



# The Hug From Robot



## Target

- Learn the basic color detection methods of the color sensor.
- Learn to use the color sensor to detect objects.
- Learn the applications of conditional logic.



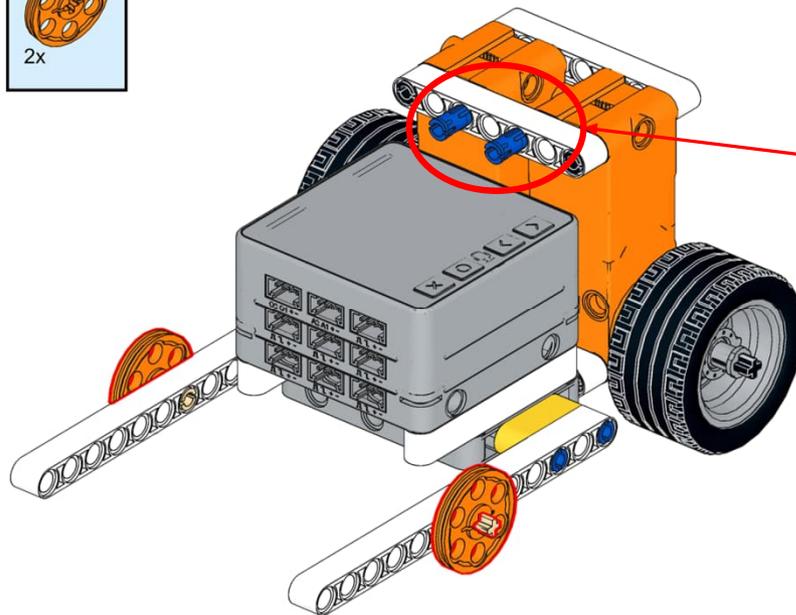
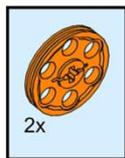


# 01 Assembly



# Assembly

23



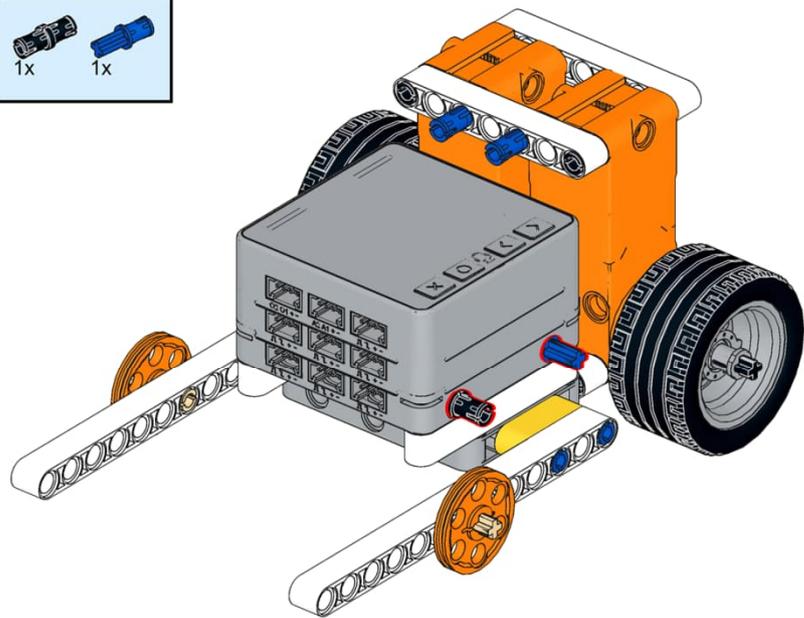
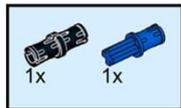
Replace the two-pin connector with a three-pin connector

See Lesson 1 for complete instruction



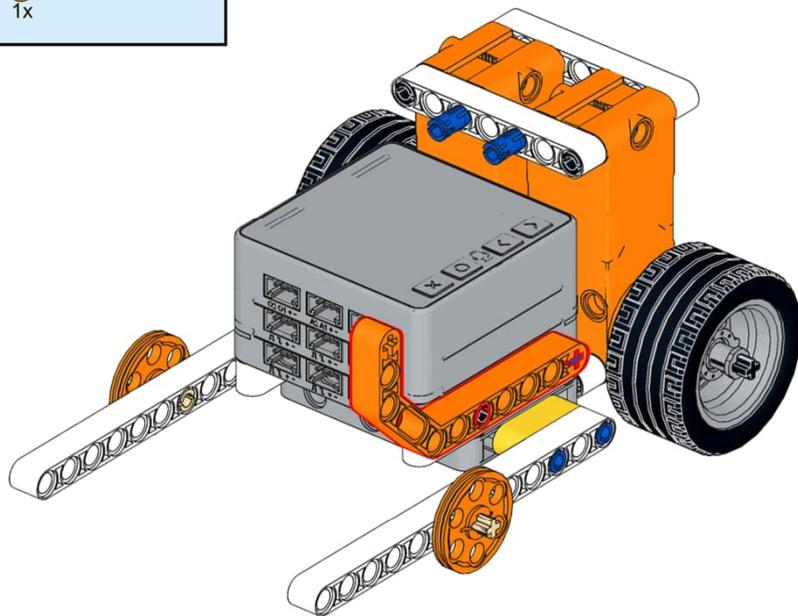
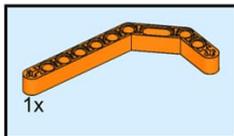
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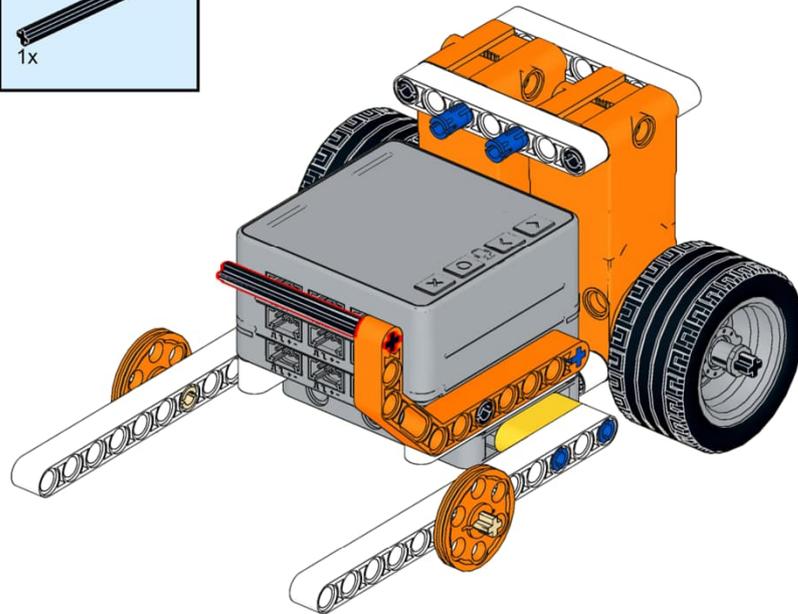
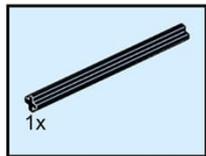
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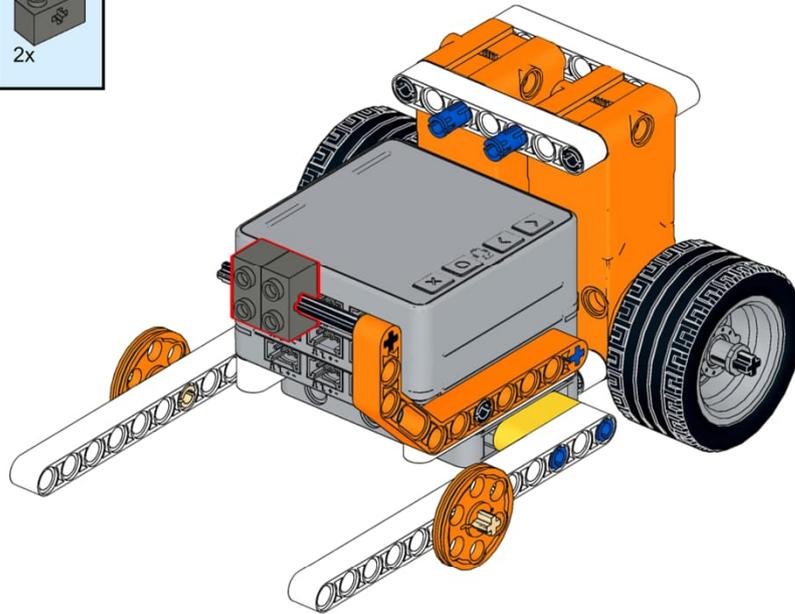
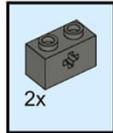
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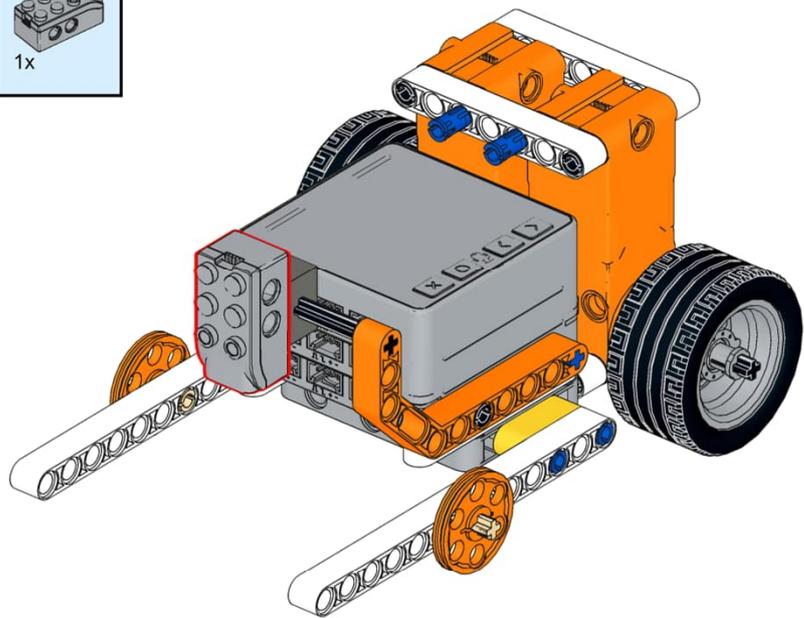
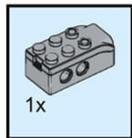
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27



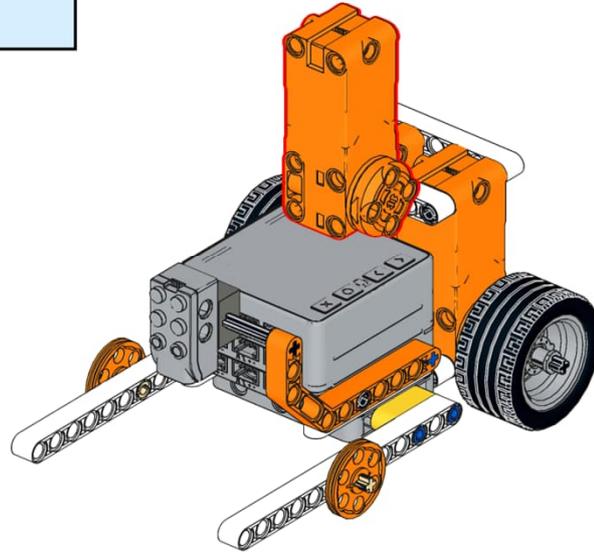
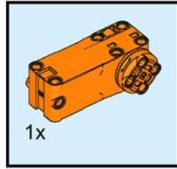
# Assembly

28



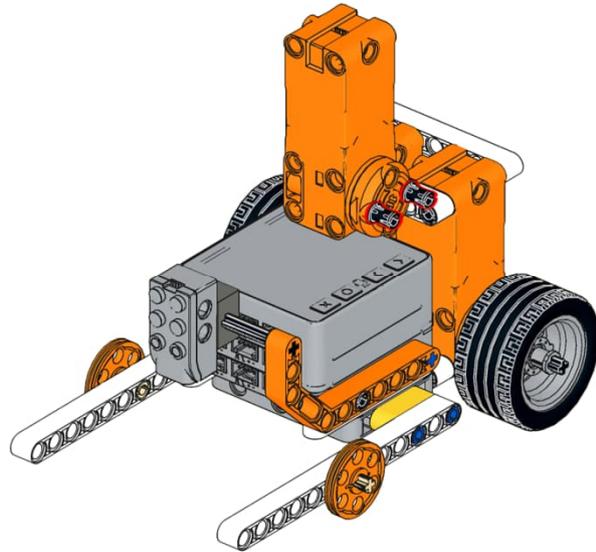
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29



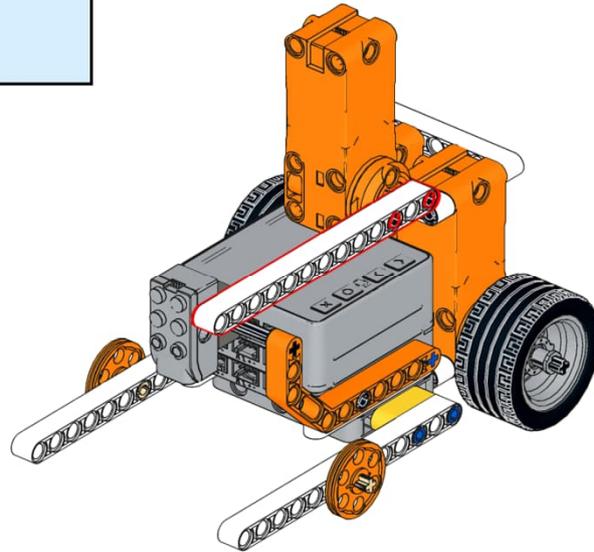
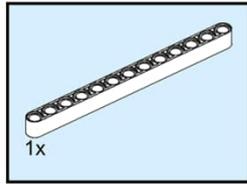
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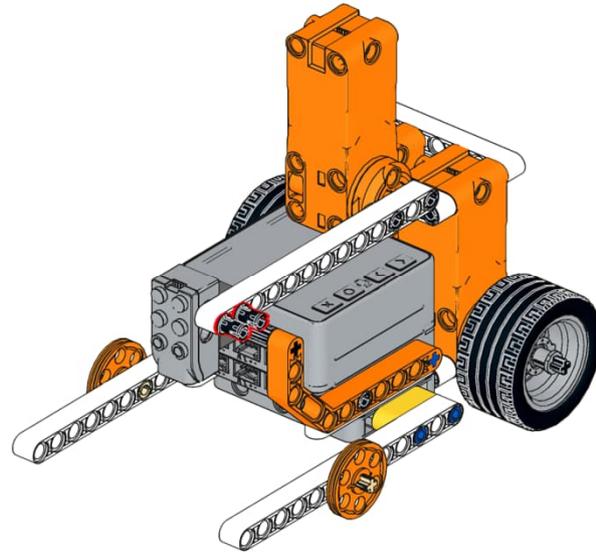
# Assembly

31



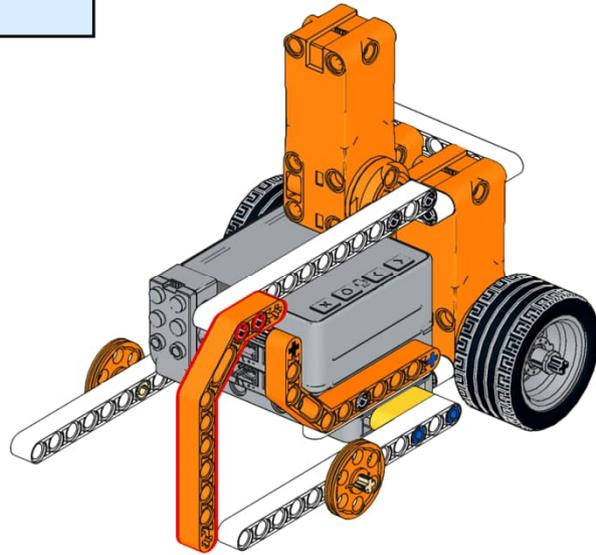
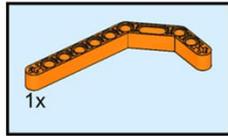
# Assembly

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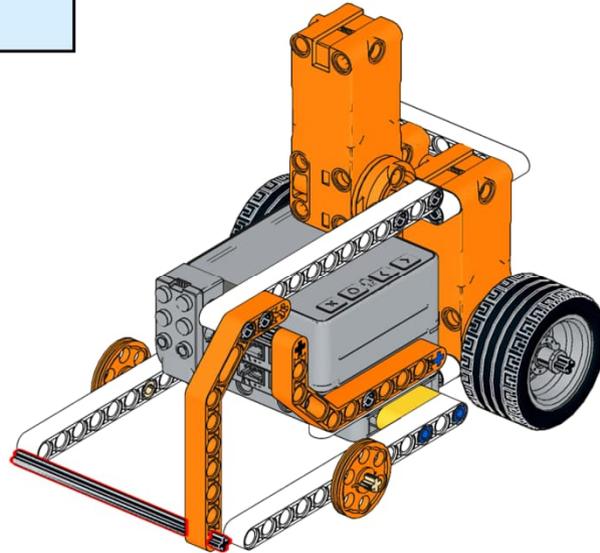
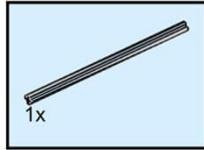
# Assembly

33



# Assembly

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# 02 Task

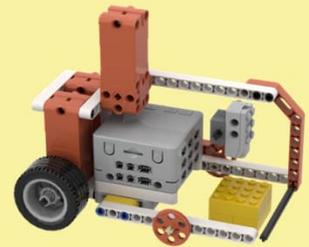
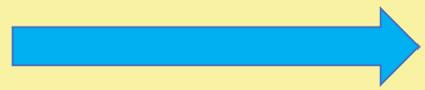




# Task

## Task 1: Grab the item

After detecting the object, lower the robotic arm to ensure the item is fully grasped.



```
set 3# ext servo to rotate relative angle 90 degrees at 25 (0-100)% power
```

1、 Using relative angle control, the robotic arm can move at a slower speed.

```
set 1# ext servo to rotate absolute angle 90 (0-359) degrees according to the shortest path at 30 (0-100)% speed
```

2、 Using absolute angle control, pay attention to the zero position of the absolute angle.





# Task

## Referrable Program

Still remember what the module is for?

Pay attention to the selection of the motor IDs.

```
when clicked
  set 1# ext servo's origin
  set 2# ext servo's origin
  wait 0.1 seconds
  repeat until (single channel line tracker 1#'s value < 15)
    set 1# ext servo to keep running at 30% speed on anticlockwise
    set 2# ext servo to keep running at 30% speed on clockwise
    set light to (single channel line tracker 1#'s value)
  stop all ext servo(s)
  set 3# ext servo's origin
  wait 0.1 seconds
  set 3# ext servo to rotate relative angle 90 degrees at 25 (0-100)% power
  wait until (3# ext servo done)
```

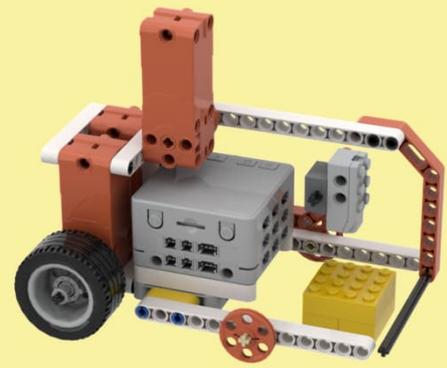




# Task

## Task 2: Carry the item

After carrying the item to the front, **lift the robotic arm** and return to the **starting point**.





# Task

## Referrable Program

Remember what the module is for?

```
when clicked clicked
motor 50 500
set 3# ext servo's origin
wait 0.1 seconds
set 3# ext servo to rotate relative angle -80 degrees at 25 (0~100)% power
wait until 3# ext servo done
motor 50 500
```

Pay attention to the direction of the robotic arm.





# Task

## Task 3: Carry the item

Advance to obtain the item, carry it to the designated location, release the item, and return to the starting point.

