Learning Series

Traffic light



This building-block robotics kit supports hands-on learning. It builds the body of the robot through building blocks and works with programming software and sensors to achieve various functions.

Learning Target

01

Knowledge goal

Understand the operation rules of traffic lights, understand the multi-lamp flashing, and alternately flashing simple programming.

02

Ability goal

Familiar with the concept of the program, master the centralized sequence of sentence structure.

03

Emotional attitudes and values

Understand the structure of the program and have a macro understanding of the program.

Learning Target

01

Learning focus

Master the basic operations of the lantern module and the time module.

02

Learning difficulties

Flexible use of several combined cases of action and time modules.

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Course Introduction



Course Introduction



Is the traffic light on the road a command vehicle or a pedestrian?

Classmates, do you know about traffic lights? Do you know what knowledge about traffic lights?

The traffic light consists of three colors: red, yellow and green. The red light represents the stop, the yellow light represents the warning, and the green light represents the passage. Usually the yellow light turns red and then turns red, so there is a saying that "the yellow light is on and waiting for the first time."

Course Introduction



Help light

Know about the traffic lights

The robot in this lesson is called “traffic light”. Since we only have one lantern, we can try to use a lantern to express the status of the traffic light.

Observe the flicker frequency and color conversion rules of traffic lights and share what you see with the students.

Let's learn together.

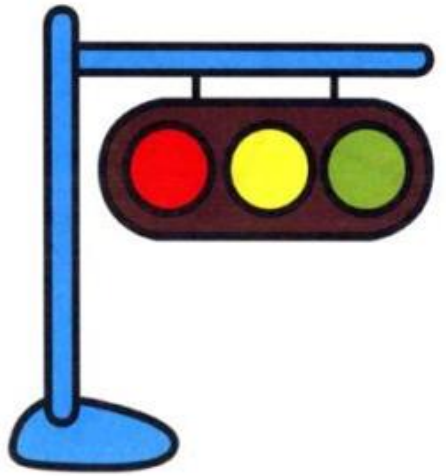
Teaching New Knowledge



Teaching New Knowledge

Traffic lights: There are two kinds of traffic lights. The motor vehicles are called by the motor vehicles. They usually consist of red, yellow and green lights that are used to direct traffic. When the green light is on, the vehicle is allowed to pass. When the yellow light is flashing, the vehicle that has passed the stop line can continue to pass; if it fails, it should slow down and stop before the stop line and wait. When the red light is on, the vehicle is prohibited from passing.

For pedestrians, the crosswalk lights are usually composed of red and green lights, which are used to direct traffic. The red light stops and the green light runs.

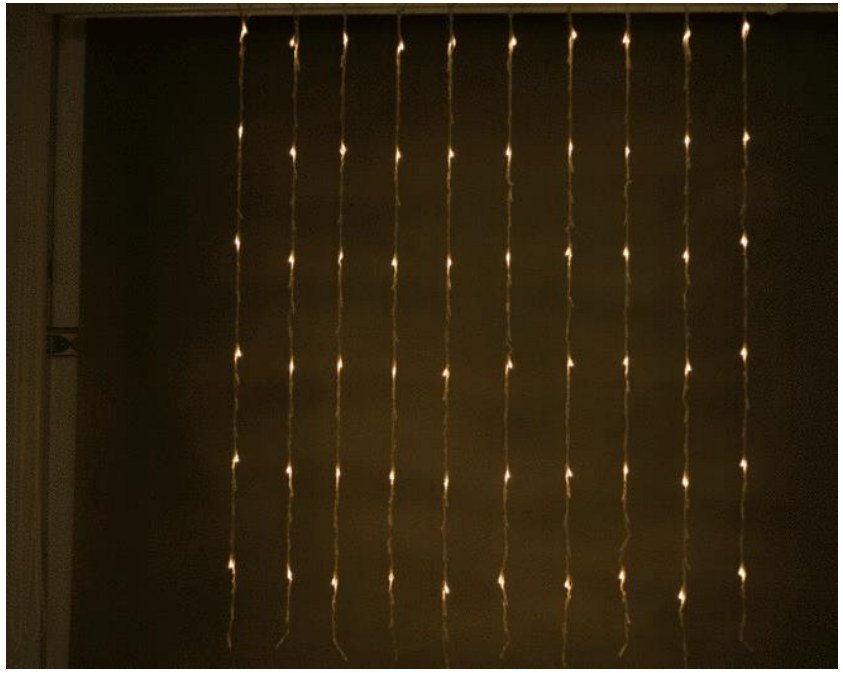


Teaching New Knowledge

[Flicker]: In addition to the simple flickering action we learned in the previous lesson, we also have more classic flickering models, which are [flowing lights] and [alternating flashing].

[Water Light]: In the case of multiple lights, one next to each other lights up or turns off.

[Alternate flashing]: In the case of two or more lamps, the blinking action is repeated at a fixed frequency.



Task Practice



Task Practice



Assembly requirements

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

Checkin g Effect



Test Effect



Review the learning content and deepen your impression.

Question 1 What is the name of the robot made today?

Question 2 What hardware does the robot use today?

Question 3 If the same lantern is used to process the previous programming task, how should it be compiled?

Test Effect



Homework

1 Organize the divergent imagination, and explain the demonstration according to your own works, such as the name of the work, the source of inspiration, what is the most satisfactory place for design, and mutual evaluation between the works!

Thank you for watching!

BE STEM READY

