Robotics Learning Series

Super Trajectory Robot 2



Developed by Joinmax, this programmable building-block robot kit includes sound-sensitivity, color, touch, photoelectric, ultrasonic and camera sensors, colored lights, and modular parts. Students can design varied robots and use graphical programming software for hands-on creation.

Learning Target

01

Knowledge goal

Understand the related knowledge of color sensors and how to use color sensors.

02

Ability goal

Analyze the 4 situations of photoelectricity and complete the procedures along the line of photoelectricity.

03

Emotional attitudes and values

Understand artificial intelligence, walk in the forefront of science and technology, use programming logic to solve life problems.

Learning Target

01

Learning focus

Understand artificial intelligence, walk in the forefront of science and technology, use programming logic to solve life problems.

02

Learning difficulties

Complete 2 electro-optic programming procedures.

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Course Introduction



Course Introduction



Let's look at a picture. Think about what sensors he's using to distinguish between the black line and the white area.

The Super Track Race is a competition held by the Video Education Center. It mainly uses photoelectric sensors to drive along the black line and complete the tasks shown in the picture along the line.

Course Introduction



Super trajectory

Meet the Super Track Robots

Light sensors, also known as brightness sensors, are included in many tablets and phones. Usually located above the handheld screen, it can automatically adjust the brightness of the handheld screen according to the current brightness of the handheld device. This lecture will build a super track robot, used to patrol black and white.

Teaching New Knowledge



Teaching New Knowledge

The "photoelectric sensor" is like a navigator, which can guide the robot to walk along the black line. However, many starch also found several problems in the exploration, that is, the speed of the robot tracking forward is relatively slow, and it can not stop at the end. So, how can we improve our robots so that they can track forward quickly and stop at the end? In fact, just add a photoelectric sensor.

Photoelectric 1 / Photoelectric 2	YES	NO
YES	Go forward	Turn Right
NO	Turn Left	Stop

Design Assembly



Design Assembly



Assembly requirements

1. stable structure
2. focus is right
3. shape match

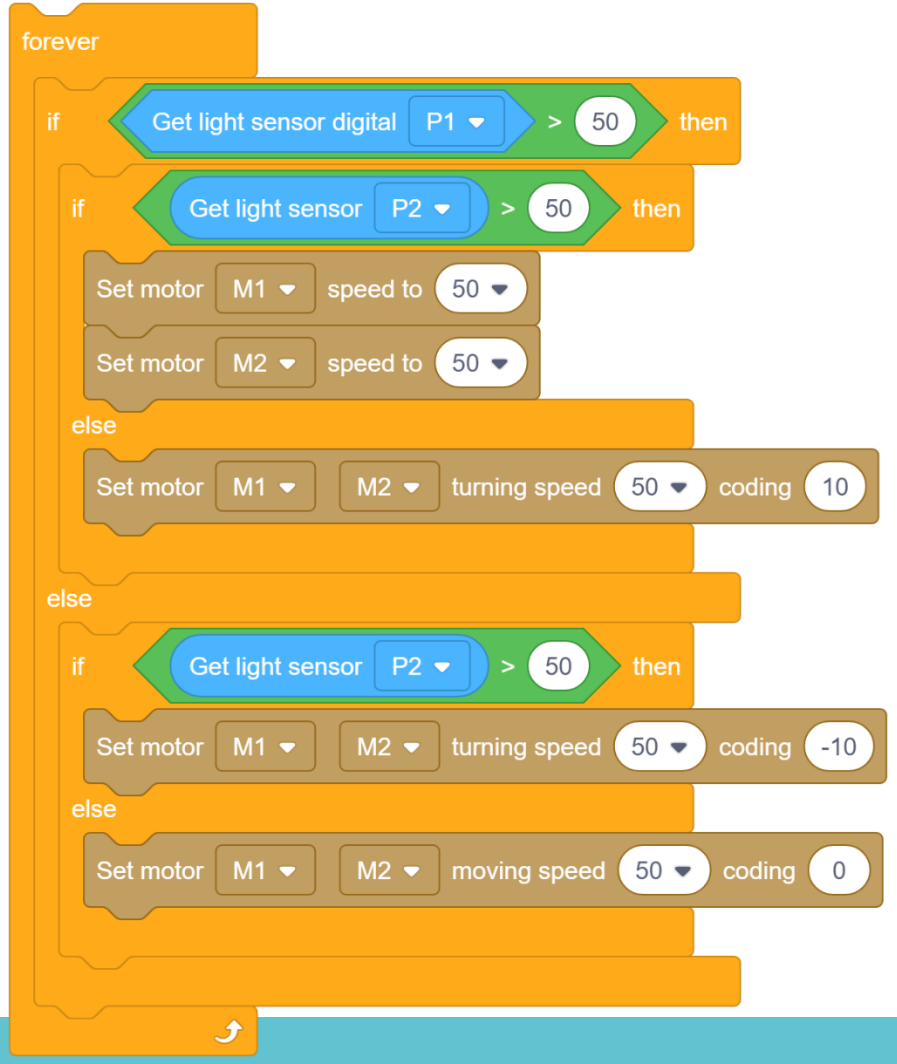
Programming and Debugging



Programming and Debugging

Task1

Let the car along the black line forward, the two photoelectric at the same time meet the black line end.



Checking Effect



Test Effect



Review the learning content and deepen your impression.

Question 1

What is a 2 light sensor?

Question 2

What are the four programming cases for light sensors?

Thank you for watching

