Let me remember

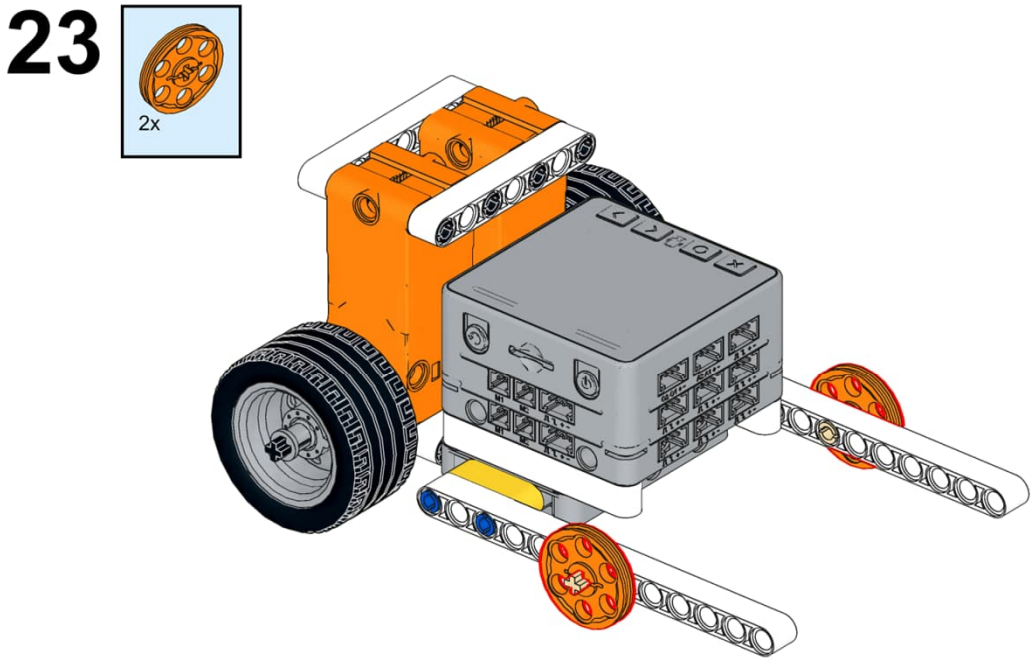
Target

- Learn the application of variables.
- Complete an LED lighting scheme using multiple variable storage and applications.
- Understand how the robot performs memory storage and retrieval.

01 Assembly

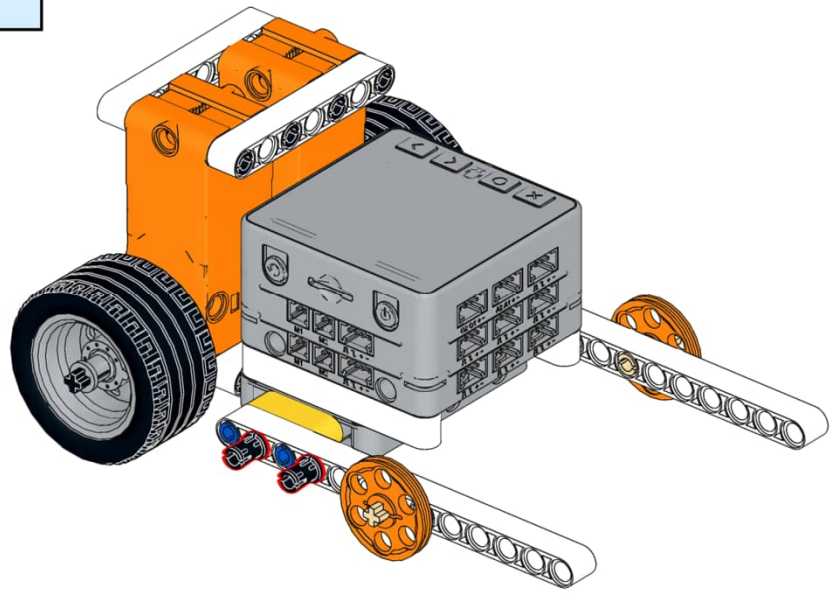
Assembly

See Lesson 1 for complete instructions



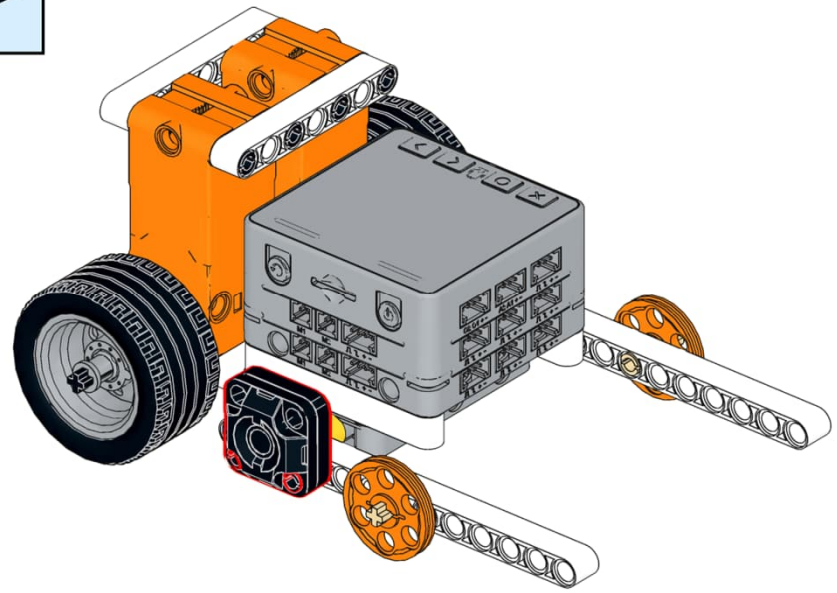
Assembly

24



Assembly

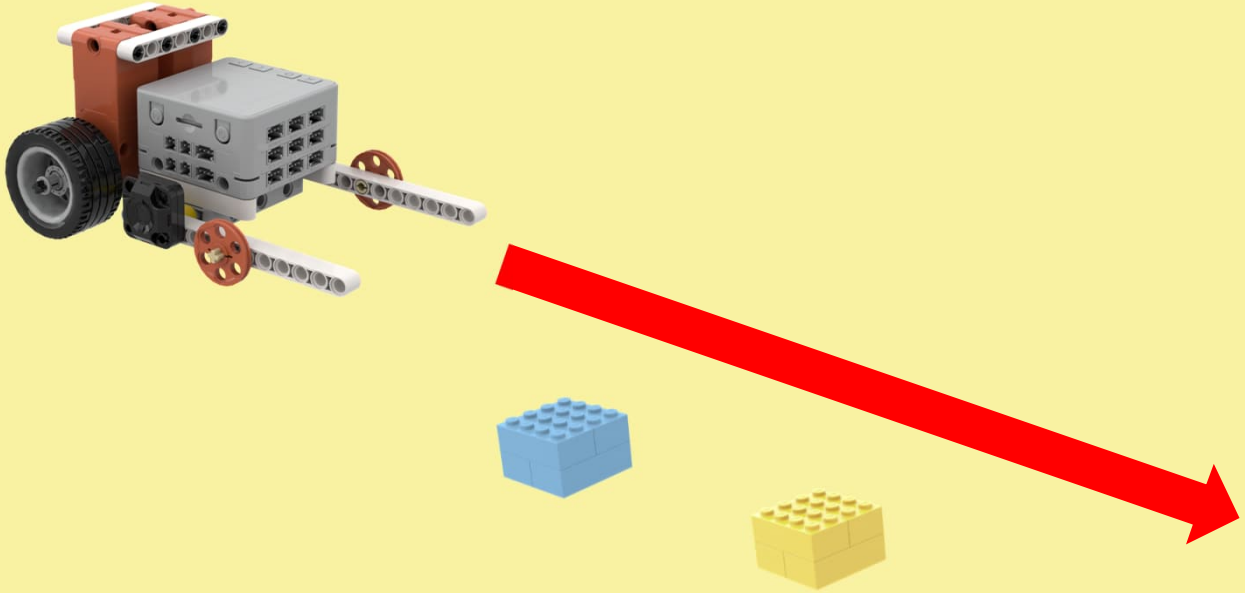
25



02 Task 1

Task 1

- Detect two colors, and then light up the color LEDs in s**equence.**



Task Segmentation

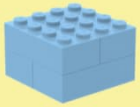
- First, complete the color detection.

Detect the color

Not detect the color

Detect the color

Not detect the color



Task Segmentation

- Referrable program

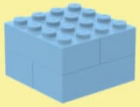
Task Segmentation

- Use variables to store the two colors.
- After the robot stops, read, evaluate, and display the colors.

variable a

variable b

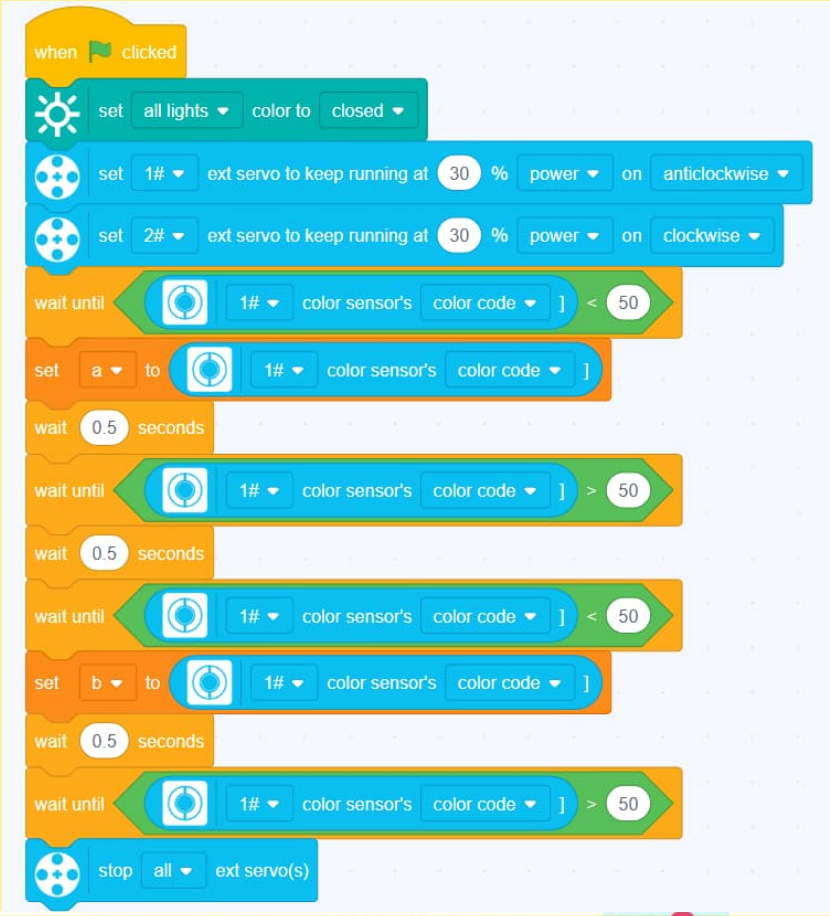
Read variable a
Read variable b



Task Segmentation

- Referrable program

Color Storage



Color reading and judgment

Precautions

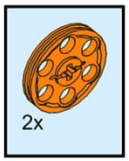
Note: Color code 5 is actually green. When the color sensor detects a yellow block, color code 5 appears when the distance is 1-3 cm, and the correct color code 7 only appears when the distance is less than 1 cm.

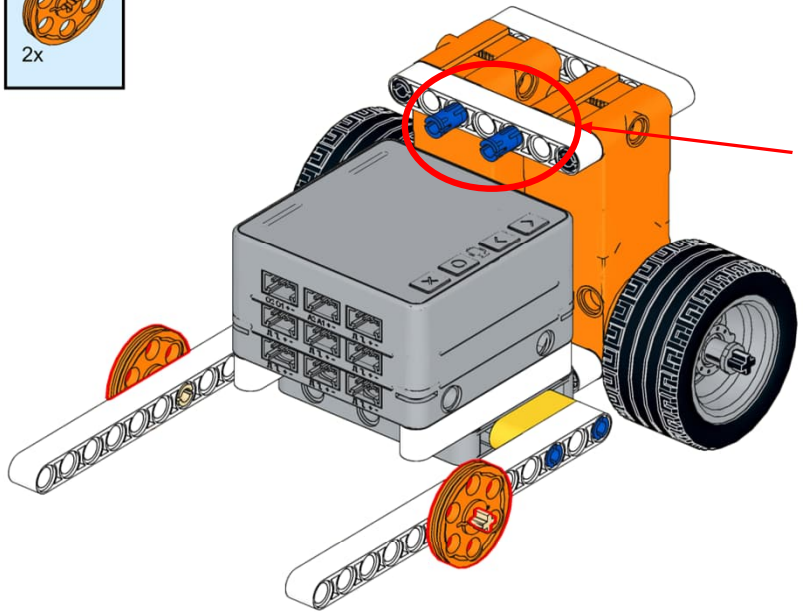
To accurately distinguish between yellow and green, let's make a slight structural adjustment.

03 Task 2

Assembly

23

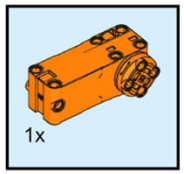


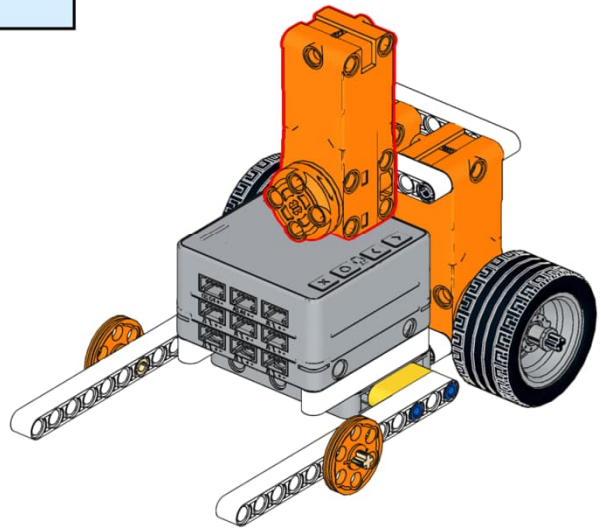


Replace the two-slot pin with a three-slot pin.

Assembly

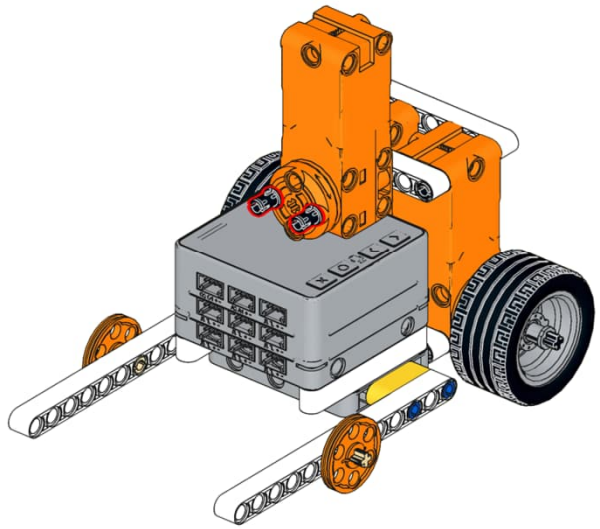
24





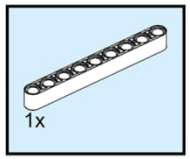
Assembly

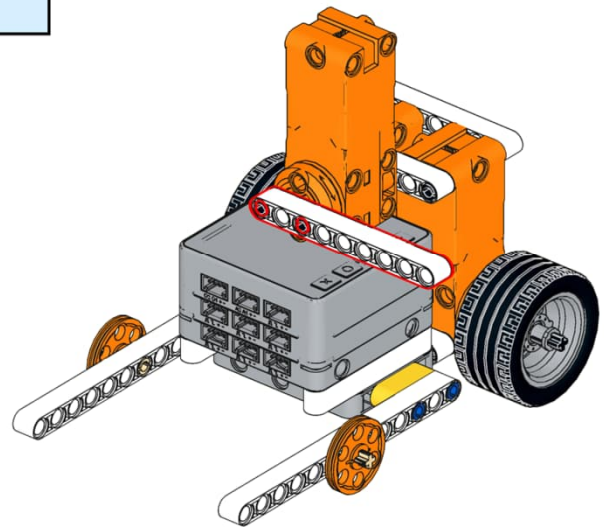
25



Assembly

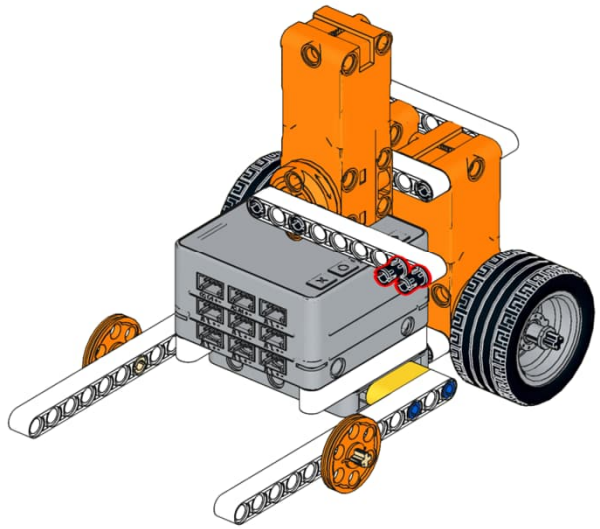
26





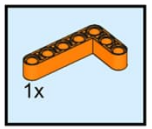
Assembly

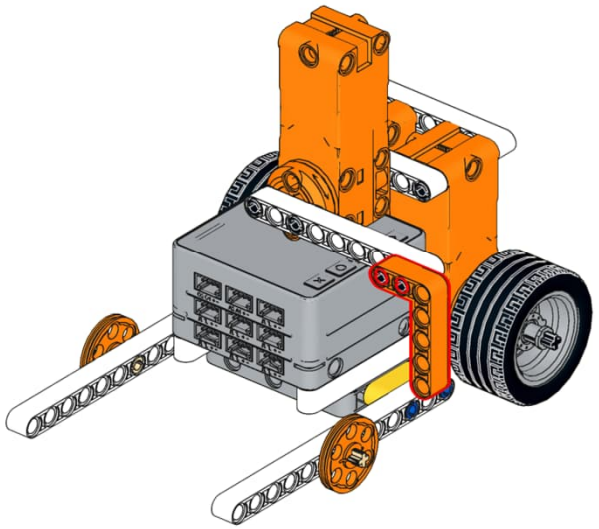
27



Assembly

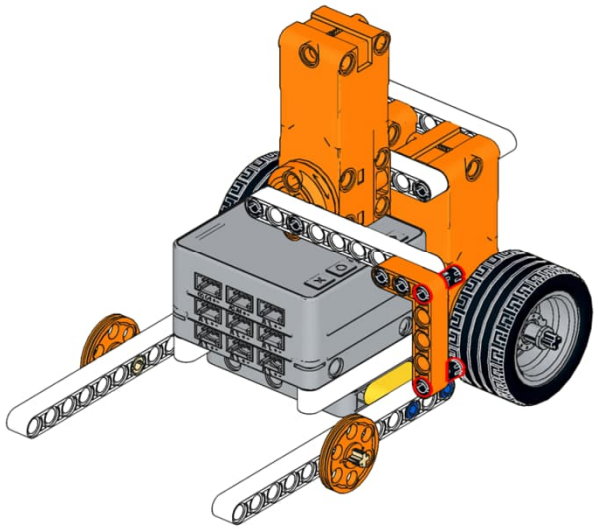
28





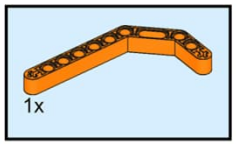
Assembly

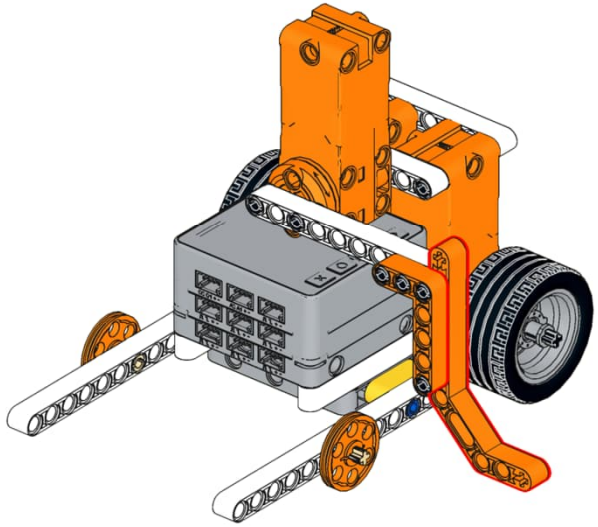
29



Assembly

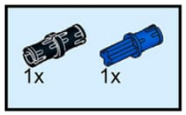
30

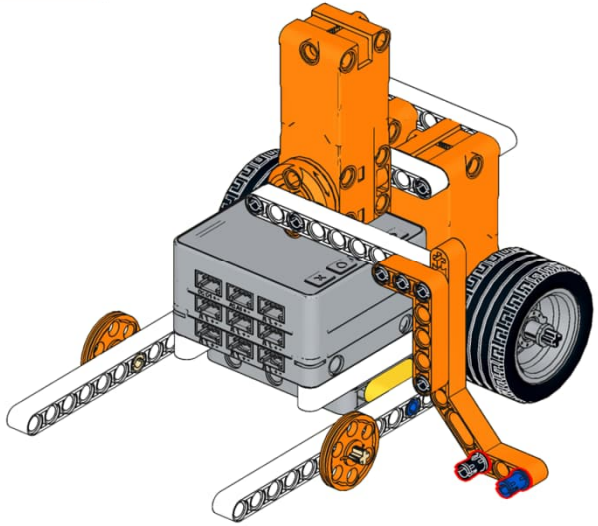




Assembly

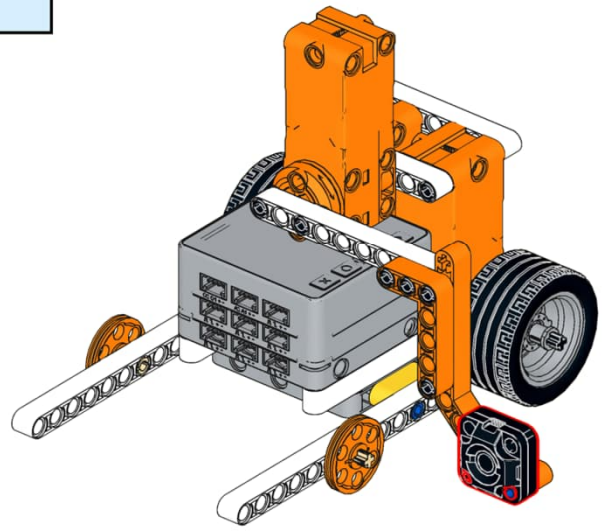
31





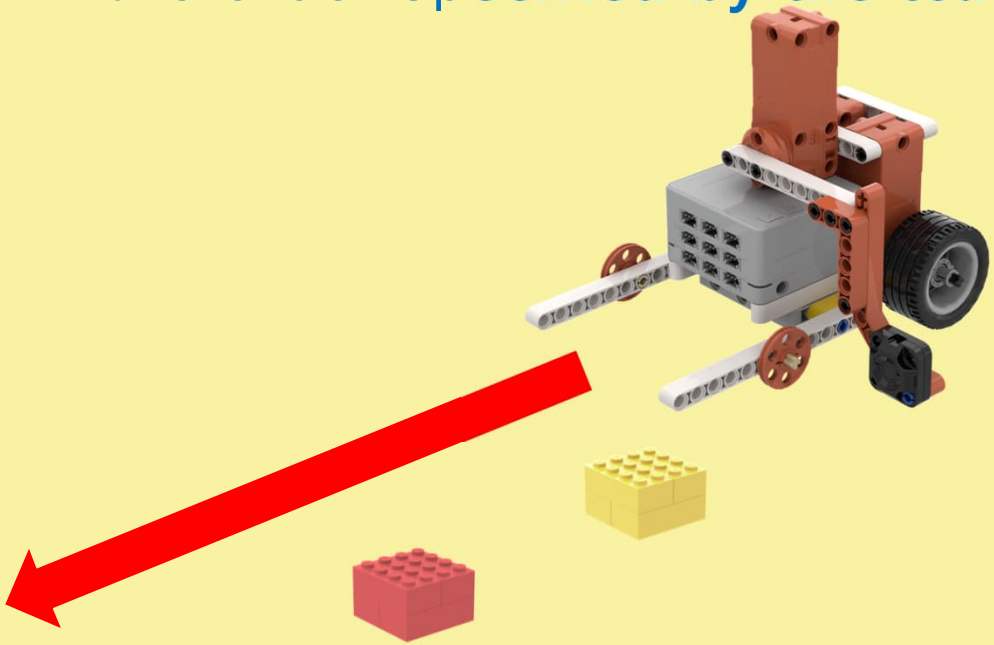
Assembly

32



Task 2

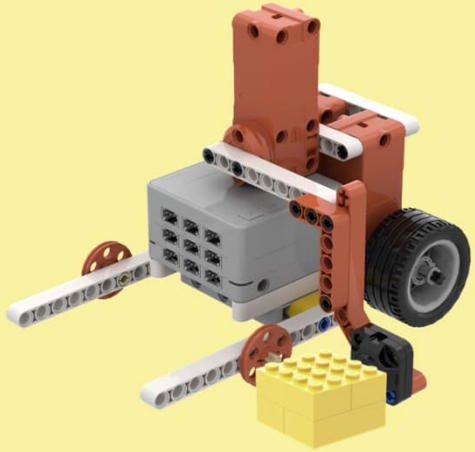
- Task 2: Detect red and yellow. After detection, light up the color LEDs in the order specified by the teacher.



Task Segmentation

- Before starting, raise the robotic arm to ensure the robot meets the size requirements. After starting, lower the robotic arm and align the color sensor with the block.

- When the color sensor detects the color, for more accurate detection, the robot should move forward a small distance, bringing the sensor closer to the block, **with a distance of less than 1 cm.**



Task Segmentation

- Task Flow

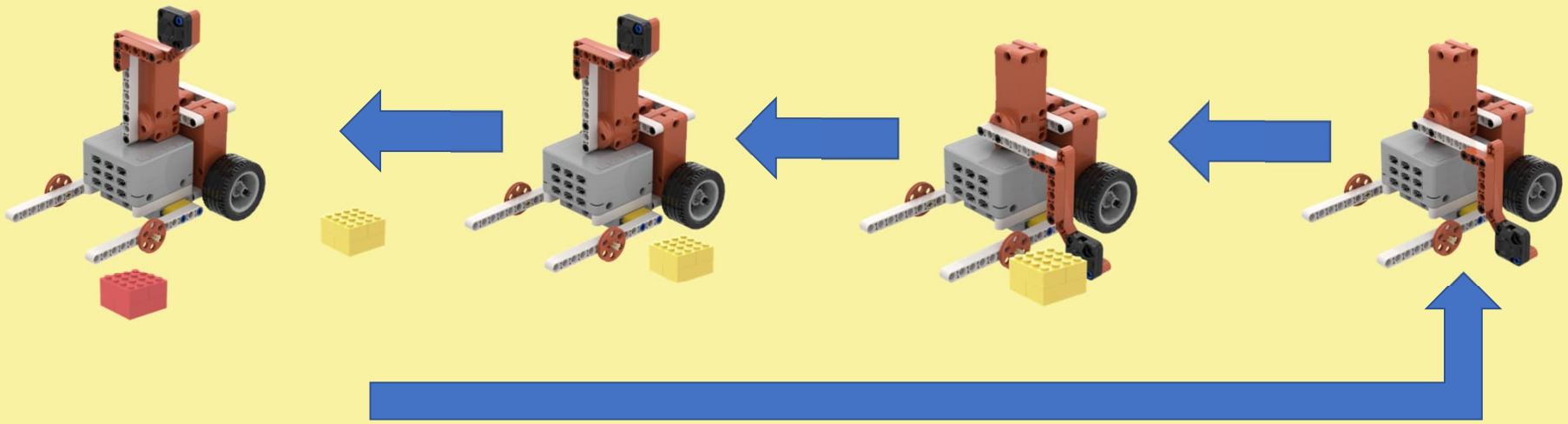
Color detection process

1、Put down the robotic arm

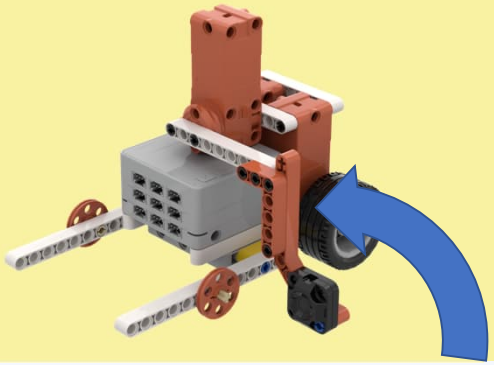
2、Detect the color

3、Raise the robot arm

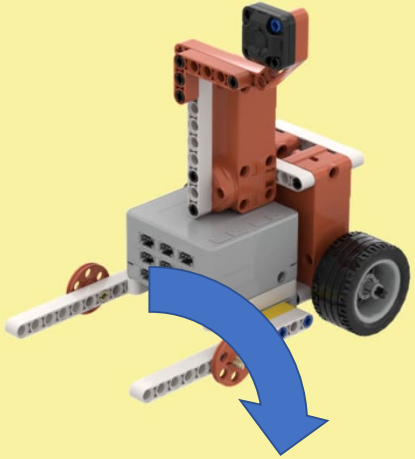
4、Go a little further

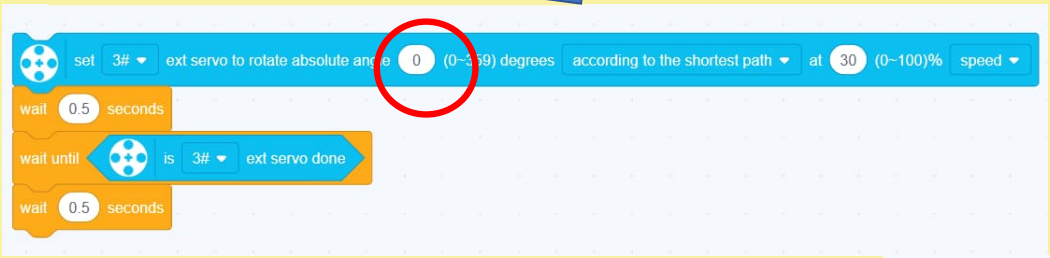


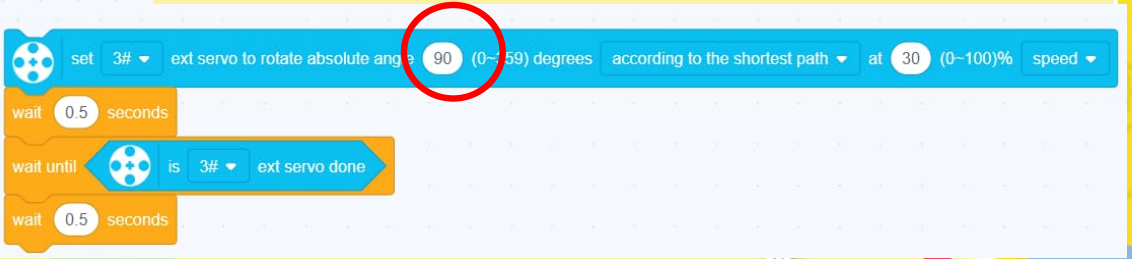
Task Segmentation



It is recommended to use the absolute angle module for controlling the robotic arm. The absolute angle module can be used for operations up to 360 degrees.

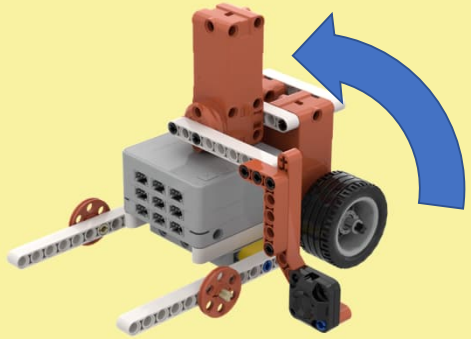




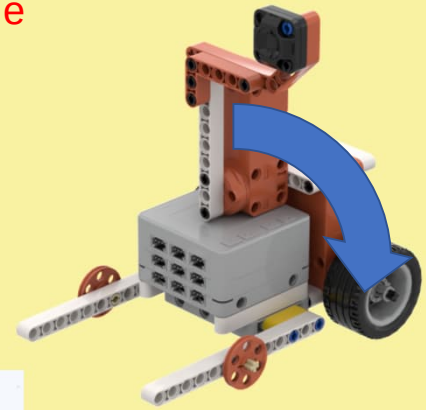


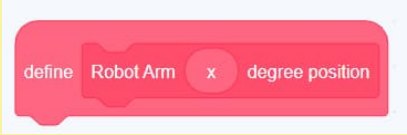
Task Segmentation

- Complete “ My Blocks ” for raising and lowering the robotic arm.



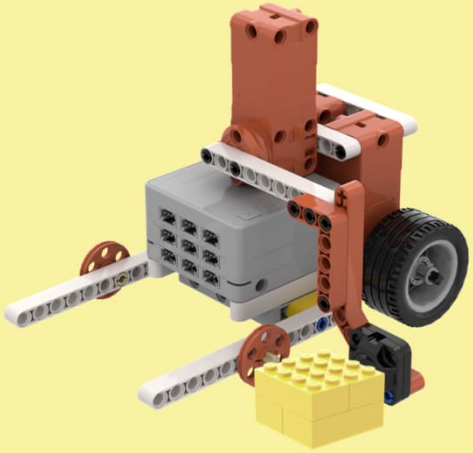
It is recommended to use the absolute angle module for controlling the robotic arm. The absolute angle module can be used for operations up to 360 degrees.





Task Segmentation

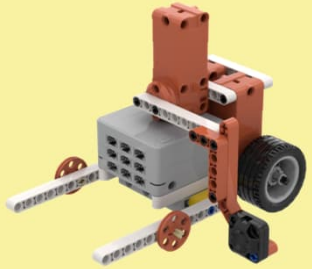
- To accurately detect colors, after detecting a color, move forward a short distance to get close to the color block, and then make the record.

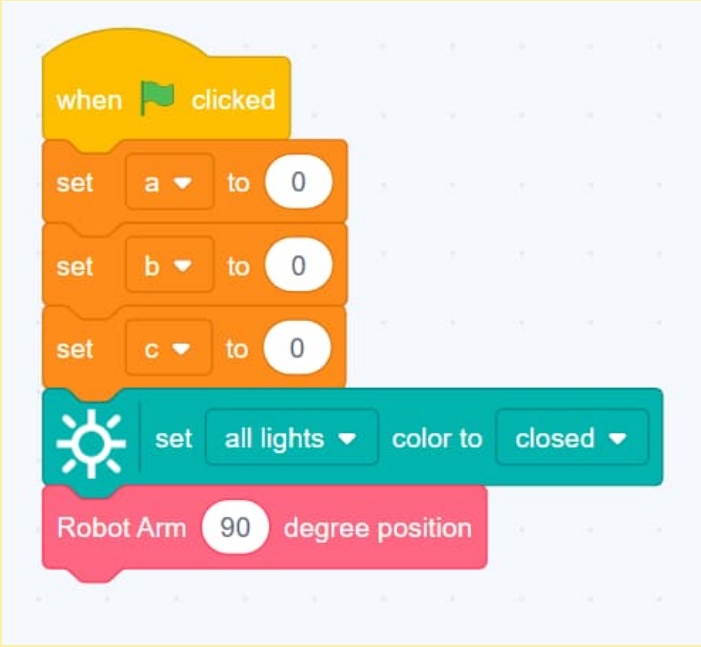


Task Segmentation 1

- Task Flow

1、Put down the robotic arm

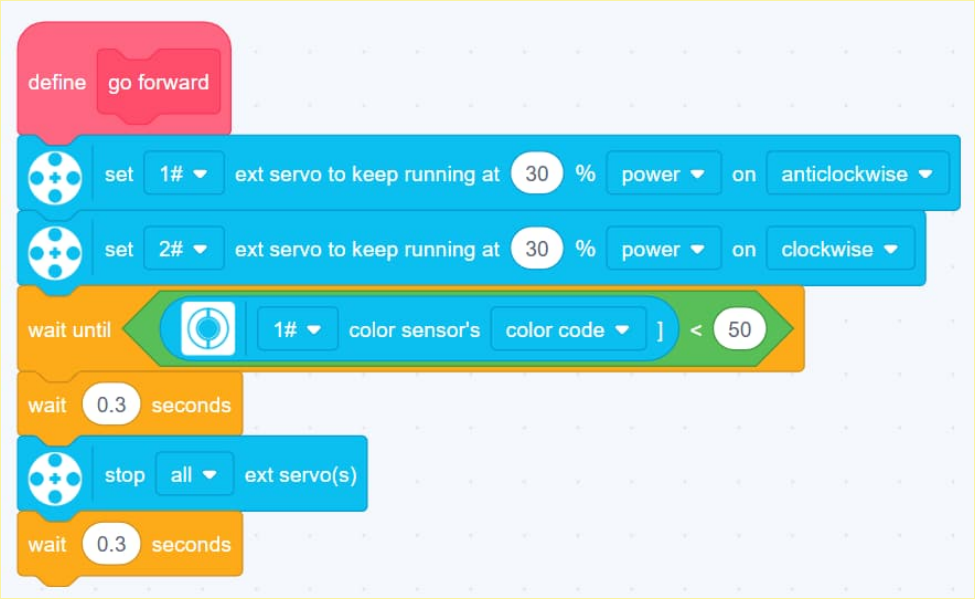




Task Segmentation 2

- Task Flow

2、Detecte the color

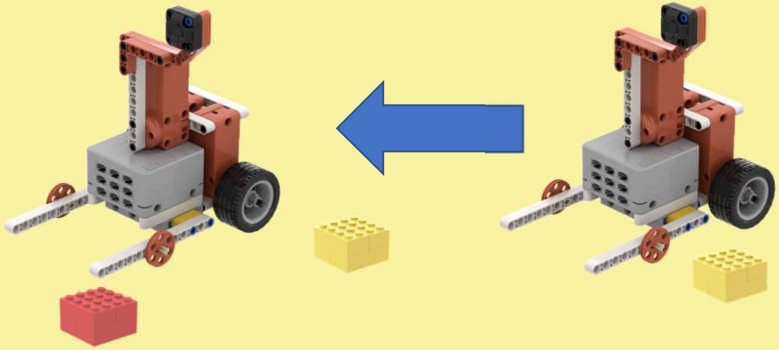


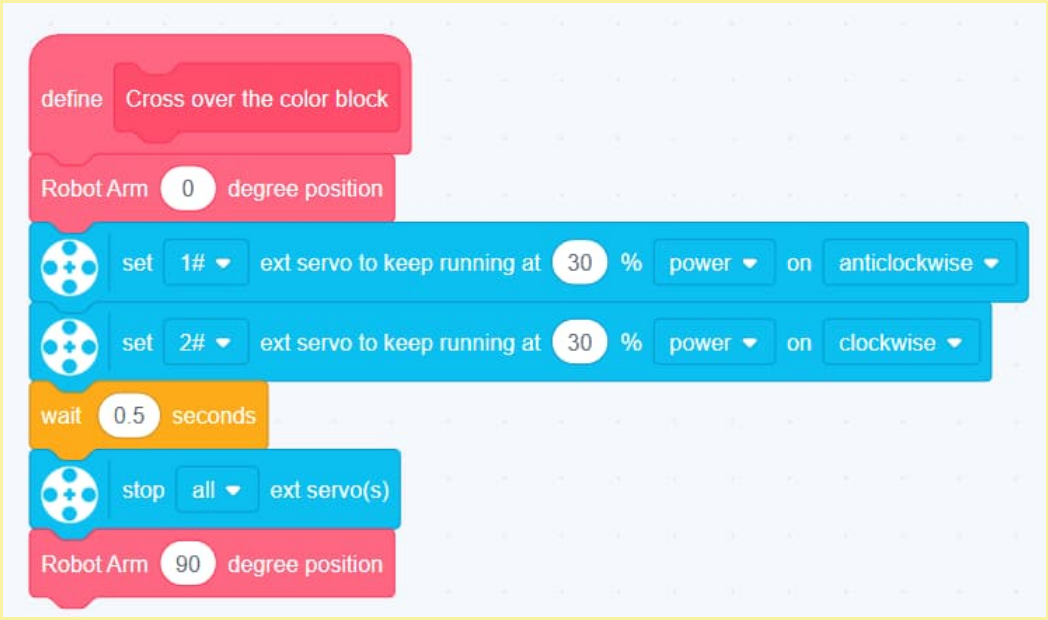
Task Segmentation 3

- Task Flow

4、Cross over the color block.

3、Raise the robot arm





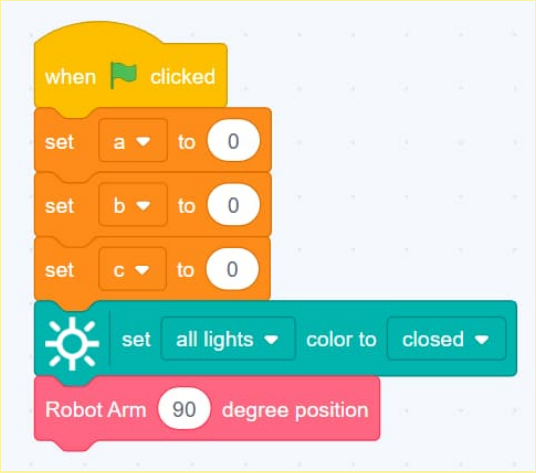
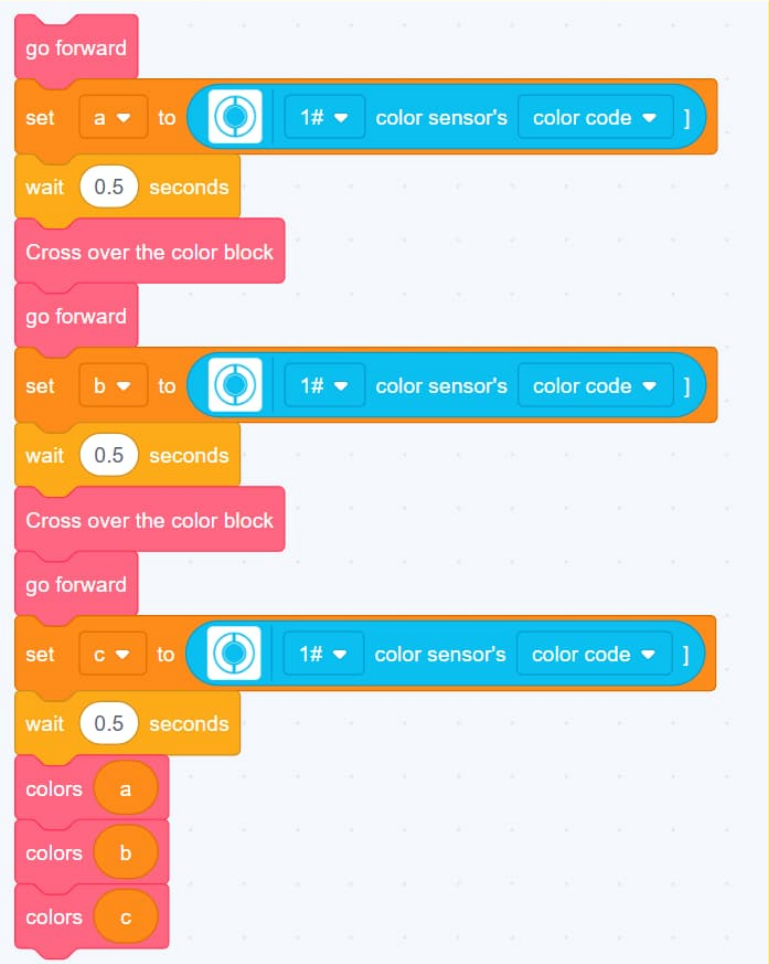
Task Segmentation 4

- Task Flow

- After completing the detection and saving, finally display the color.

Task Integration

- “ My Blocks ” uses the modules from the first three pages. Connect the overall program to complete the detection of multiple color blocks.



Connect the remaining program content with the right side.