Learning Series

Blinking robot



This is a building-block programming robotics kit. The kit 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 meaning of the program for the robot and understand the module distribution of the software.

02

Ability goal

Understand the concept of the program, the simple operation of hardware and software.

03

Emotional attitudes and values

Familiar with the basic operation of hardware and software, cultivate standardized practice.

Learning Target

01

Learning focus

Master the basic operations of RCU.

02

Learning difficulties

Understand the concept of programming and perform software operations.

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Course Introduction



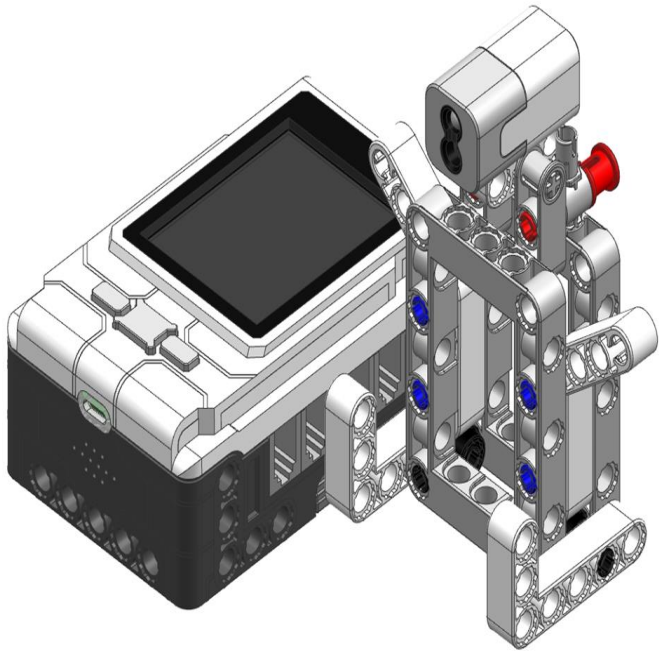
Course Introduction



What is a program?

Before we understand what a program is, we should have a concept first. What kind of commands do you want the machine to execute, you need it to recognize a series of specified codes, these codes are machine language. Machine language is not convenient enough for humans to use, and the programming language is gradually produced. With the development of programming languages, the level of language abstraction continues to increase, and language expression becomes more and more powerful. This allows more work to be done with less code.

Course Introduction



Blinking robot

Know the Blinking Robot

In this lesson, the name of the robot is “Blinking Eyes”. It recognizes the external signal through the sensor connected by RCU and presents a blinking effect on the screen.

In addition, this lesson will also learn about the introduction and operation of the software.

Let's learn together.

Teaching New Knowledge



Teaching New Knowledge

Program: A programming language is a formal language used to define the flow of execution of computer instructions.

A program consists of multiple statements, one statement is an instruction (can contain multiple operations).The statement has a specified keyword (command) and syntax structure, and the program language uses a serial method to write the program statement. Control instructions in the language (such as order, selection, loop, call, etc.) can change the execution flow of the program and control the processing of the computer.



Teaching New Knowledge

The programming software we use is scratch2 for JMD. After opening the software, the screen we see is the software interface. It is divided into several parts:

1. the menu bar
2. Stage area
3. the role area
4. module area
5. the programming area

Teaching New Knowledge

1. the menu bar

According to the contents of the menu bar for a brief introduction, students need to know how to name and save the program.

It should be noted that there are certain differences between different RCU programming when writing programs, so it is necessary to check whether the RCU model matches the used device before becoming. Both are used here as e6-rcu.



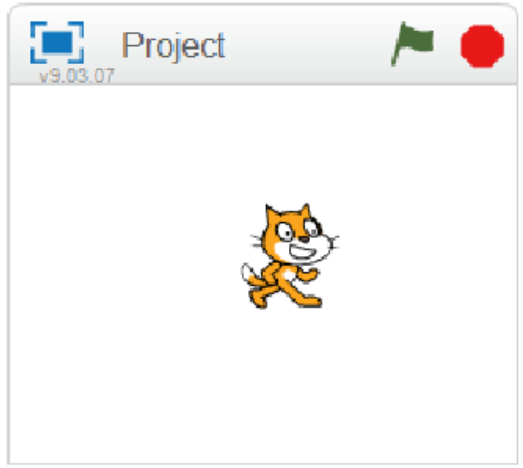
Teaching New Knowledge

2. Stage area

This software is developed on the basis of scratch, retaining the original settings of scratch, this text is less involved in this part.

3. The role area

Same as above for scratch original settings

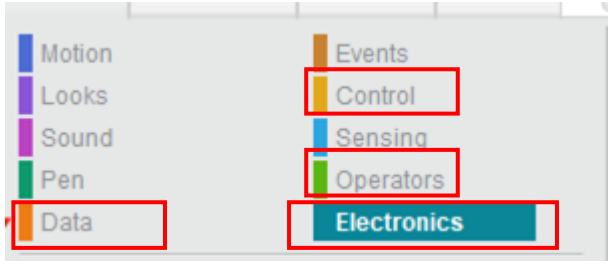




Teaching New Knowledge

4. Module area

The module used for programming is displayed. The selected parts of the box are commonly used module types, and the rest are scratch original modules.



5. The programming area

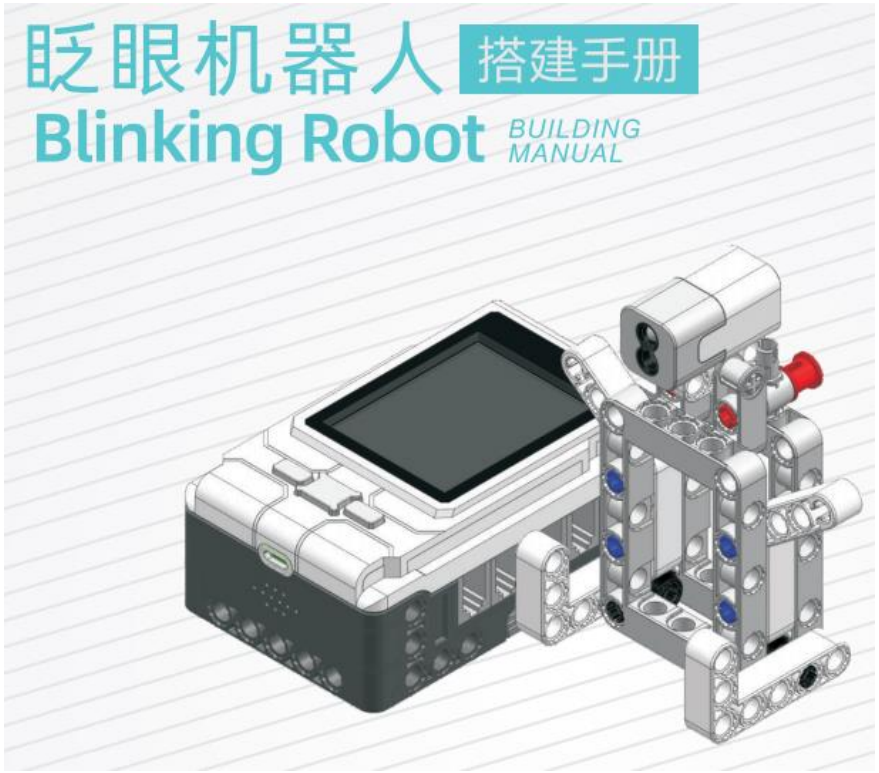
Here is the area where the program is arranged during programming.



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

What if I don't add the [Controller] module at the beginning?

Test Effect



Homework

Task 1

- Find the routine item in the menu bar and click Open.
- Find the program routine for the "Blink" robot inside.
- According to the routine, learn how to connect the program module: drag, copy, cut, paste, delete
- Download and run

Task 2

- Organize the divergent imagination, explain the demonstration according to your own works, and comment on each other!

Thank you for watching!

BE STEM READY

