

YFROBOT

Micro:Bit基础课程

第八课
早安晚安

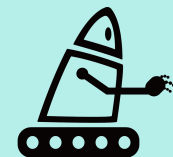
目录

01. **Part1**
学习目标

02. **Part 2**
课前准备

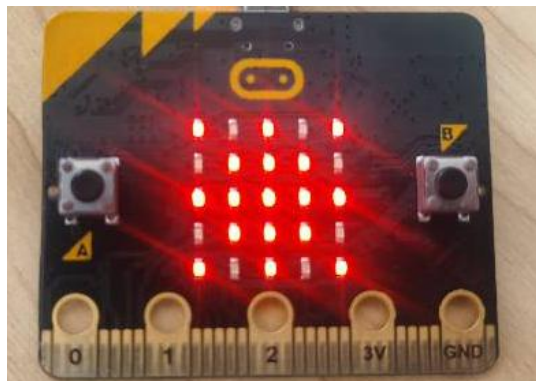
03. **Part3**
编程实验

04. **Part 4**
拓展思考

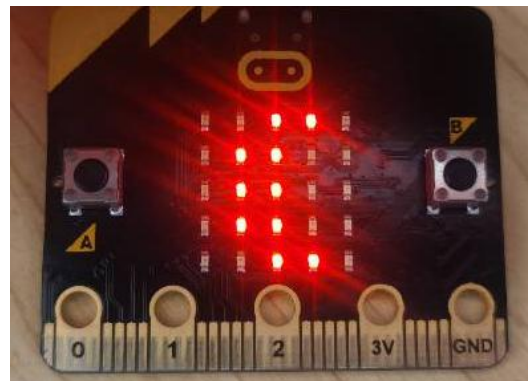


Part 1

学习目标



太阳
(早安)



月亮
(晚安)

“ 下载好程序以后，当micro:bit开发板处于光照比较亮的环境中时，点阵上会显示一个**太阳**的图案，表示和大家说“早安”，当micro:bit开发板处于光照比较暗的环境中时，点阵上会显示一个**月亮**的图案，表示和大家说“晚安”。

Part 2



课前准备

器材准备：

- Micro:bit主板*1
- USB数据线*1
- 一台可以上网的电脑

然后将Micro:Bit通过USB连接电脑，电脑会弹出一个名为“MICROBIT”U盘，

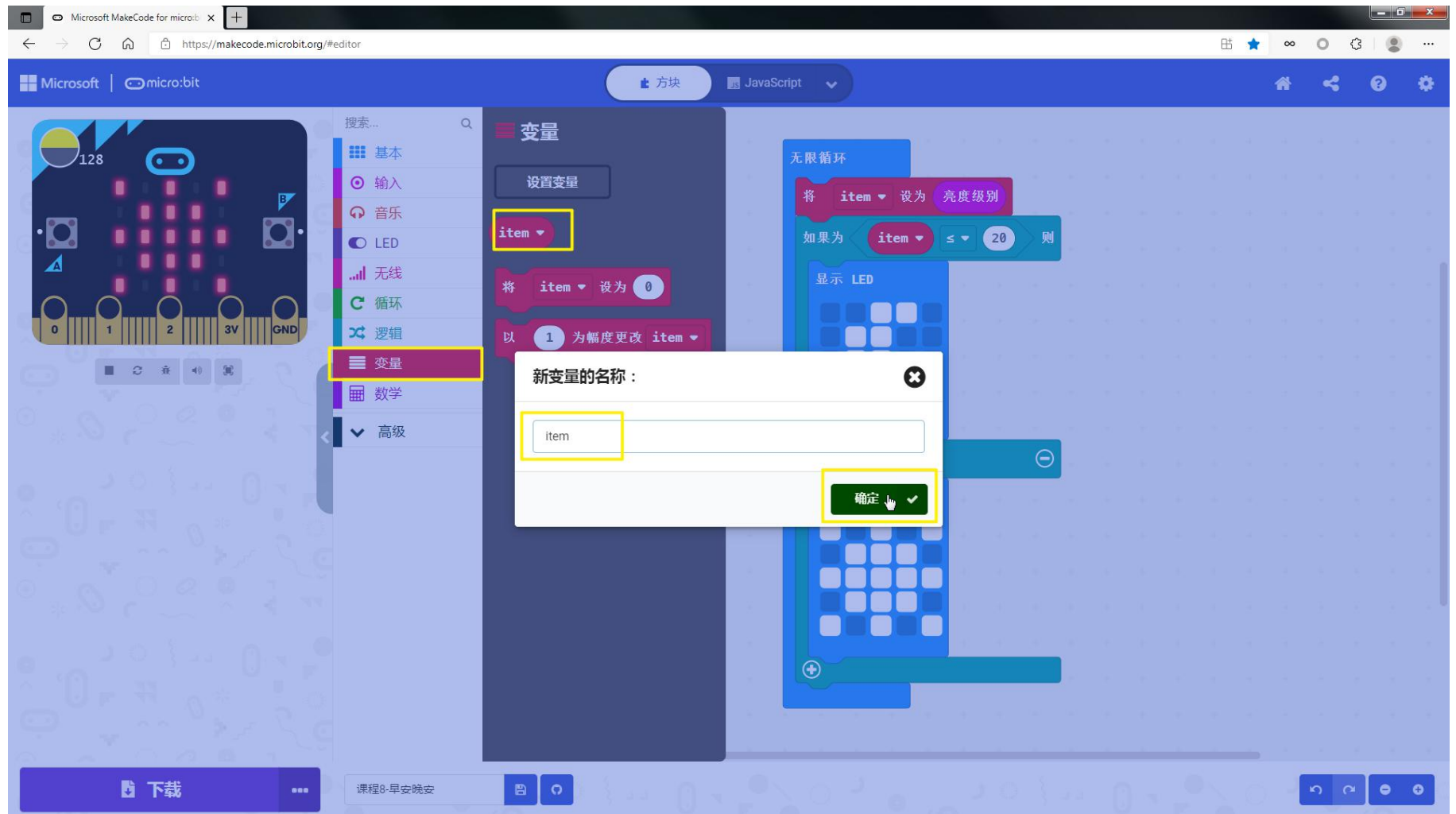
MakeCode编辑器登陆网址：

<https://MakeCode.Micro:Bit.org>，即可进入了编程页面。

Part 3

编程实验

变量栏
新建变量：
item



Part 3

编程实验

变量栏
变量、设置变
量程序块

The screenshot displays the Microsoft MakeCode for micro:bit web editor. On the left, a virtual micro:bit board is shown with a grid of red LEDs. The central panel features a search bar and a category menu with options like '基本', '输入', '音乐', 'LED', '无线', '循环', '逻辑', '变量', and '数学'. The '变量' (Variables) category is selected, revealing a '设置变量' (Set Variable) block and a variable named 'item' with a value of 0. The right panel shows a script starting with an '无限循环' (Infinite Loop) block. Inside the loop, the 'item' variable is set to '亮度级别' (Brightness Level). A conditional block checks if 'item' is less than or equal to 20. If true, it displays the LED grid. If false, it increments 'item' by 1. The bottom of the editor includes a '下载' (Download) button and a file name '课程8-早安晚安'.

Part 3

编程实验

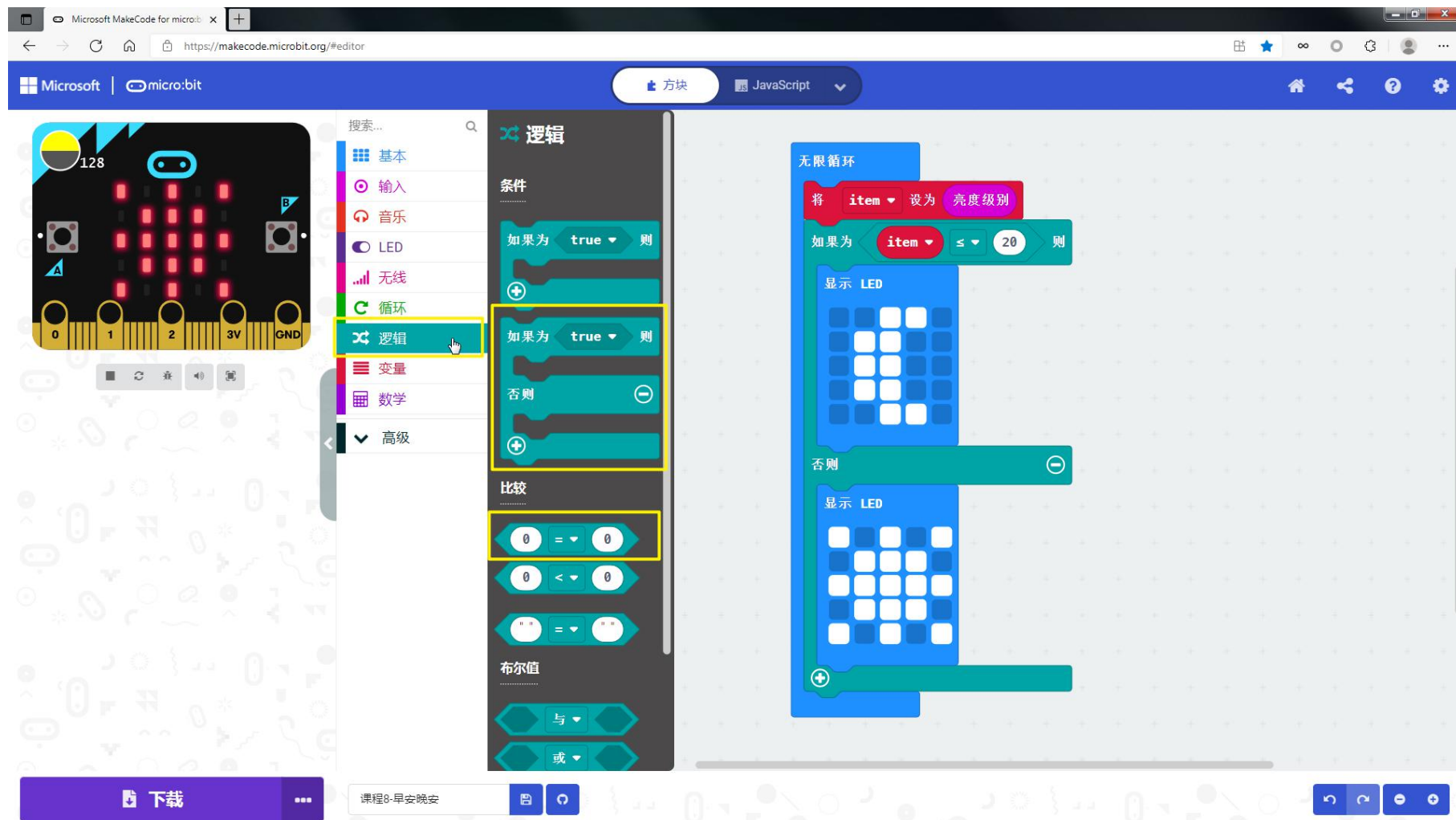
输入栏
亮度级别

The screenshot shows the Microsoft MakeCode for micro:bit editor. The interface includes a top navigation bar with the Microsoft logo and 'micro:bit' text. A search bar is present, and a dropdown menu shows 'JavaScript'. The left sidebar contains a category menu with '基本' (Basic) selected, and sub-categories like '输入' (Inputs), '音乐' (Music), 'LED', '无线' (Wireless), '循环' (Loops), '逻辑' (Logic), '变量' (Variables), and '数学' (Math). The 'Inputs' category is expanded, showing various input blocks. The '亮度级别' (Brightness Level) block is highlighted with a yellow box. The main workspace displays a script starting with an '无限循环' (Infinite Loop) block. Inside the loop, there is a '将 item 设为 亮度级别' (Set item to Brightness Level) block, followed by an '如果为 item ≤ 20 则' (If item ≤ 20 then) conditional block. The 'then' branch contains two '显示 LED' (Show LED) blocks. The '否则' (Else) branch is currently empty. The bottom of the editor shows a '下载' (Download) button and a text field containing '课程8-早安晚安'.

Part 3

编程实验

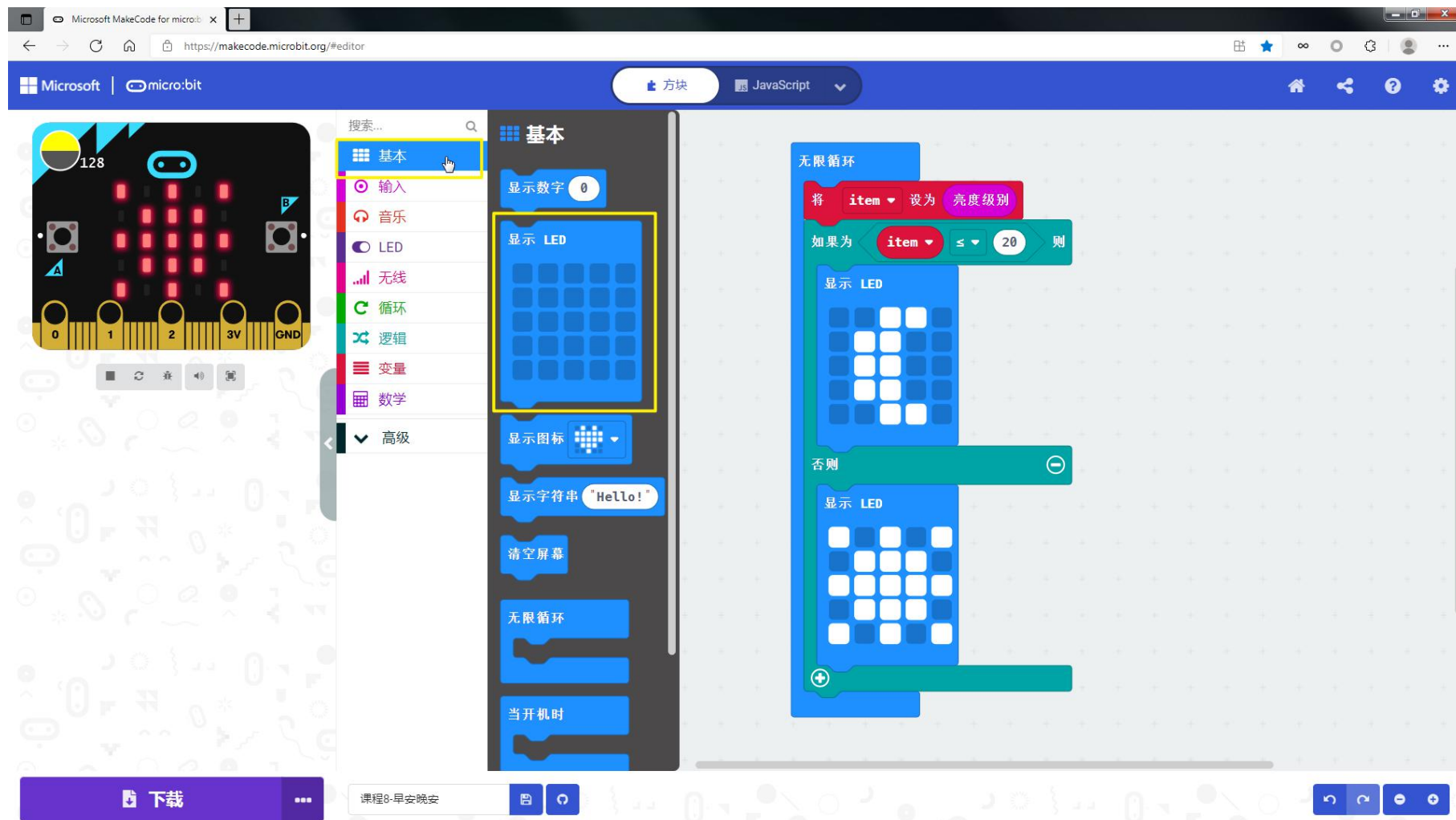
逻辑栏
条件、比较程
序块



Part 3

编程实验

基本栏
显示LED自定义程序块



Part 3

编程实验

组合程序

https://makecode.microbit.org/_caWMHjasYUqb

The screenshot shows the Microsoft MakeCode for micro:bit editor interface. On the left, there is a virtual micro:bit board with a 5x5 grid of red LEDs. The top bar indicates the language is JavaScript. A sidebar on the left lists various block categories: 基本 (Basic), 输入 (Input), 音乐 (Music), LED, 无线 (Wireless), 循环 (Loops), 逻辑 (Logic), 变量 (Variables), 数学 (Math), and 高级 (Advanced). The main workspace contains a JavaScript program with the following logic:

- An **无限循环** (Infinite Loop) block.
- Inside the loop, a block: **将 item 设为 亮度级别** (Set item to brightness level).
- Next, a conditional block: **如果为 item ≤ 20 则** (If item ≤ 20 then).
- Inside the 'if' block, a **显示 LED** (Show LED) block that displays a 5x5 grid of white LEDs.
- Following the 'if' block is an **否则** (Else) block.
- Inside the 'else' block, another **显示 LED** (Show LED) block that displays a 5x5 grid of white LEDs.

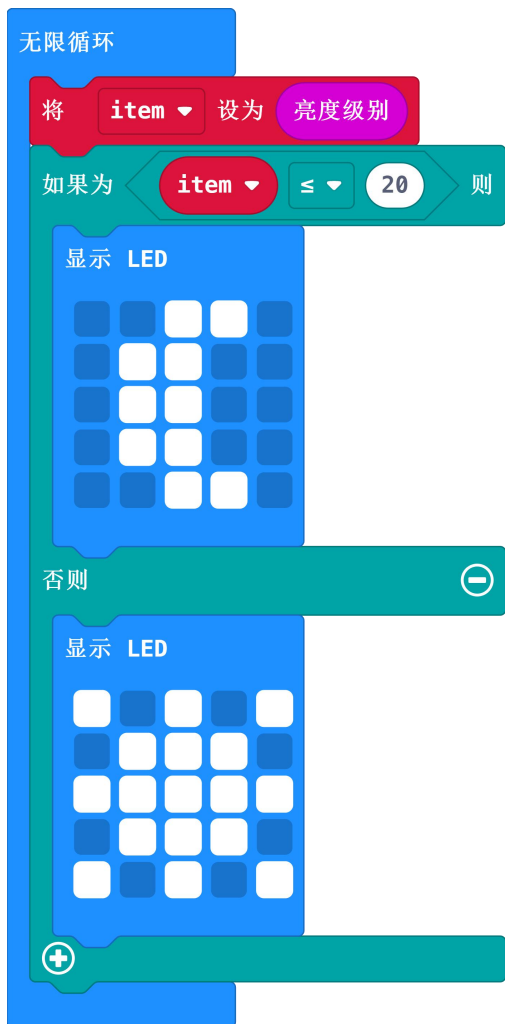
At the bottom of the editor, there is a purple **下载** (Download) button and a status bar showing the current program name: **课程8-早安晚安**.



Part 3

编程实验

程序分析



这里的20是自由设置的一个中间值，积木块这样摆放的意思是：如果当前光照强度小于20的话，点阵上就显示月亮，如果当前光照强度大于20的话，点阵上就显示太阳。

中间值：将试验得到的若干数值以递增（或递减）的次序依次排列时，若数值的数目是奇数，中间的那个值就是中间值，如果试验得到数值的数目是偶数，中间两个数值的平均值就是中间值。

（在本次课程中，大家可以自行设置中间值）

Part 4 “

拓展思考

今天的课程你学会了吗？
如果学会了就给自己一个顶呱呱吧~
现在布置一个课后作业给你哦~

在micro:bit点阵上显示出当前光线亮度的值小朋友们可以利用手机照明灯或者是关掉家里的灯，来改变当前的光线亮度哦~

开动你的小脑筋，试试看吧~





谢谢观看!

Micro:Bit 基础课程