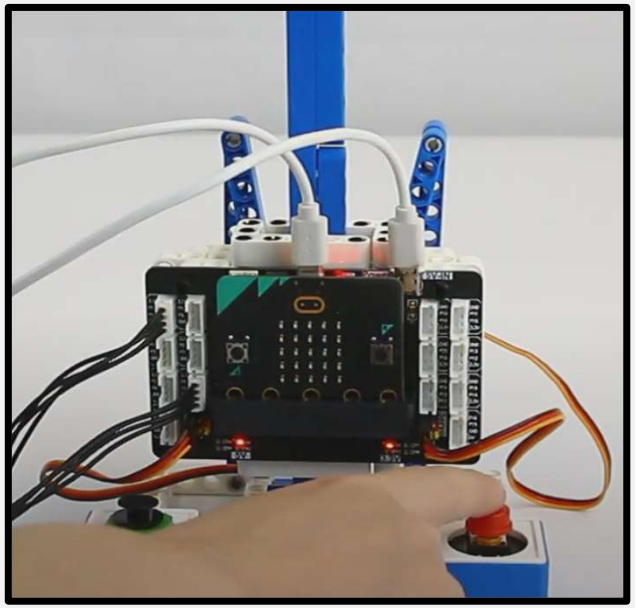
# L2 – Challenge 1

Using button module,

The lifting platform will rise when we press the button for the first time.

The lifting platform will fall to the bottom when we press the button again.

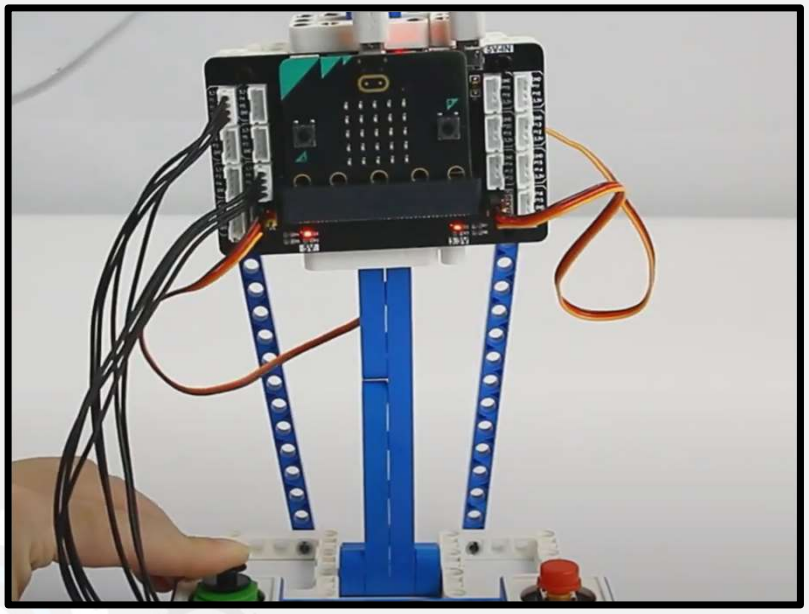


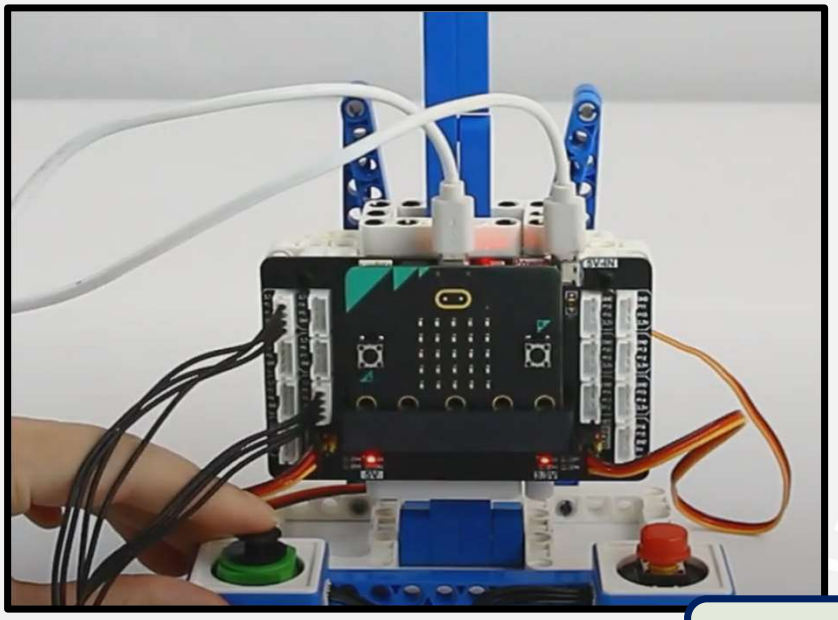


30 Points

# L2 – Challenge 2

**Can you make your rocker module control the platform up and down instead of just letting it fall?**

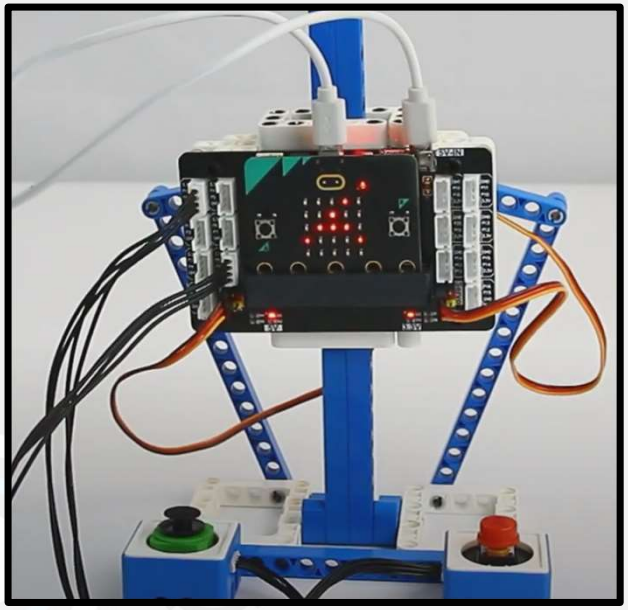


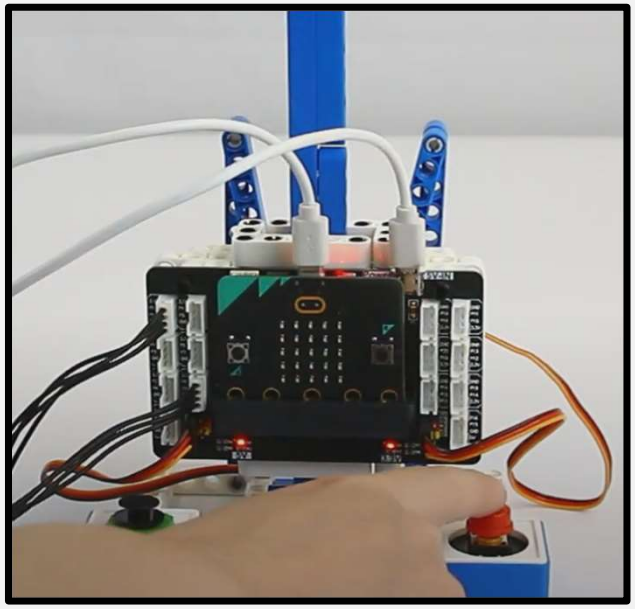


**30 Points**

# L2 – Challenge 3

Make the buzzer play a power up sound when the lifting platform rises,
When the lifting platform will fall to the bottom, the buzzer will play power down sound.





30 Points

# L2 – Mission

**Based on your lifting platform.**
**When the button module is pressed, the platform will rise into a certain height.**
**The more you press the button, the higher the platform rises.**

**Example:**
**1st time: The platform will rise a little**
**2nd time: The platform will rise more than 1st time**
**3rd time: The platform will rise more than 2nd time**
**4th time: The platform will to its maximum height**
**5th time: The platform will return to original position**

**50 Points**