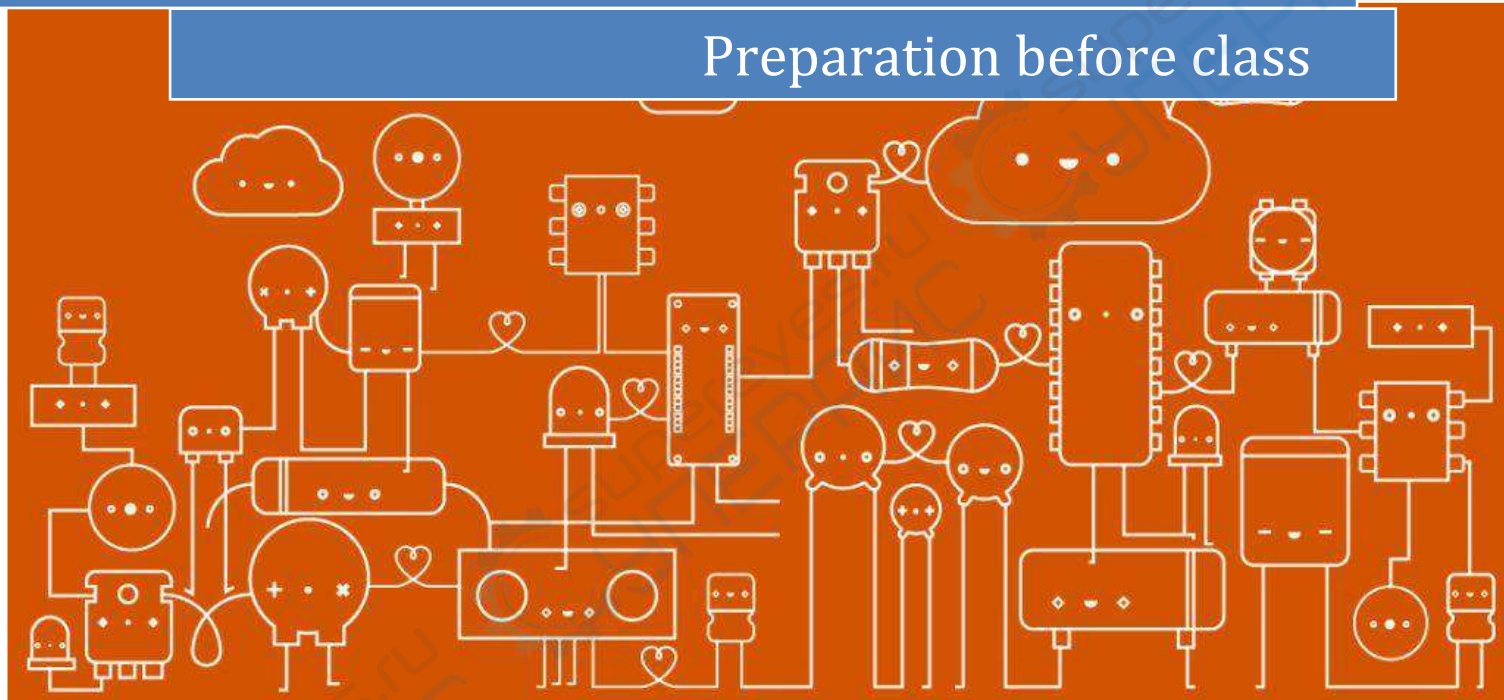# 2019

Micro:bit Buidling bit Starter Kit

Preparation before class

Preparation before class

Online programming

1.First connect the micro:bit to the computer with the data cable. At this time, the computer will have a micro:bit U disk. Open the USB flash drive and click on the micro:bit URL as shown in Figure1_1 below to enter the micro:bit official website. You can enter this web address directly in your browser: http://microbit.org/.

Figure1-1

2.After successfully entering the URL, we can click on the English at the top ri-ght of the interface as shown in Figure1-2 below to switch the language of the entire interface.
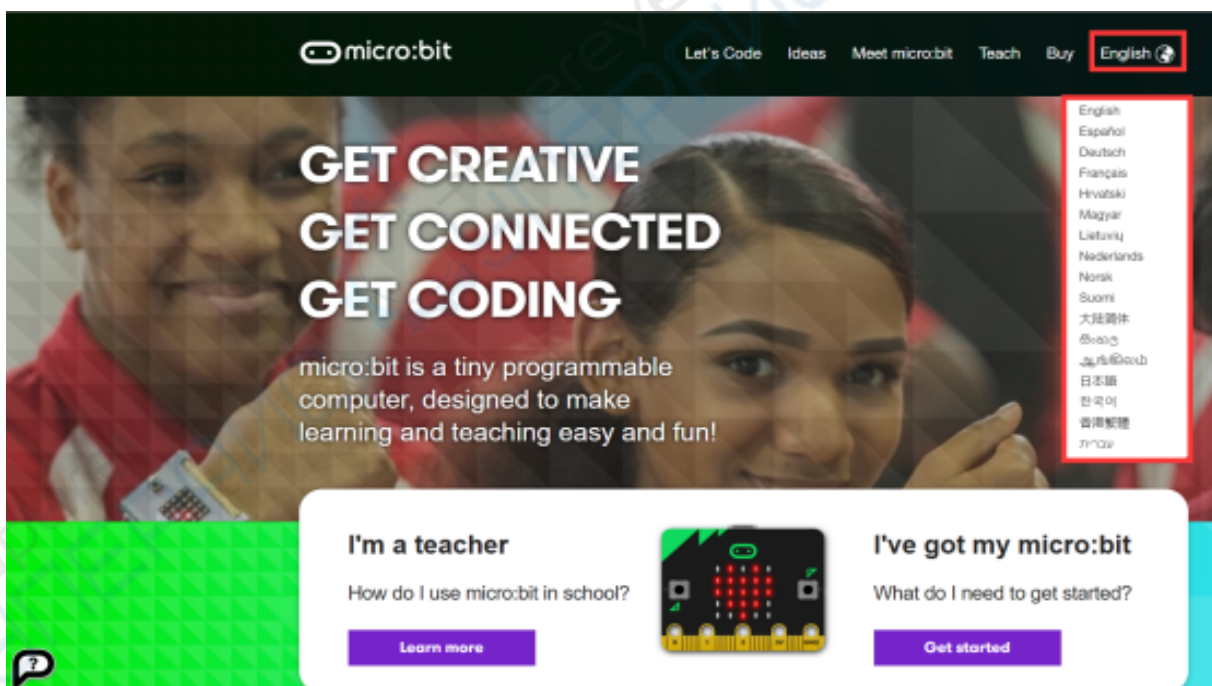

Figure1-2

3.If you don't need to switch languages, continue to click [Let's code] at the top of the interface shown in Figure 1-3. At this point we will enter a new interface.

Figure1-3

4. After entering a new page, click [Let's code] at the bottom of the interface shown in Figure1-4 below, and you will be able to enter the MakeCode editor.
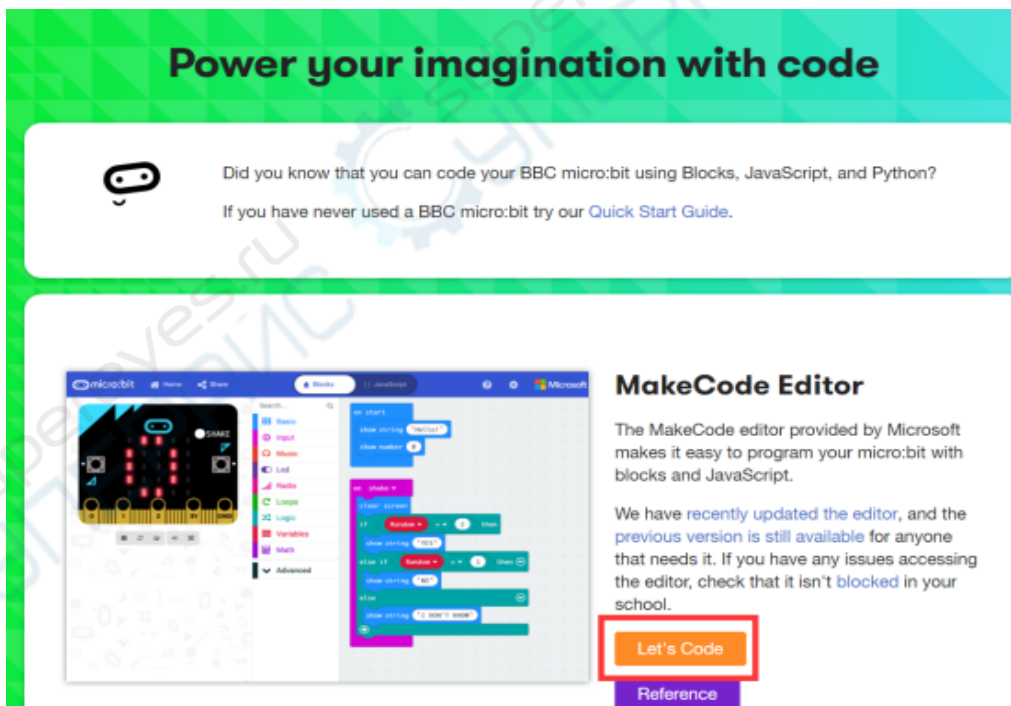

Figure1-4

5.After clicking, we will enter the interface shown in Figure1-5 below. We need to click [New Project] in the lower left corner to enter the MakeCode editor.
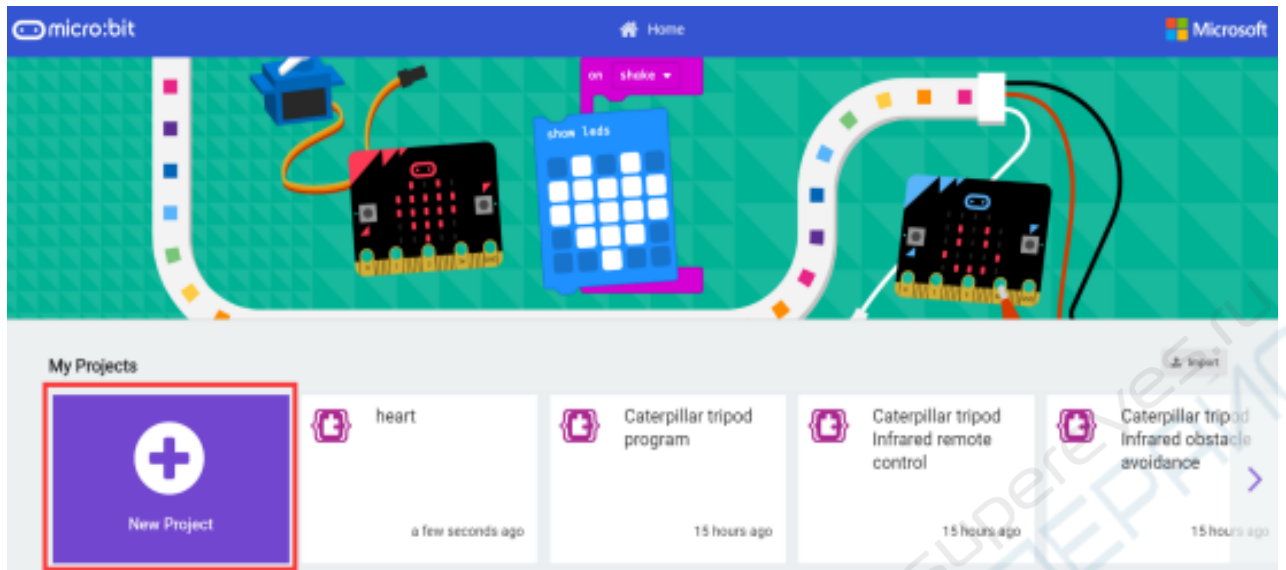
Figure1-5

6. The interface shown in Figure1- 6 below is the micro:bit online programming interface we need to use.

Figure1-6

7. We first need to add the Yahboom package. In the interface shown in Figure 1-7 below, click [Advanced], then click [Extensions], an interface will pop up.
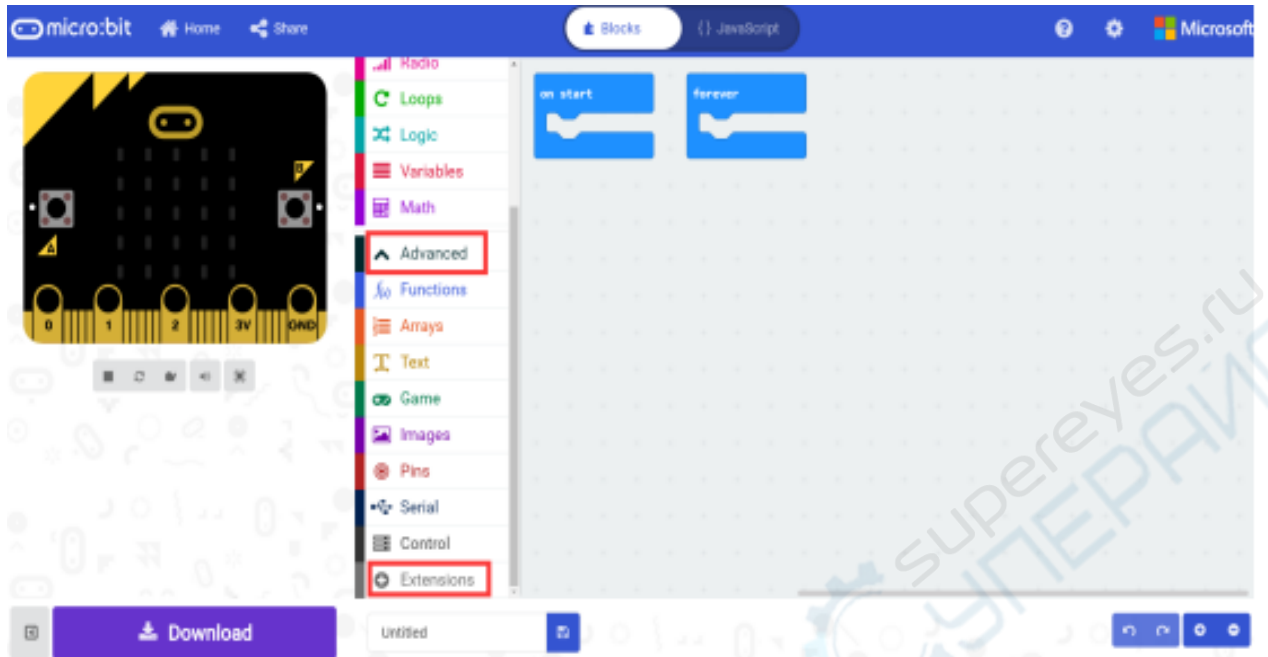
Figure 1-7

8.Enter the URL in the input field: **https://github.com/lzty634158/yahboom_mbit_en**. Then click "search" or press the "Enter" key on the keyboard, as shown in Figure1-8. You can search for the Yahboom software package, and then click mbit, as shown in Figure 1-9, you can successfully add the software package.
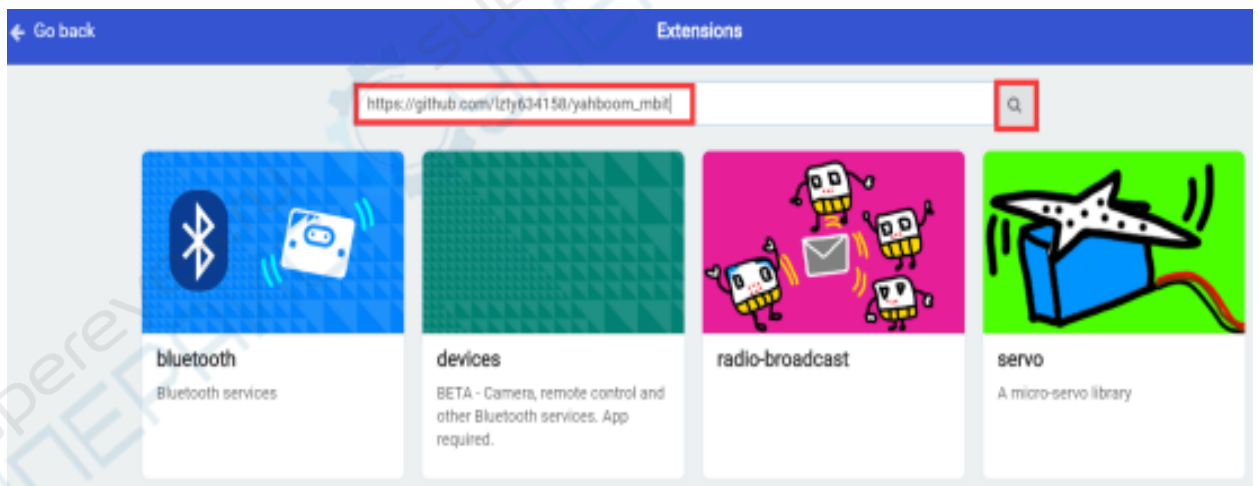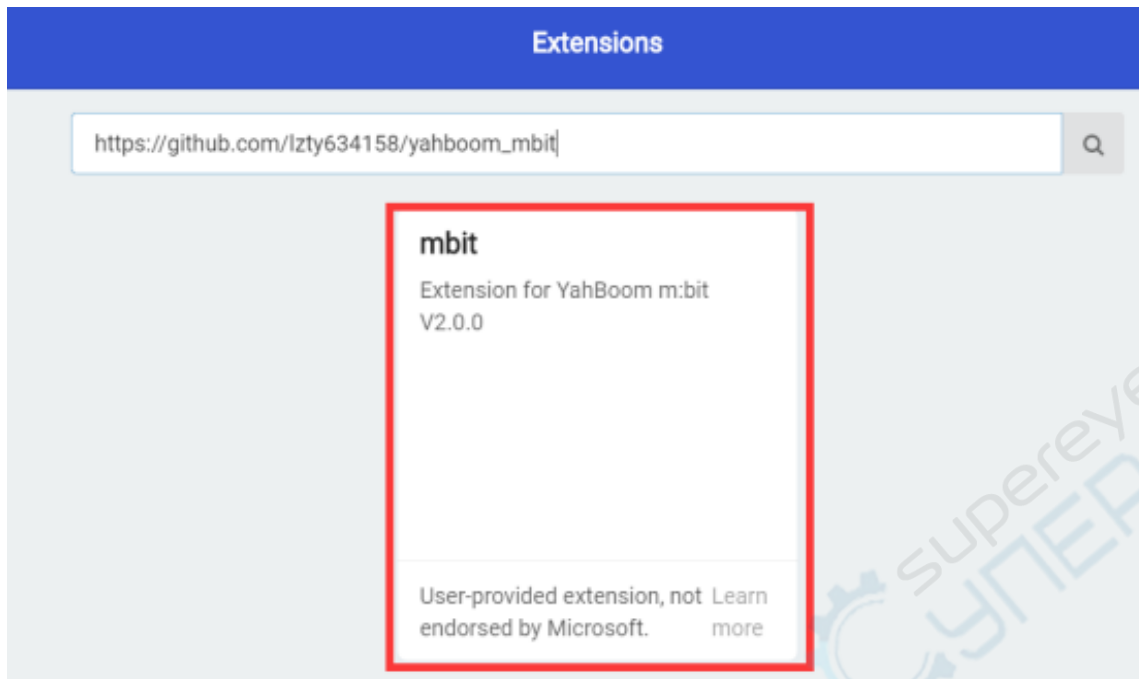

Figure1-8

Figure1-9

9..After loading the package, we can see that the program bar has loaded the building blocks made by Yahboom, as shown in Figure 1-10.
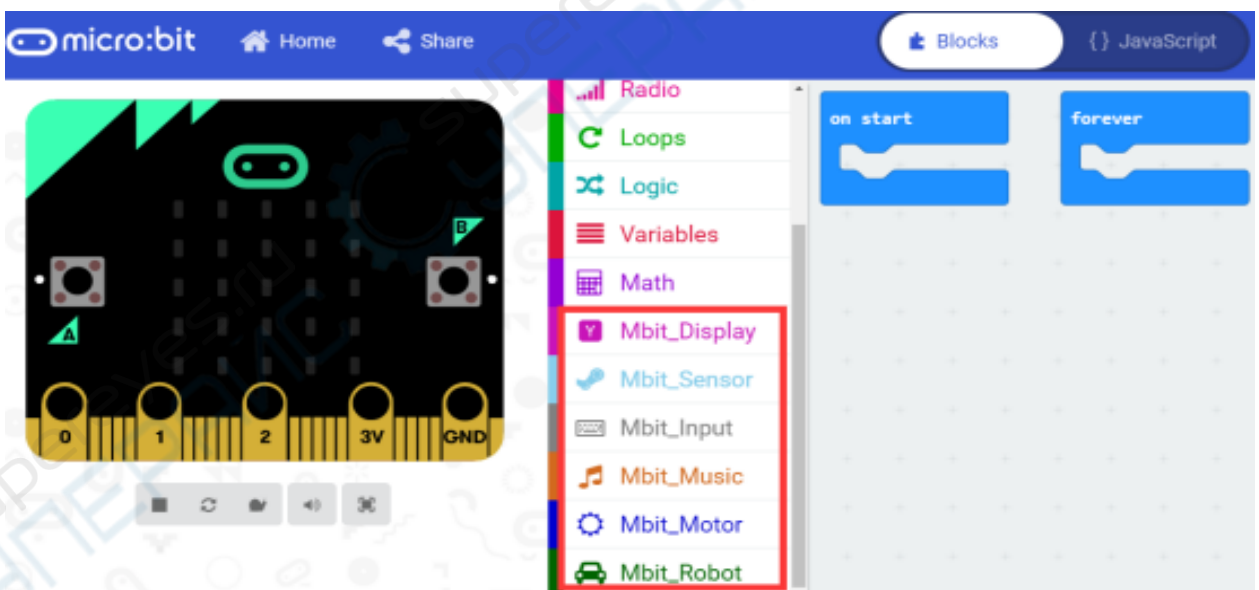

Figure 1-10

10.You can build your own blocks for programming. After setting up the program blocks, we can name the program ourselves, and then click [Download] to download the program, as shown in Figure 1-11. We can set the download path to micro:bit U disk, or directly to the computer, and then copy it to the micro:bit U disk, as shown in Figure 1-12.
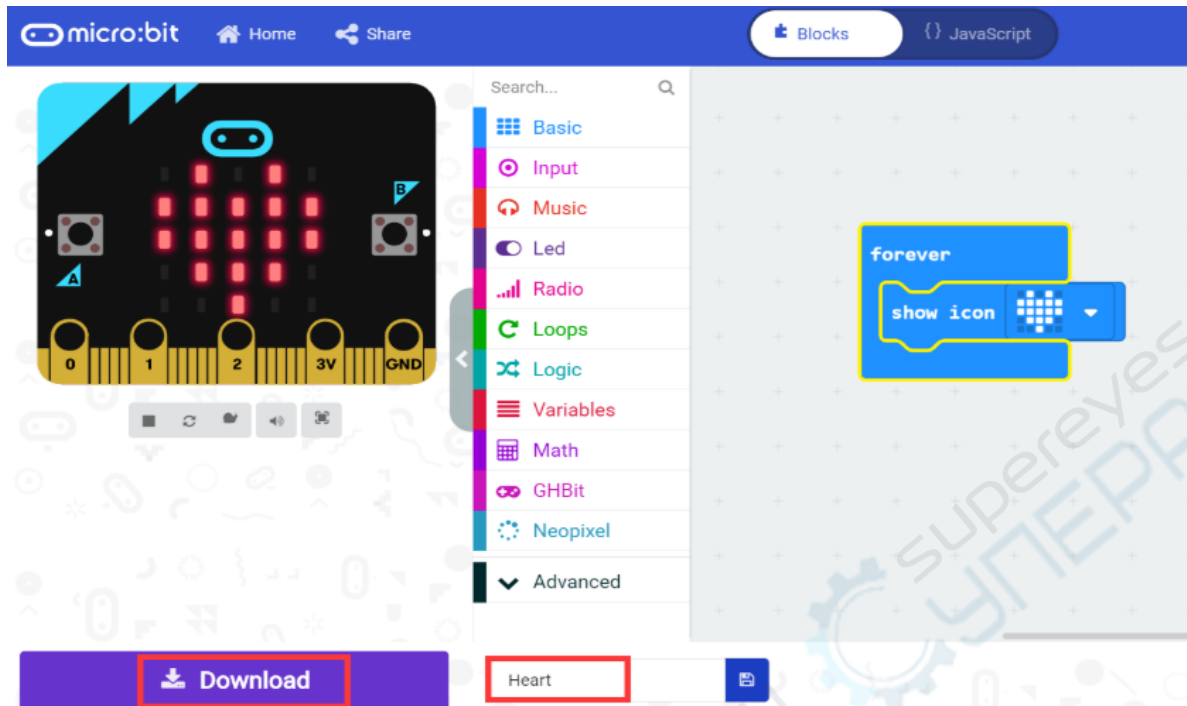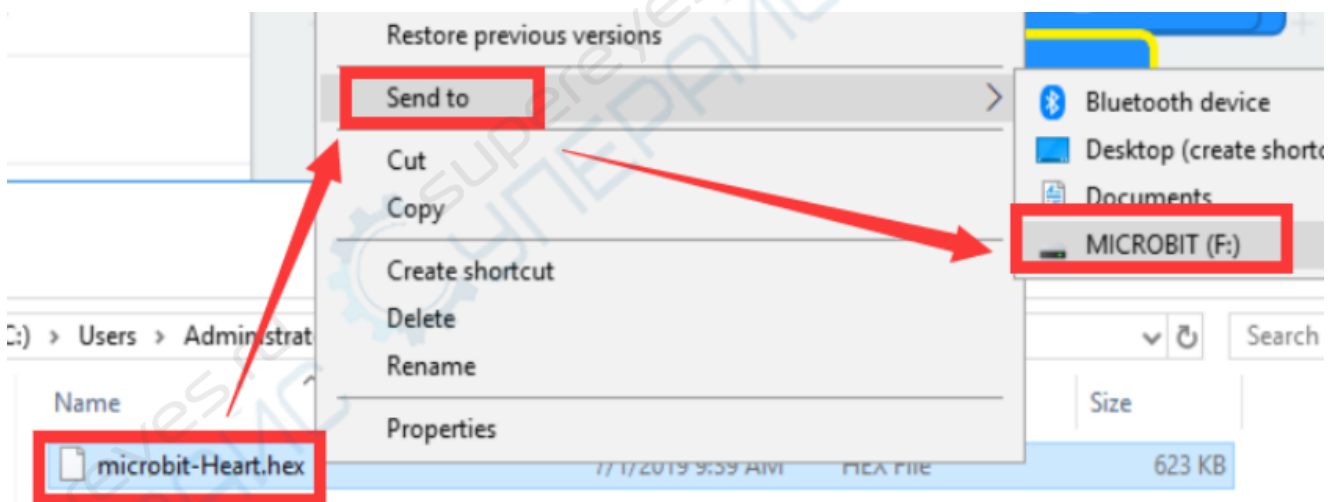
Figure1-11

Figure1-12

11.The indicator light on the back of the micro:bit motherboard will flash during the download. After the download is complete, the indicator light stops flashing and we can see the corresponding experimental phenomena and effects.
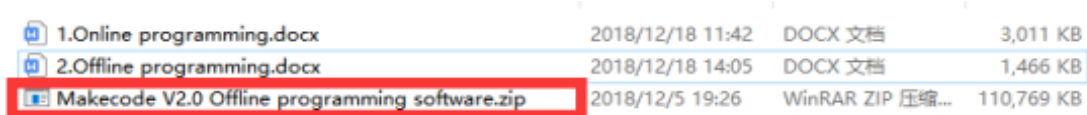
Offline programming

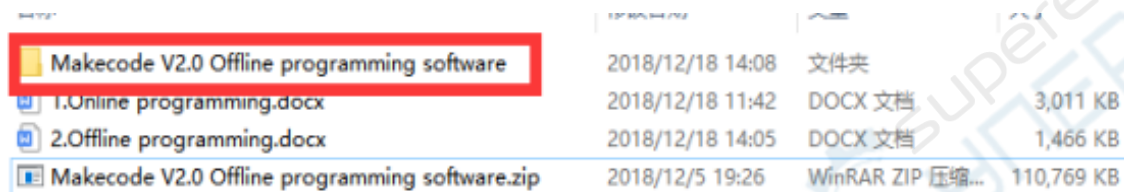## 1.The first part is installs offline programming software

(It is recommended to turn off the antivirus software of the computer during installation.)

1.1 Decompress the Makecode V2.0 offline programming software.zip provided by us to obtain the offline programming software of the folder Makecode V2.0, as shown in Figure 1.1 and Figure 1.2 below.

1.Online programming.docx	2018/12/18 11:42	DOCX 文档	3,011 KB
2.Offline programming.docx	2018/12/18 14:05	DOCX 文档	1,466 KB
Makecode V2.0 Offline programming software.zip	2018/12/5 19:26	WinRAR ZIP 压缩...	110,769 KB

Figure1.1

Makecode V2.0 Offline programming software	2018/12/18 14:08	文件夹	
1.Online programming.docx	2018/12/18 11:42	DOCX 文档	3,011 KB
2.Offline programming.docx	2018/12/18 14:05	DOCX 文档	1,466 KB
Makecode V2.0 Offline programming software.zip	2018/12/5 19:26	WinRAR ZIP 压缩...	110,769 KB

Figure 1.2

1.2 Enter the folder, you can see **Makecode V2.0.exe**, as shown in Figure 1.3 below, double-click the application to install.

Makecode V2.0 安装程序.exe	2018/12/3 15:34	应用程序	110,807 KB

Figure 1.3

1.3 You need to choose the option to create a shortcut on the desktop, as shown in Figure 1.4 below, so that after the installation is complete, a shortcut will be generated on the desktop.
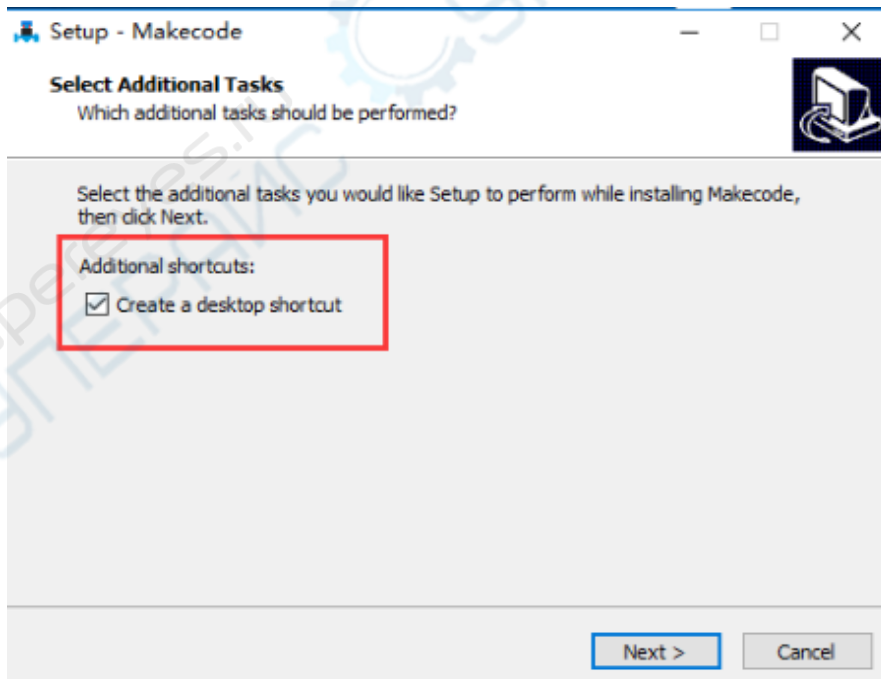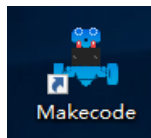

Figure 1.4

1.4 You need to wait for installation to complete. This icon appears on the desktop after the

installation is complete

2.The second part is how to use offline programming software:

2.1Open a shortcut on your desktop, you can enter the offline programming interface, as shown in Figure 2.1.
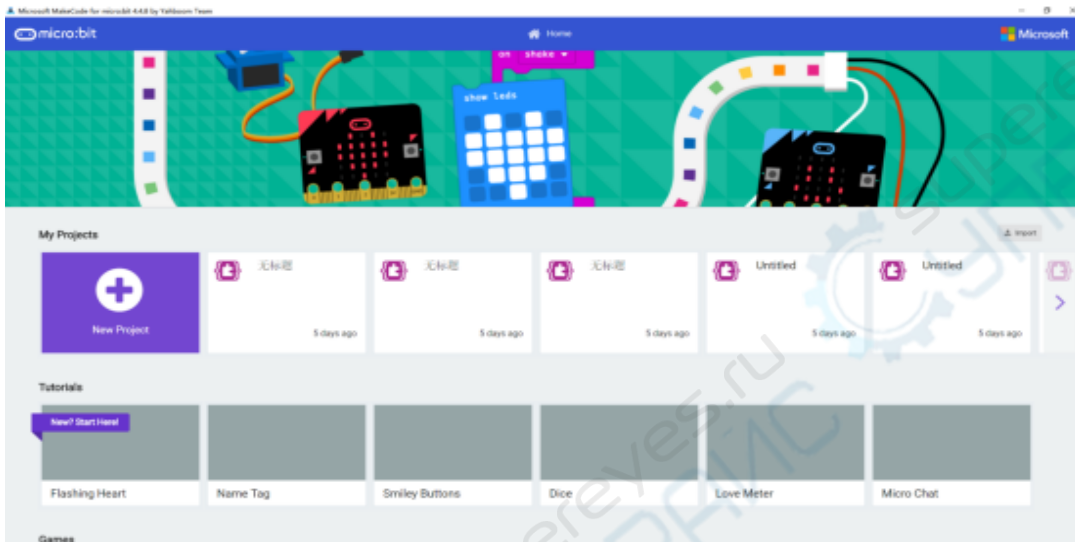

Figure 2.1

2.2 Click the [New Project] option in the interface to enter the programming page, as shown in Figure 2.2.

Figure 2.2

2.3 The interface shown in Figure 2.3 below is the micro:bit offline programming interface we need to use.
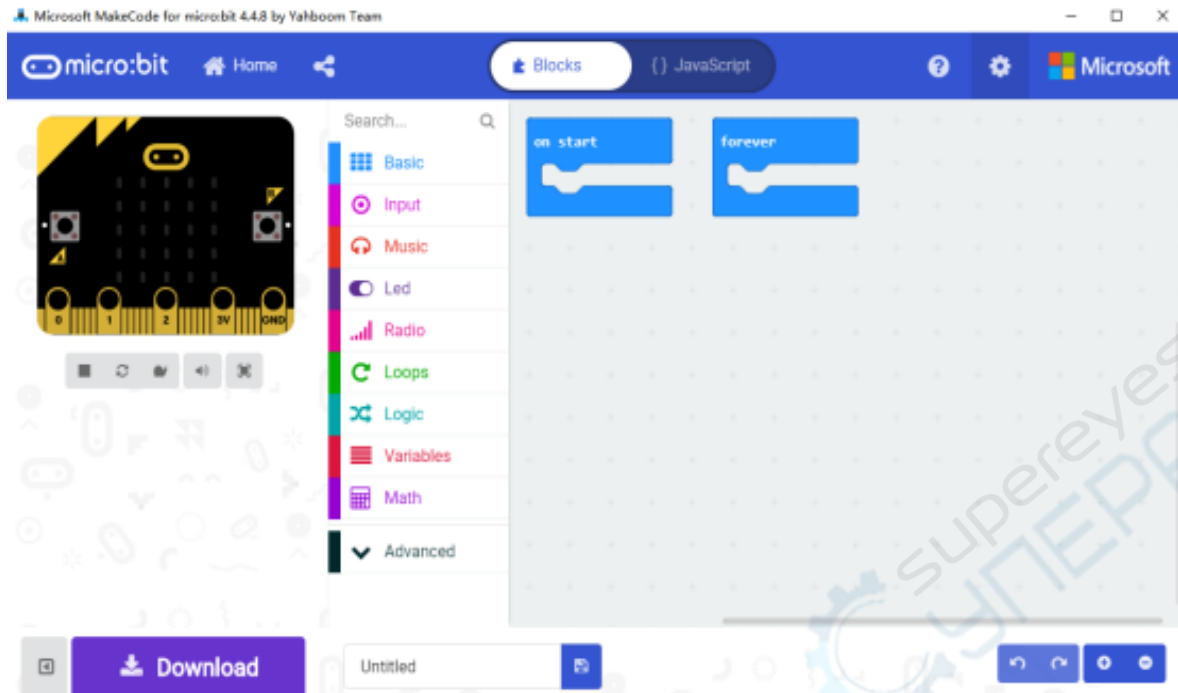
Figure 2.3

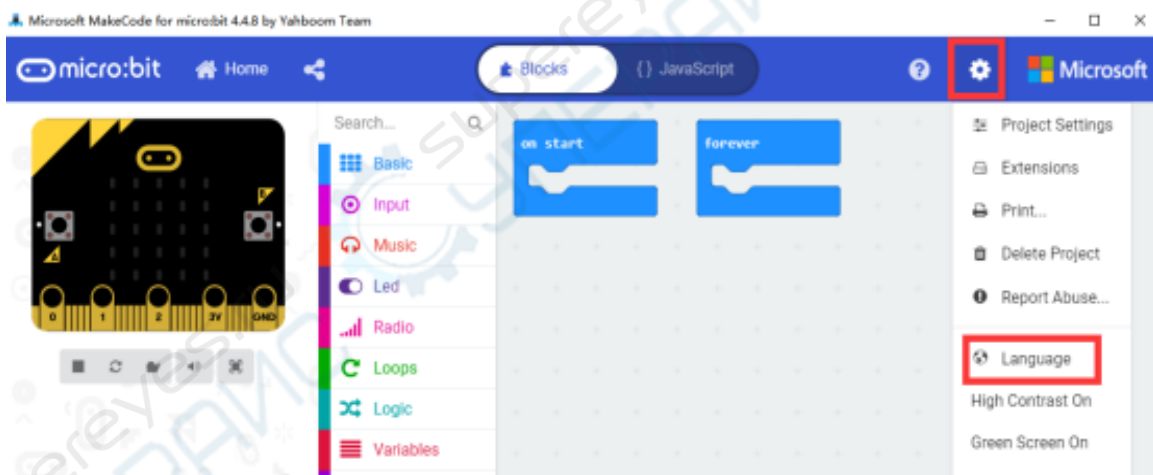2.4 Click the icon in the upper right corner to switch languages, as shown in Figure 2.4.

Figure 2.4

2.5 We first need to add the Yahboom package. In the interface shown in Figure 2.5 below, click [Advanced], then click [Extensions], an interface will pop up.
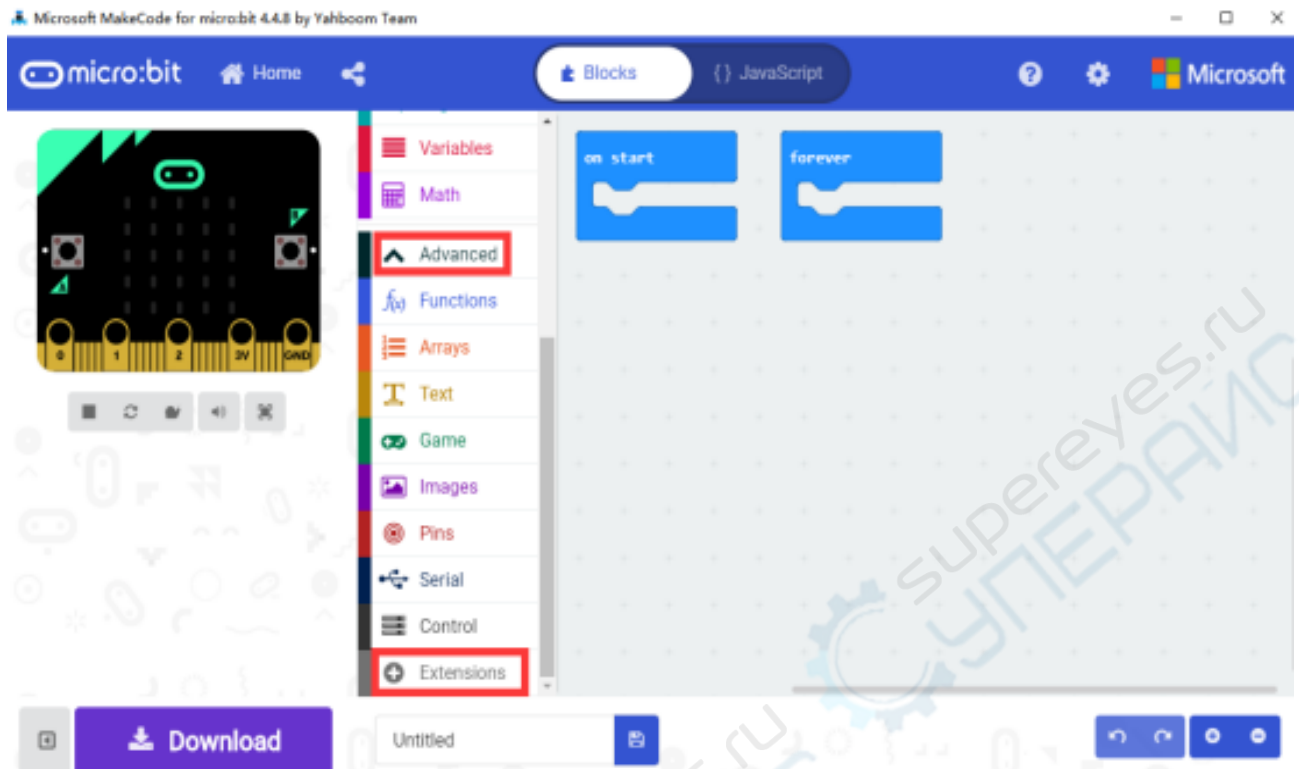
Figure 2.5

2.6 Enter the URL in the input field: **https://github.com/lzty634158/yahboom_mbit_en**. Then click "Search" or press the "Enter" key on the keyboard, as shown in Figure 2.6. You can search for the Yahboom software package, and then click mbit, as shown in Figure 2.7, you can successfully add the software package.
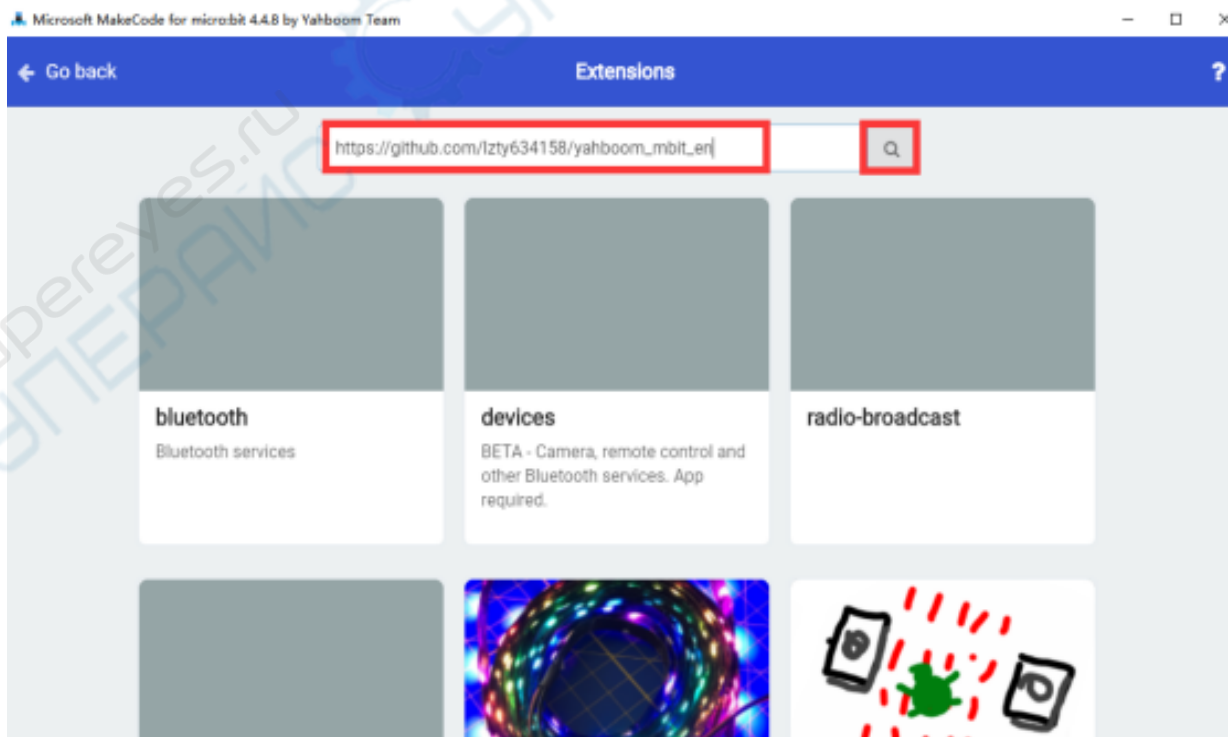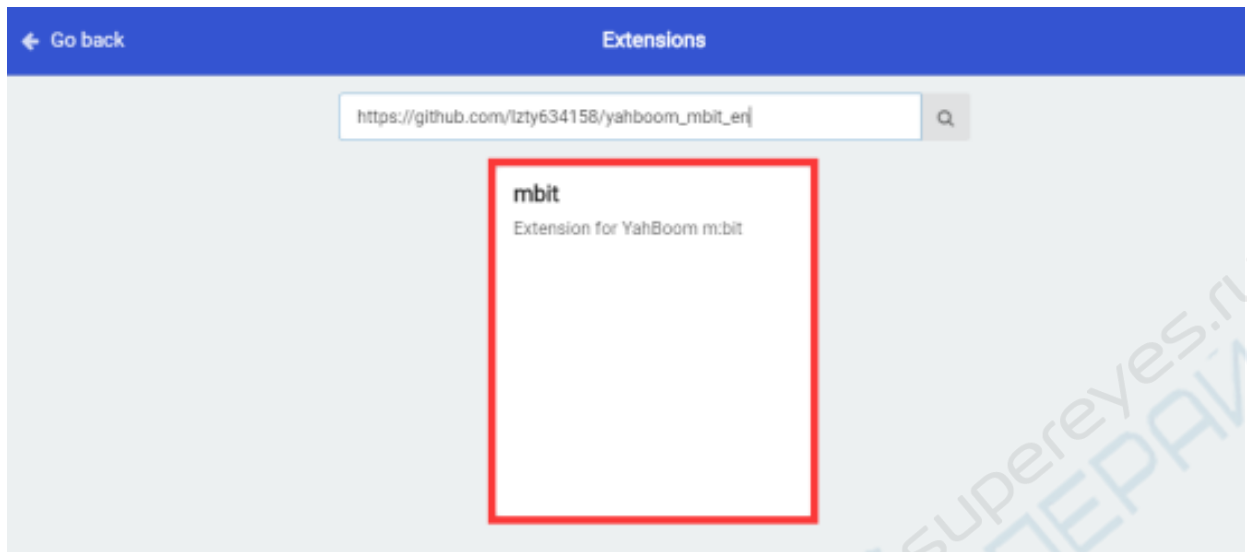

Figure 2.6

Figure2.7

2.7 After loading the package, we can see that the program bar has loaded the building blocks made by Yahboom, as shown in Figure 2.8.
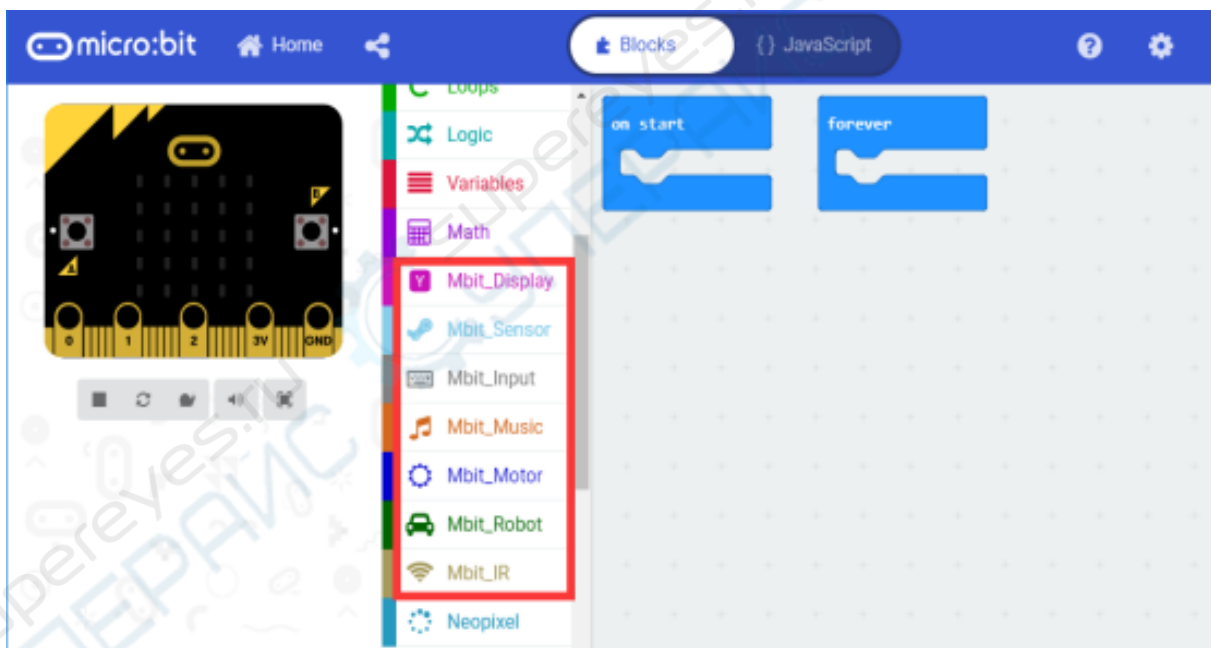

Figure 2.8

2.8 You can build your own building blocks for programming. After setting up the program blocks, we can name the program ourselves, and then click 【Download】 to download the program, as shown in Figure 2.9. We can set the download path to micro:bit U disk, or directly to the computer, and then copy it to the micro:bit U disk, as shown in Figure 2.10.
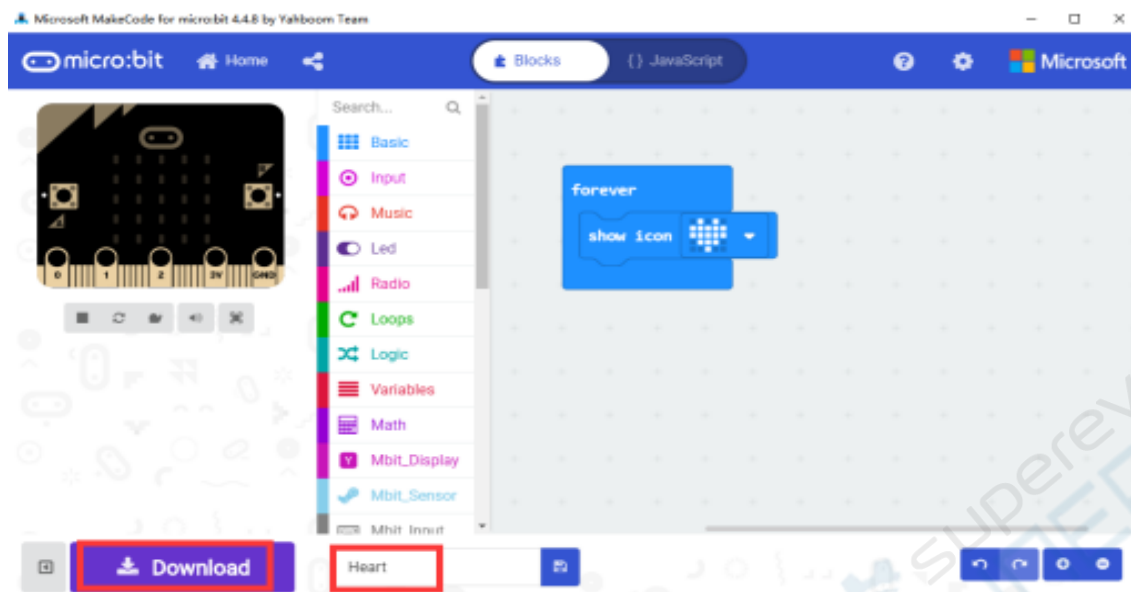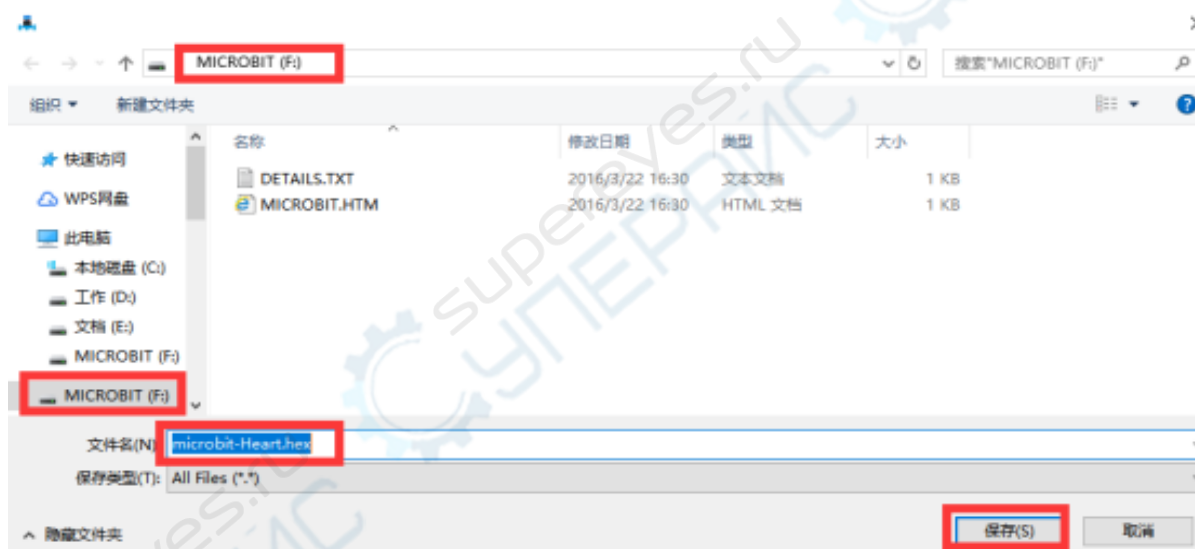
Figure 2.9

Figure 2.10

2.9 During the download, the indicator light on the back of the micro:bit motherboard will flash, as shown in Figure 2.11. After the download is complete, the indicator light stops flashing, and we can see the corresponding experimental phenomena and effects, as shown in Figure 2.11.
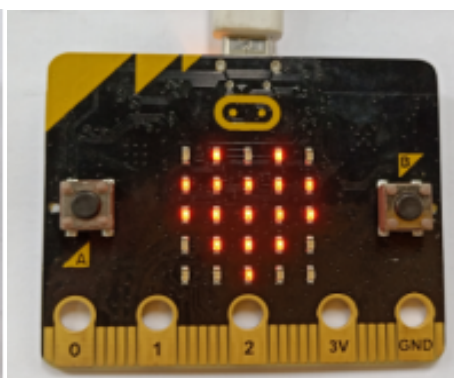

Figure 2.11

Figure 2.12

Note: Download program

1. Download the program must use the interface on the micro:bit board. The interface on the expansion board cannot download the program.

2. No matter whether the micro:bit motherboard is plugged into the expansion board, the program can be downloaded normally.

3. When the micro:bit board is plugged into the expansion board, the program can be downloaded normally regardless of whether the expansion board is turned on or off.


Download program interface

Download program interface
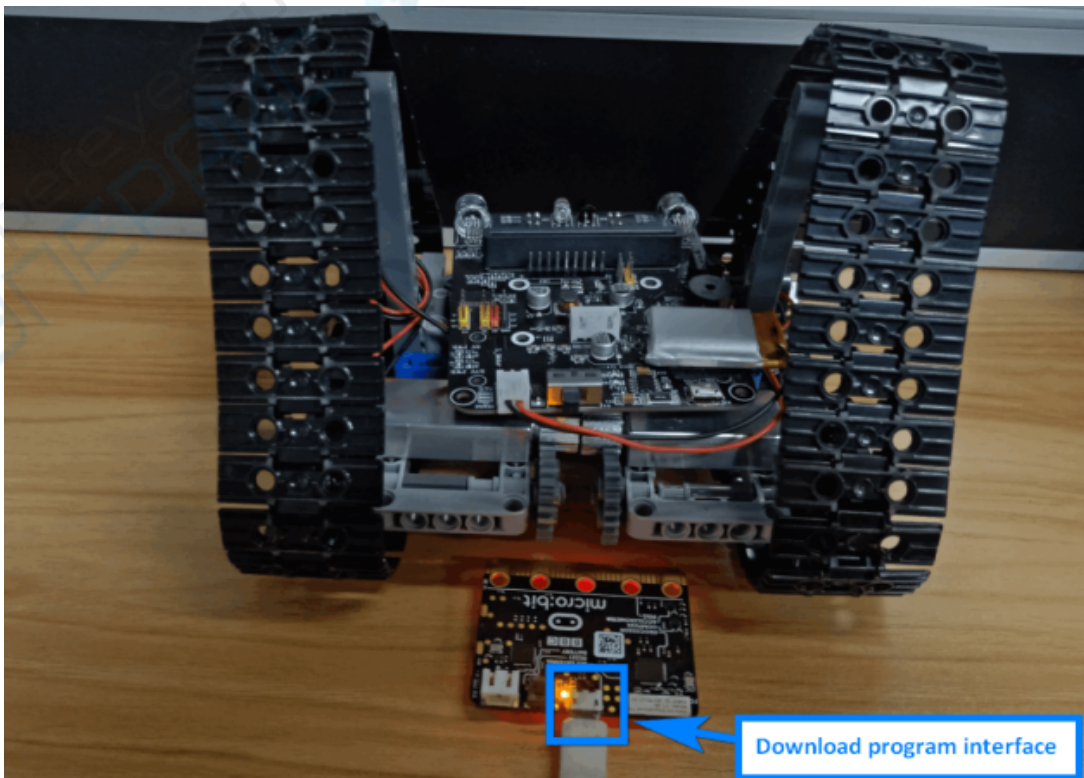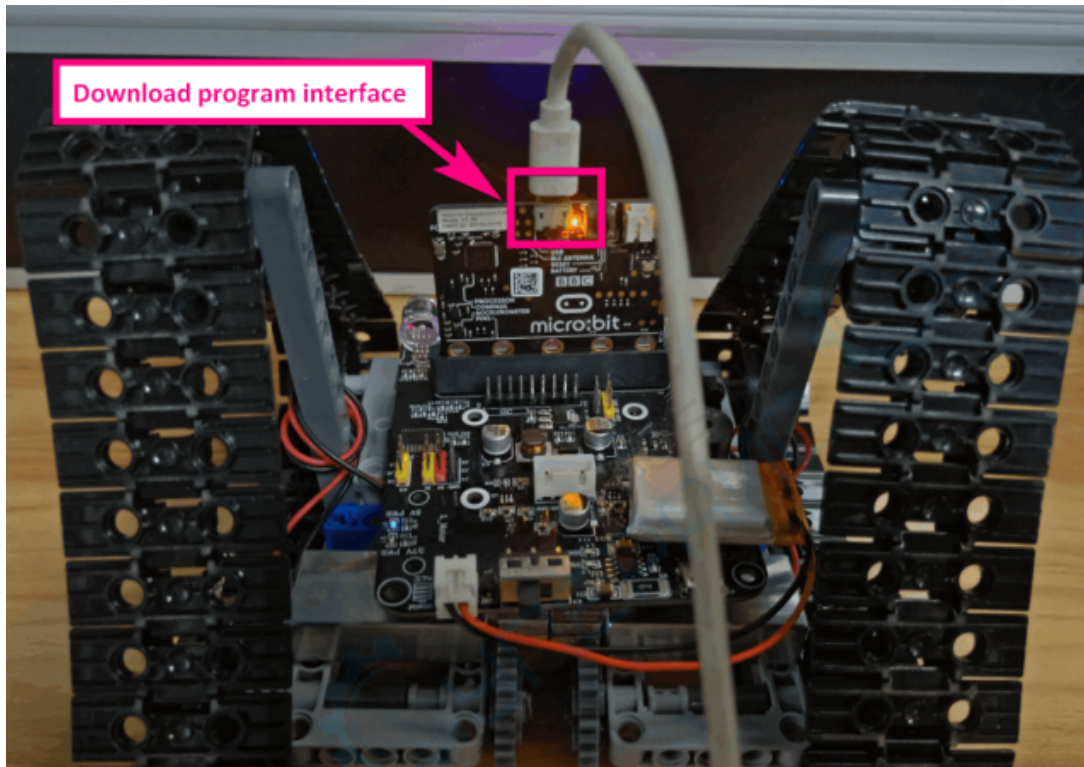
Note: Battery and charging

Battery of Building bit use precautions:

1. Battery can not be used while charging.

2. The battery needs to be charged in time when the voltage is around 3.7V. When the battery is fully charged, the battery voltage is about 4.2V.

3. If the battery is not used for a long time, the battery cable on the expansion board should be unplugged, because the battery will be worn out in the standby state.

4.If you have not used the car for a long time, you need to fully charge the battery before using it next time.

5. When the battery is charging, the indicator light is red and full of green light (Due to the different supplier, the difference of the indicator light is not necessarily red and green, but the color of the indicator light is different after charging and full charge). After charging is completed, the USB charging cable should be unplugged in time to avoid overcharging and damaging the battery.

6. The charging port is on the micro:bit expansion board, not on the micro:bit board. It can only be inserted on the expansion board to be charged. It cannot be charged on the micro:bit board. As shown below:
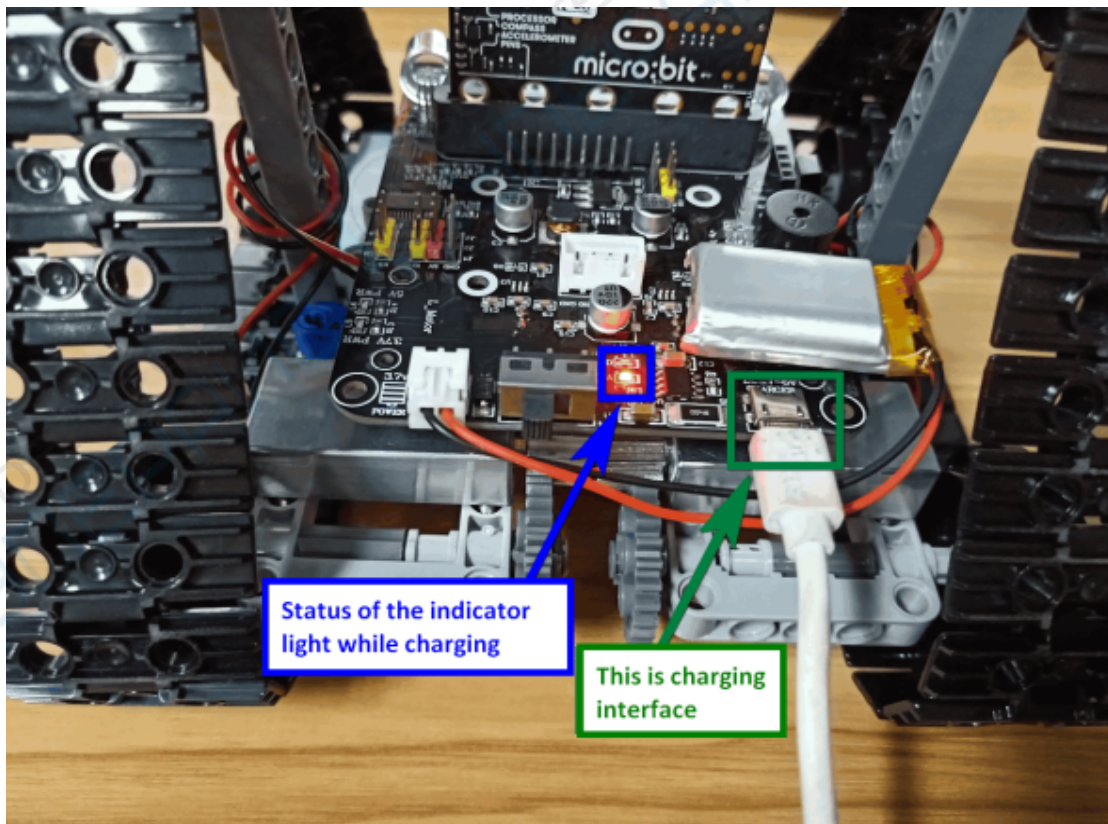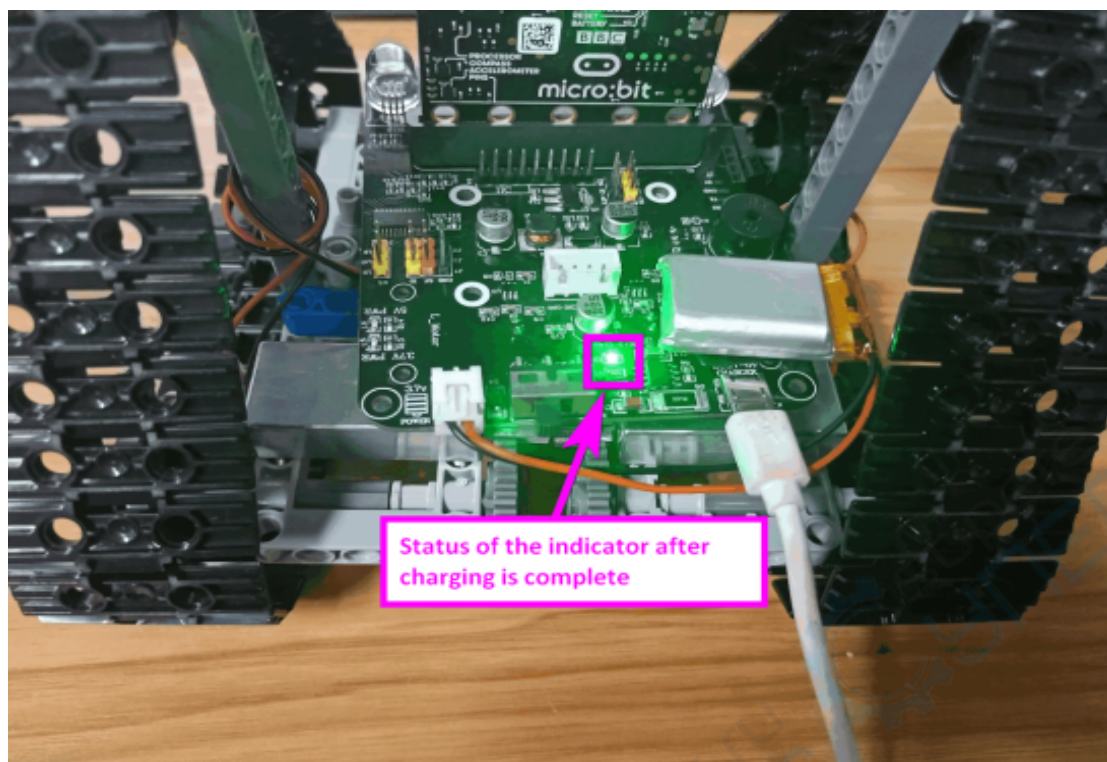
Status of the indicator after charging is complete