Learning Series

Lighthouse



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

Learning Target

01

Knowledge goal

Understand the programming structure of sequential statements and understand the basic usage of sequential lighting and delays.

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



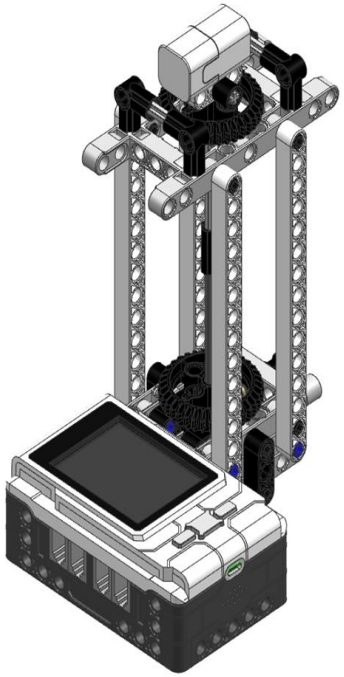
Course Introduction



Is the lighthouse built on the coast or in the sea?

The lighthouse is a kind of tower-shaped luminous beacon built near the key part of the channel. It is a fixed navigation mark. Its basic function is to guide the ship to sail or indicate the dangerous area (usually used to mark dangerous coasts, dangerous sandbars or reefs and access to The mouth of the harbor mouth).

Course Introduction



lighthouse

Know about the Lighthouse

The robot in this lesson is called "Lighthouse". Most of the lighthouses resemble the shape of a tower, and the light is directed at the sea through the lens system at the top of the tower. Before the power did not appear, fire was often used as the light source.

Let's learn together.

Teaching New Knowledge



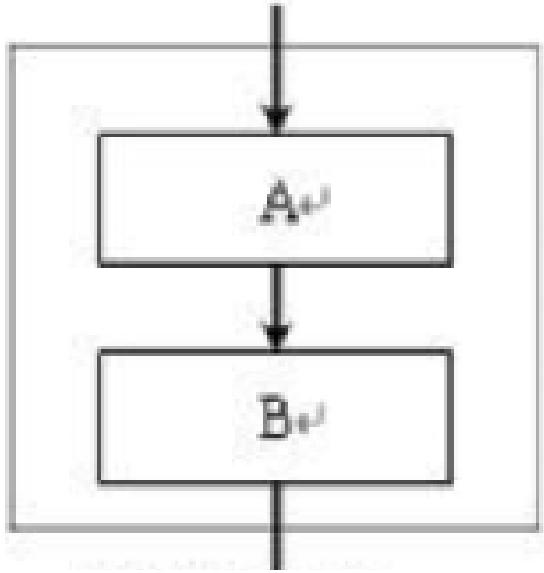
Teaching New Knowledge

Sequential structure: The programming of the sequential structure is the simplest. Just write the corresponding statement in the order in which the problem is solved. The execution order is from top to bottom and executed in order.

In the statement, we can see that there are different parts.

[Action] indicates that the action module, such as a lantern, a motor, etc., allows the robot to respond with a clear motion.

[Time] indicates the time module



sequential structure

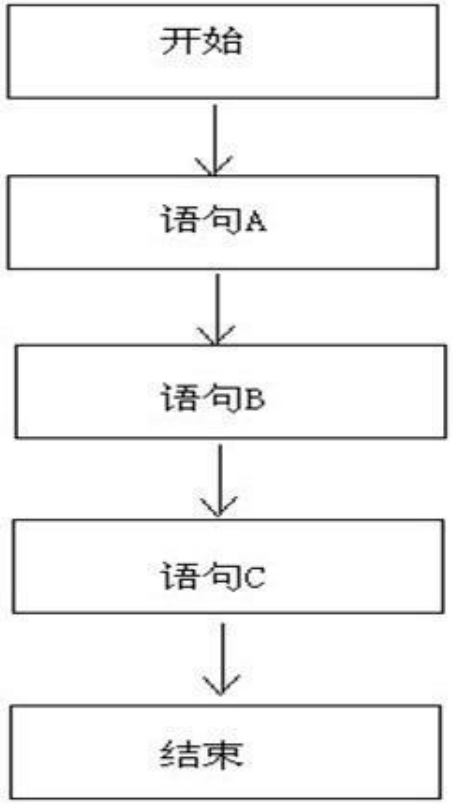
Teaching New Knowledge

[Action] + [Time]: How long does it perform in order to execute this [action];

[Time] + [Action]: Indicates how long the delay is to execute the action (the difference here is that the [Time] module is prepended);

[Action 1] + [Action 2] + [Time]: The two actions share the following time, which is expressed as [Action 1] and [Action 2] at the same time;

[Action 1] + [Time] + [Action 2] + [Time]: It can be split into two segments, which is the same as the structural model explained in the first group above. It means that [Action 1] and [Action 2] are executed in order.】.



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 Students explain the presentation according to their own works.

Question 2 What is the source of inspiration and what is the most satisfying design?

Question 3 What if the light source is divergent?

Test Effect



Homework

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

