Learning Series

Sunflower



This robotics kit is a building block programming robot research and development by Joinmax. The kit is equipped with various sensors such as sound sensitivity, color sensor, touch sensor, photoelectric sensor, color light, ultrasonic, camera and many building blocks parts. Students can build various building block robots with their imagination, and use graphical programming software to program the robot and experience the joy of hands-on creation.

Learning Target

01

Knowledge goal

The introduction and principle of photosensitive sensor, subroutine design.

02

Ability goal

Can understand the photosensitive sensor and state the principle of the key points, learn the use of photosensitive sensor characteristics.

03

Emotional attitudes and values

Learn to think in essence.

Learning Target

01

Learning focus

Concept and use of photosensitive sensors.

02

Learning difficulties

The principle flow of photosensitive sensor.

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Course Introduction



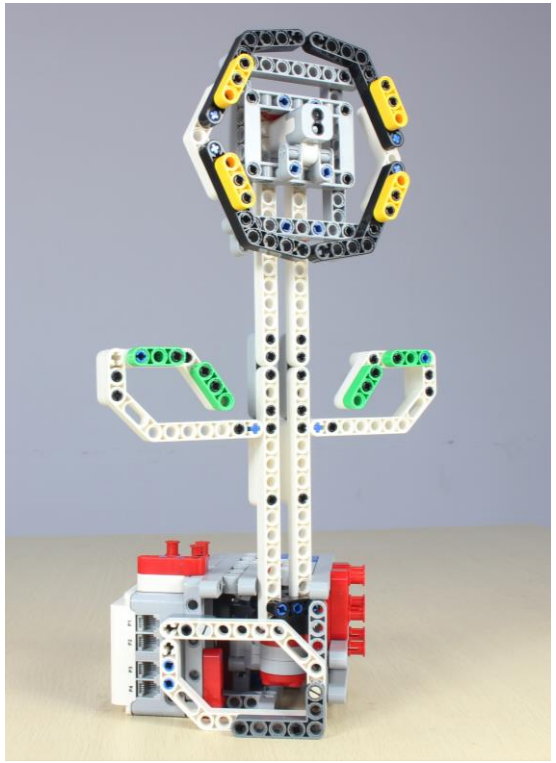
Course Introduction



Why do we see things?

Our life is full of colorful, composed of a variety of things our colorful world, that is what we can see the colorful world? Because there was a reflected light to the object. Depending on the ability of different objects to absorb light waves, we see a variety of different worlds.

Course Introduction



Sunflower

Sunflowers

The robot in this lesson is called "Sunflower". This device is equipped with a photosensitive sensor, and we use its properties to make our sunflower positive. Let the sunflower can automatically in the direction of the light to absorb light "growth". Here we learn together.

Teaching New Knowledge



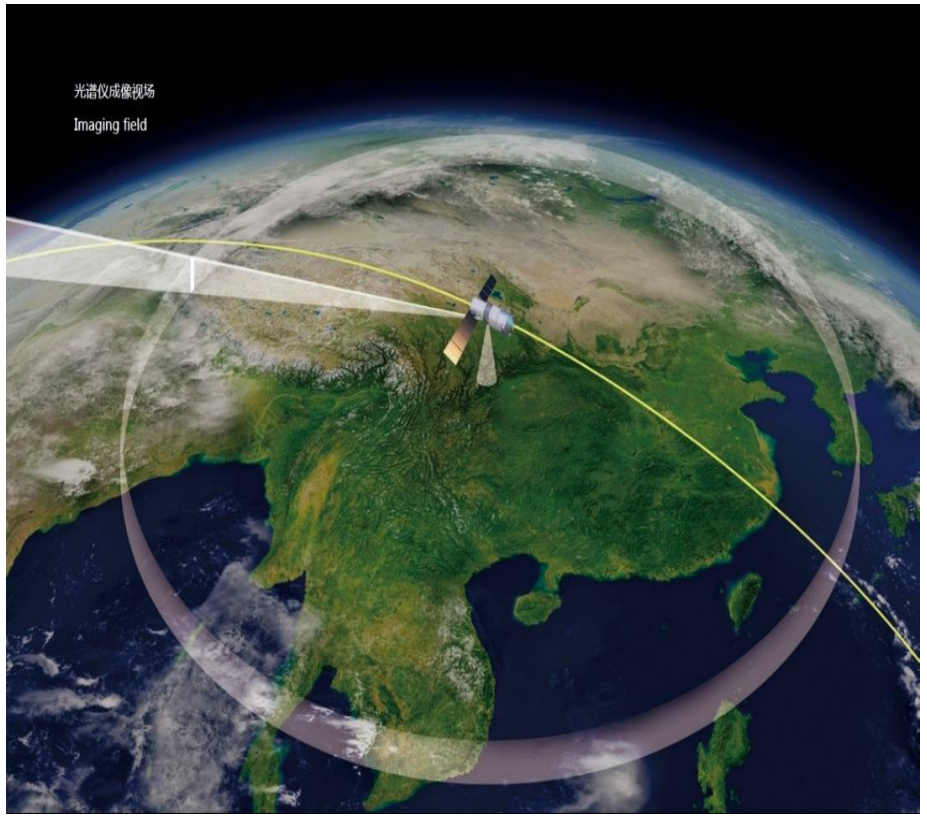
Teaching New Knowledge



Photosensitive sensor is a sensor that uses photosensitive components to convert optical signals into electrical signals. Its sensitive wavelength is near the wavelength of visible light, including infrared wavelength and ultraviolet wavelength. The light sensor is not limited to the detection of light, it can also be used as a detection element to form other sensors to detect many non-electric quantity, as long as these non-electric quantity is converted into the change of the light signal can be. And our color sensor can be used as a light sensor to use.

Teaching New Knowledge

Note: photosensitive sensor using anti-static bag packaging. In the process of use should avoid using in a humid environment, but also should pay attention to the surface damage and pollution, they should all affect the photocurrent.



Teaching New Knowledge



Application: photosensitive sensor in the most simple electronic devices is photosensitive resistor, it can sense the light changes, the output of weak electrical signals, through a simple electronic circuit amplification processing, you can control the automatic switch of LED lamps and lanterns. Therefore, it is widely used in automatic control and household appliances. For remote lighting fixtures, such as: automatic brightness adjustment in the TV set, automatic exposure in the camera; In addition, in the street lamp, beacon and other automatic control circuit, coil stop device and anti-theft alarm device medium.

Design Assembly



Design Assembly



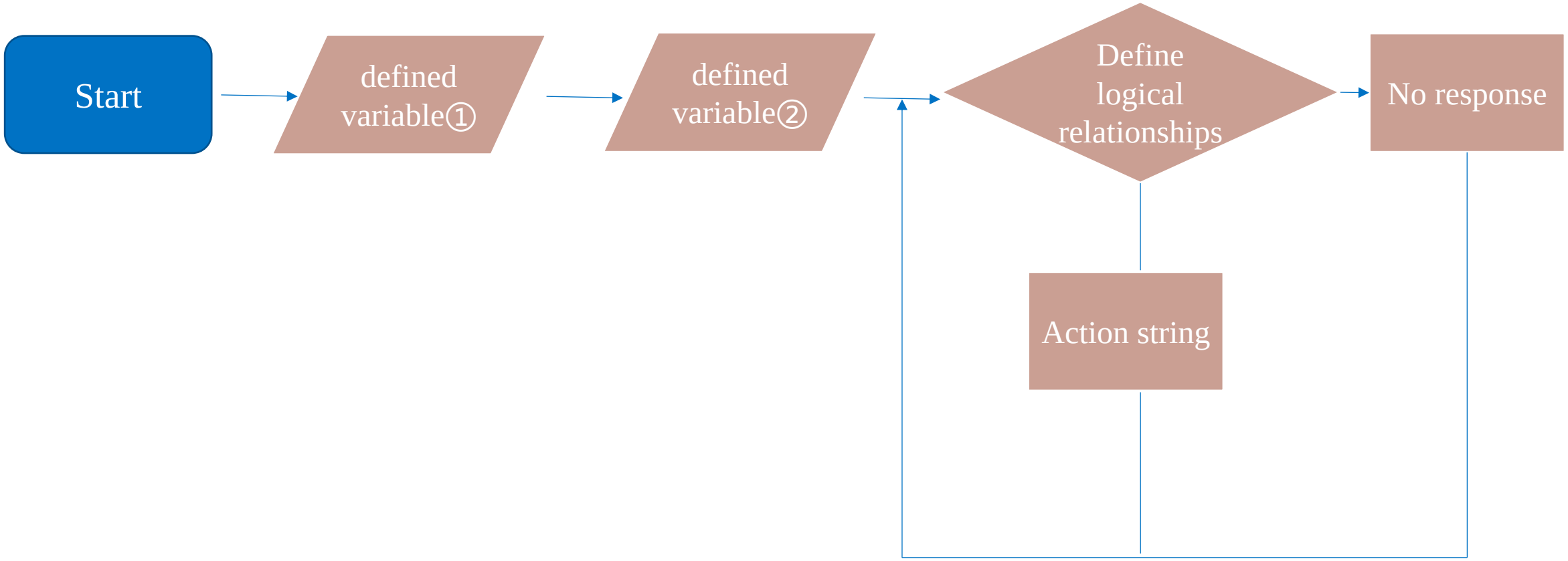
Assembly requirements

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

Programming and Debugging

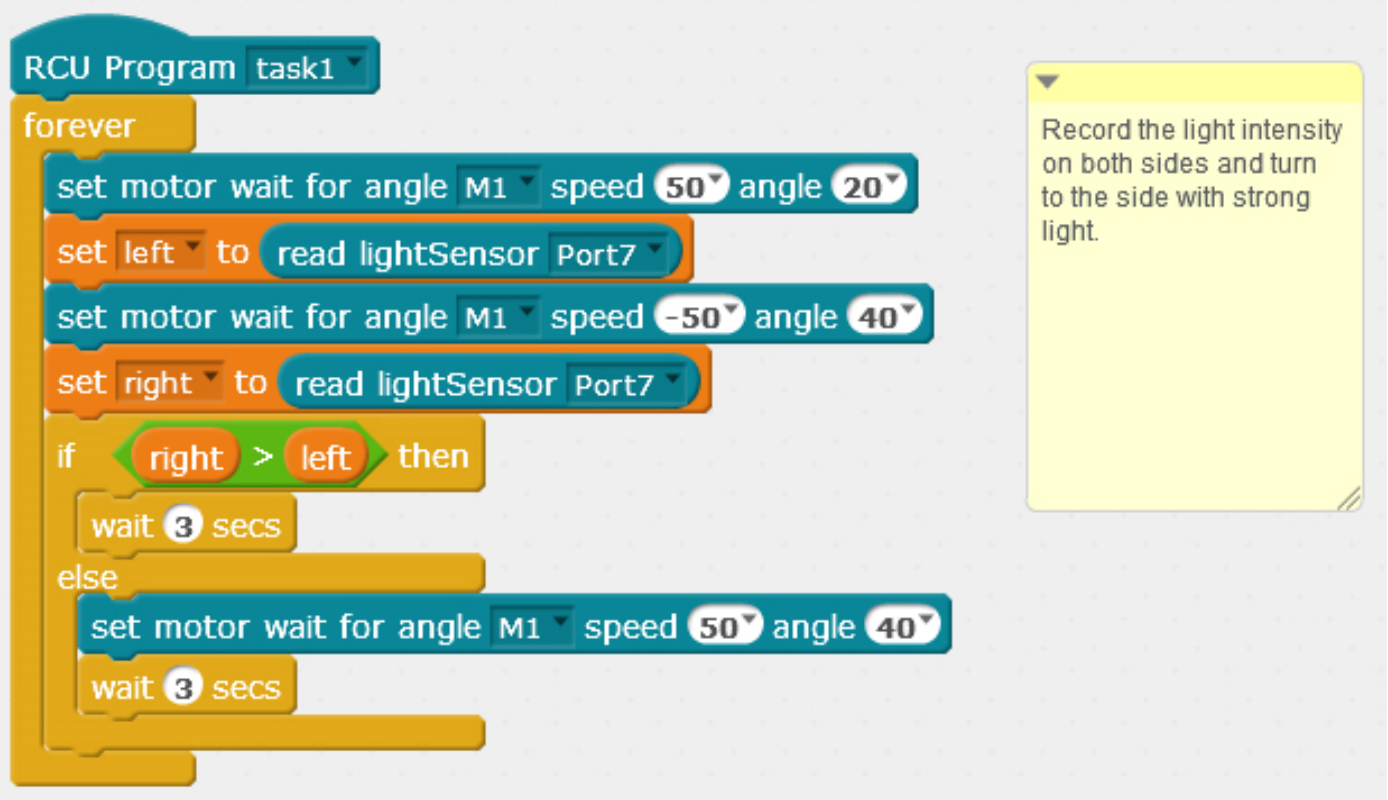


Programming and Debugging



Programming and Debugging

1. According to the comparison of the light intensity on both sides, the programming task of controlling the motor to turn to the bright light side



Checking 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 are used in today's robots?

Question 3

What other adjustments do you think our robot needs to make?

Thank you for watching

