



Dance and Turn

Target

- Learn to use angles to complete robot turns.
- Perform movements in various shapes.
- Master the upload and run functions.



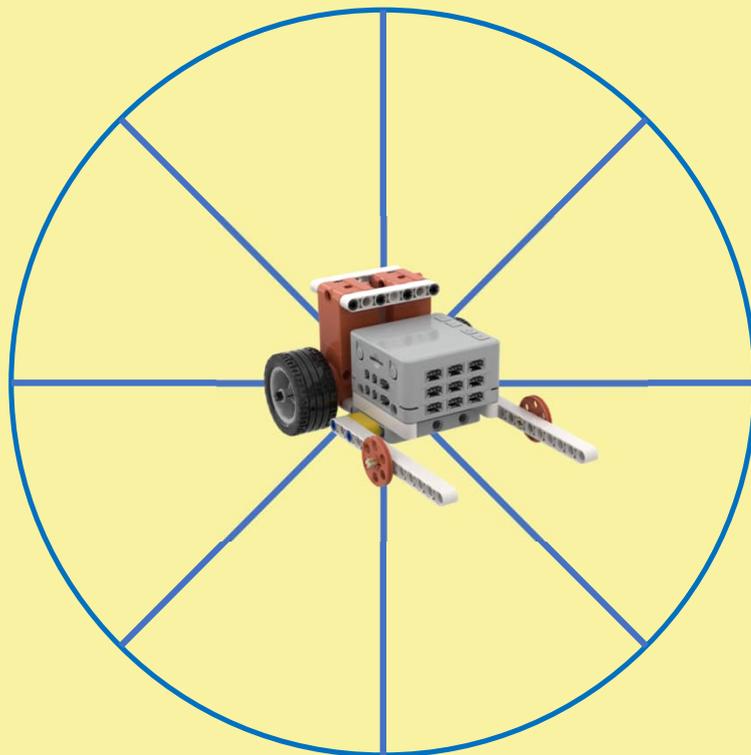
01 Task





Task

Task: Make the car rotate in place





Task

Task 1: Turn at right angles

Using the angle control from the previous lesson, let's try to complete the turning action.

```
when clicked
  set 1# ext servo's origin
  set 2# ext servo's origin
  wait 0.1 seconds
  set 1# ext servo to keep running at 30% speed on anticlockwise
  set 2# ext servo to keep running at 30% speed on clockwise
  wait until abs of 1# ext servo's counted degrees > 90
  stop all ext servo(s)
```

For clockwise rotation, how should the two motors rotate?

What approximate motor angle should we use to turn 90°? Try a few times to find the correct value.





Task

Task 1: Turn at right angles

Can also be completed using the packaged module (offline use only).



What approximate motor angle should we use to turn 90°? Try a few times to find the correct value.





Task

Task 2: Make the car move **in a square**

Control through
relative angle





Task

Task 2: Make the car move in a square

When performing multiple actions, add waiting time in between to ensure stability.

A square is made by moving straight and turning 90° four times. First, complete one straight movement and one 90° turn.

```
when green flag clicked
  sync 1# & 2# to rotate at 30 speed(0~100) go forward for [ ] degrees(offline only)
  wait 0.5 seconds
  sync 1# & 2# to rotate at 30 speed(0~100) turn right for [ ] degrees(offline only)
  wait 0.5 seconds
```

Test to find the appropriate angle!





Task

Task 2: Make the car move in a square

Add "repeat" module

```
when green flag clicked
repeat 4
  sync 1# & 2# to rotate at 30 speed(0~100) go forward for degrees
  wait 0.5 seconds
  sync 1# & 2# to rotate at 30 speed(0~100) turn right for degrees
  wait 0.5 seconds
```

Cumulative error may occur after four moves; adjust the turn angle as needed.





Task

Additional Task: Can you use angle control to make the robot move in a triangle or hexagon?

