

LROBSTRUYA

Micro bit starter kit master

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Preface

Company Profile

Founded in 2014, Shenzhen Lonten Technology Co., Ltd. focuses on the design, research production of Electronics Module for robotics related products. Consisting of professional researchers and skilled engineers, our R&D team constantly strives for creative function and excellent user experience. The company's R&D investments on arduino kits raspberry pi kits, as well as 3D printer and robots that back up STEAM education.

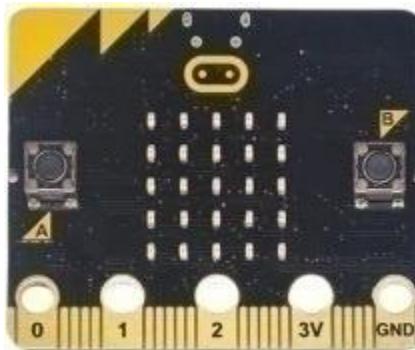
Customer Service

Our self-owned factory is certificated with BSCI and SO, covering an area of 5,000 square meters, and achieving an annual production capacity of over 10,000 units. Our products are all certified to CE, FCC, and ROHS standards, have exported to more than 100 countries including, but not limited to France, the United States of America, Australia, Russia, the United Kingdom, Germany, Singapore, Egypt, and India, bringing technological innovation to all walks of life.

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Micro:bit

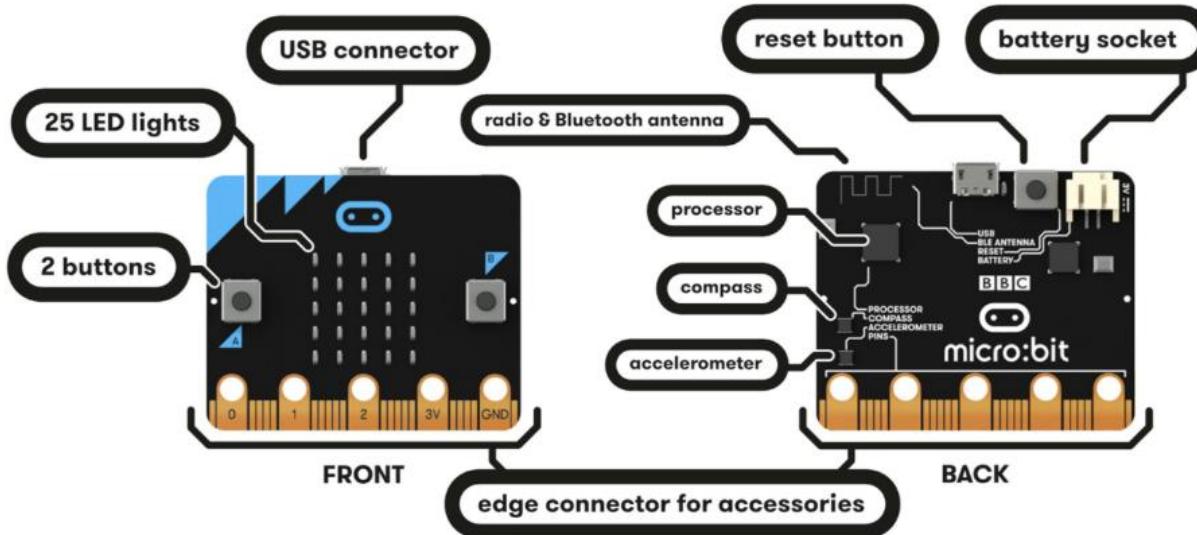
This chapter is the Start Point in the journey to build and explore Micro:bit electronic projects.



The BBC micro:bit is a pocket-size, programmable micro-computer that can be used for all sorts of cool creations, from robots to musical instruments the possibilities are infinite.

For more contents, please refer to: <https://microbit.org/guide/>

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Your micro:bit has the following physical features:

- 25 individual programmable LEDs
- 2 programmable buttons
- Physical connection pins
- Light and temperature sensors



-
- Motion sensors (accelerometer and compass)
 - Wireless Communication, via Radio and Bluetooth
 - USB interface

For more details, please refer to: <https://microbit.org/guide/features/>

It is not required for beginners to master this section, but a brief understanding is necessary. However, if you want to be a developer, hardware information will be very helpful. Detailed hardware information about micro:bit can be found here:

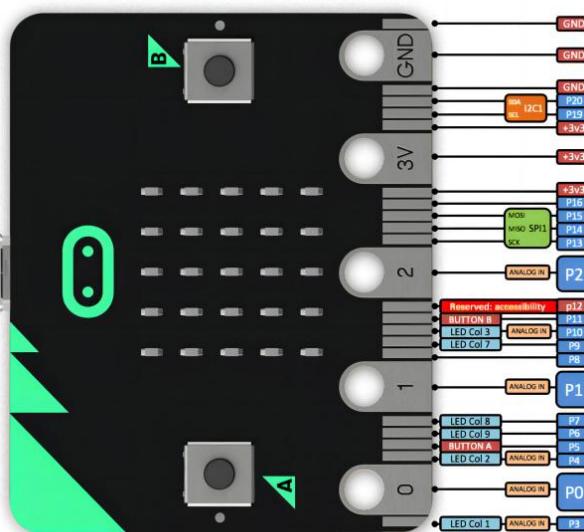
<https://tech.microbit.org/hardware/>

First, get to know the micro:bit GPIO.

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GPIO

GPIO, namely General Purpose Input/output Pins, is an important part of micro:bit for connecting external devices. All sensors and devices on Rover communicate with each other through micro:bit GPIO. The following is the GPIO serial number and function diagram of micro:bit:

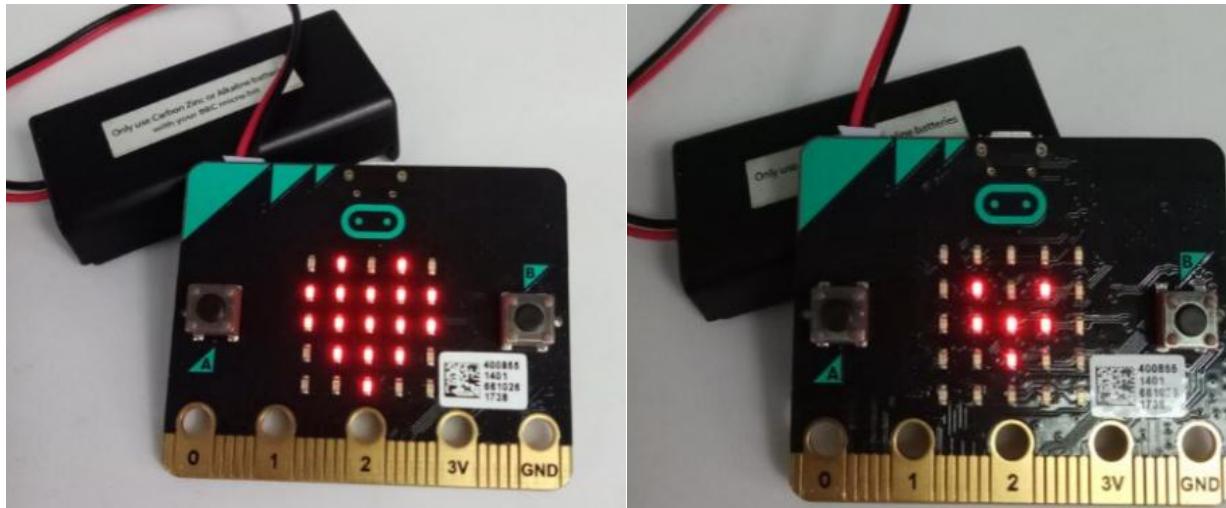


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Lesson 1 Heart beat

Learning goals

Showing a big heart sharp on LED matrix firstly, and showing small heart later, this cycle looks like heart beat.



Preparation

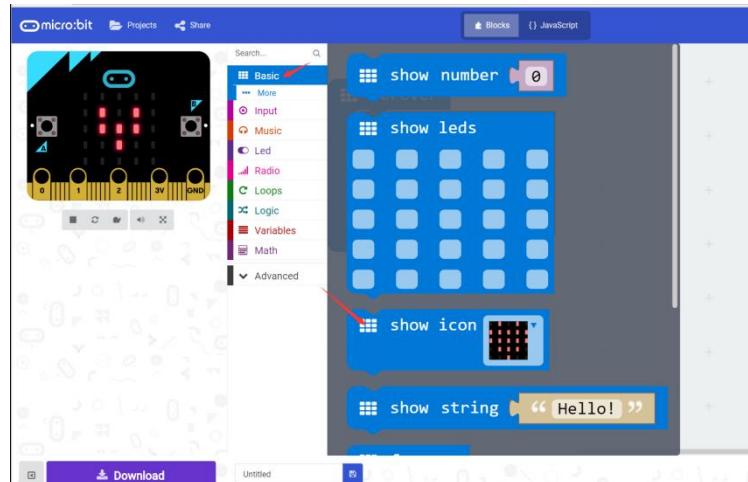
Hardware:

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- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 2 X AAA batteries

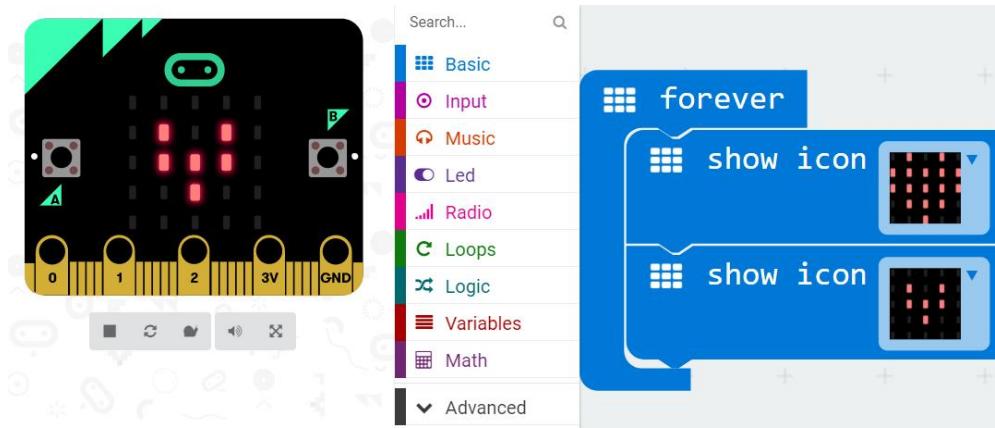
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks



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Combine blocks



Have a try

Do you learn the course today?

If you learn to do it, give yourself a top quack.

Now give you a homework assignment.

On the micro:bit LED lattice that we just finished the heart beat, we light a circle, a triangle, a rectangle.

Start your little brain. Try it.

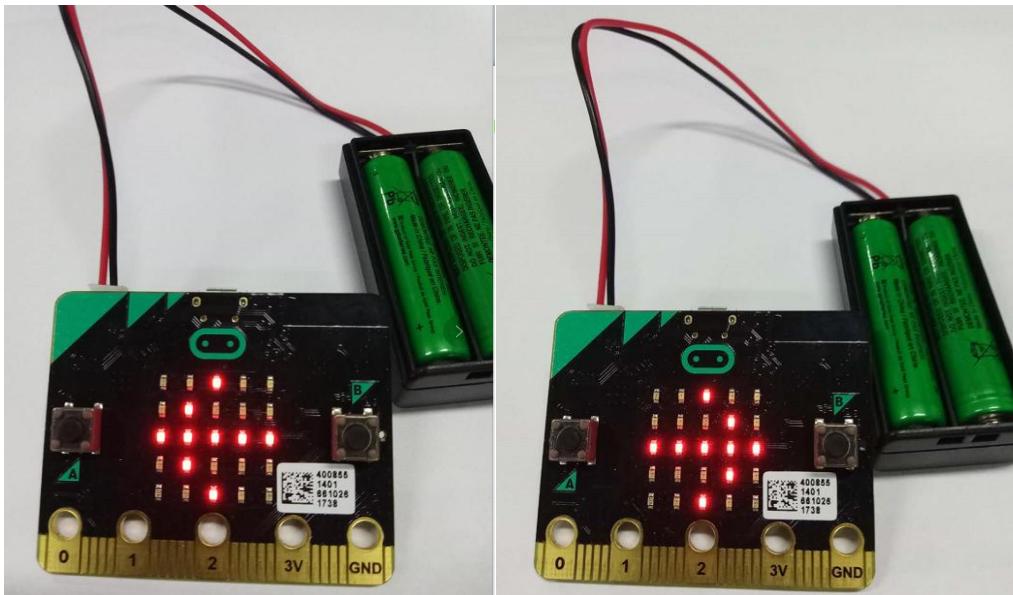


Lesson 2 See who is pressing fast

Learning goals

When you download a good program, call your little partner to play. One is standing on the A key, and the other is standing on the B button. And then you count down 3,2,1 and press the button together. If the A button is pressed first, there will be an arrow pointing to the A button on the dot matrix. If the B button is pressed first, there will be an arrow pointing to the B button on the dot matrix. If it is pressed at the same time, it will show a love on the dot matrix.

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Preparation

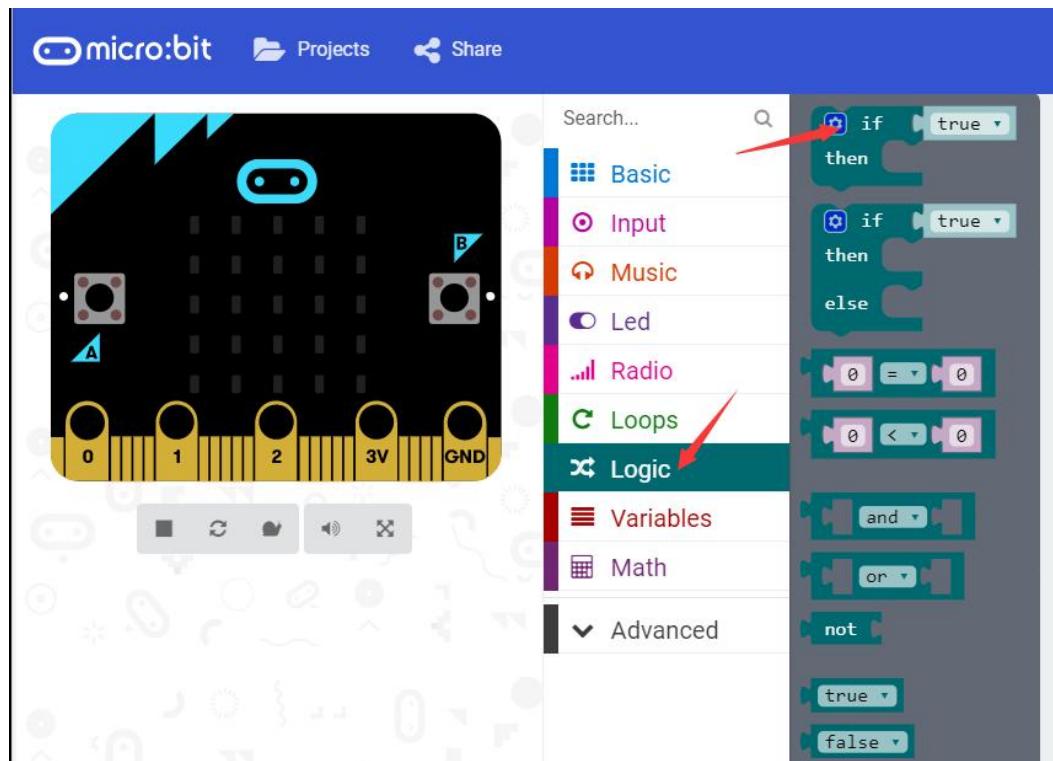
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 2 X AAA batteries

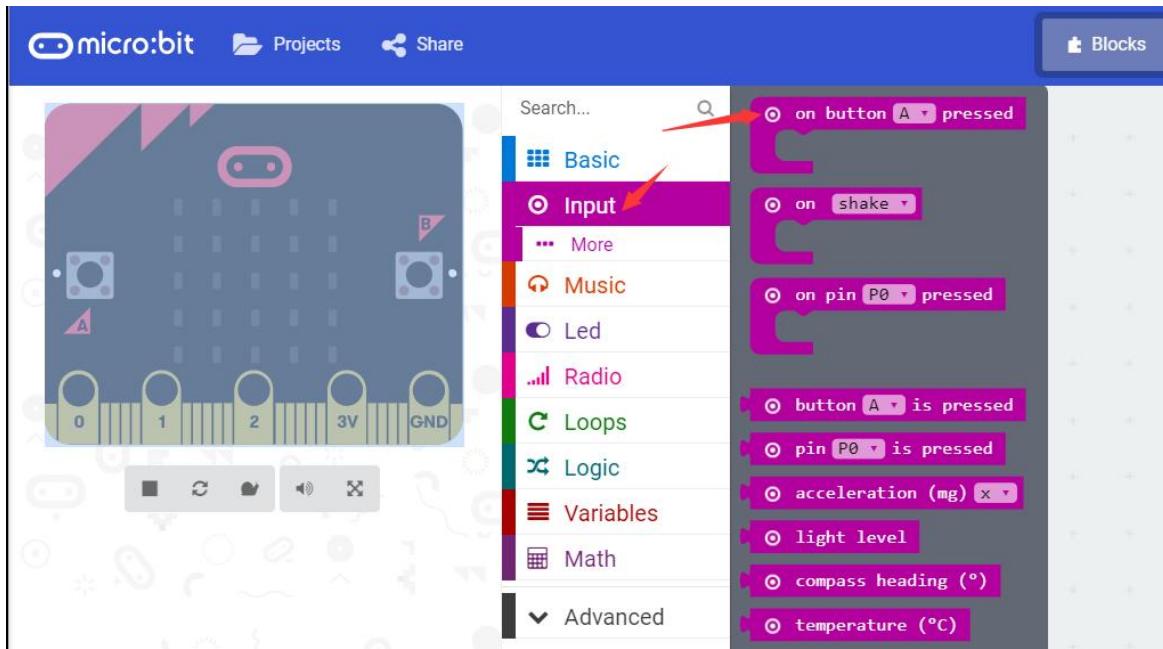
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Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

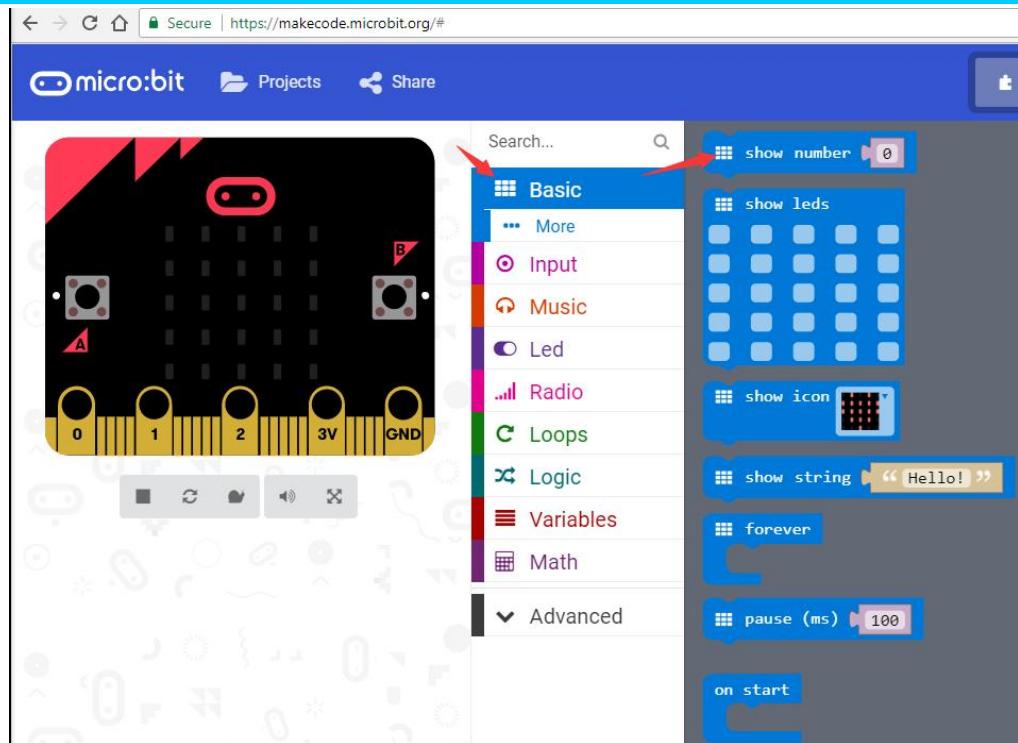
Search for blocks



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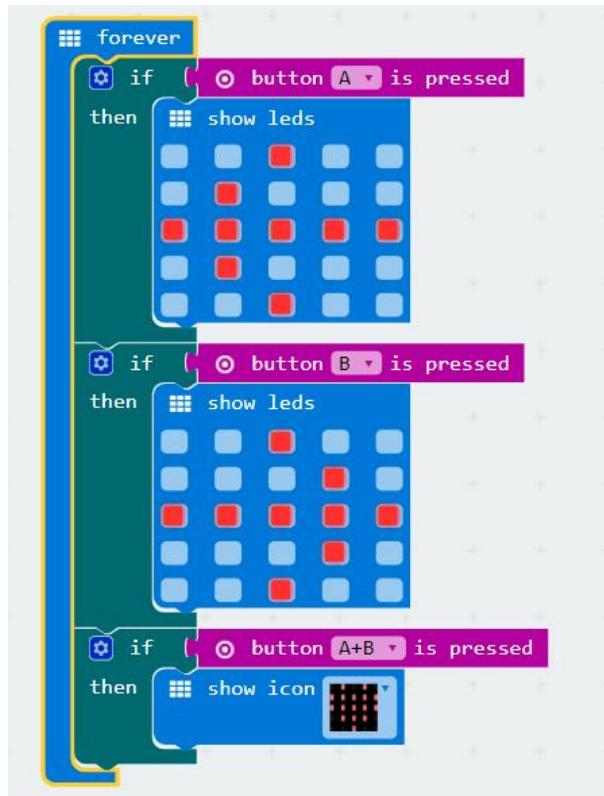


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Combine blocks





Have a try

Do you learn the course today?

If you learn to do it, give yourself a top quack.

Now give you a homework assignment.

On the micro:bit dot matrix, press the A button, the heart starts to beat, press the B button, and the heart stops beating. You can relate the content of this lesson to the first lesson.

Start your little brain. Try it.

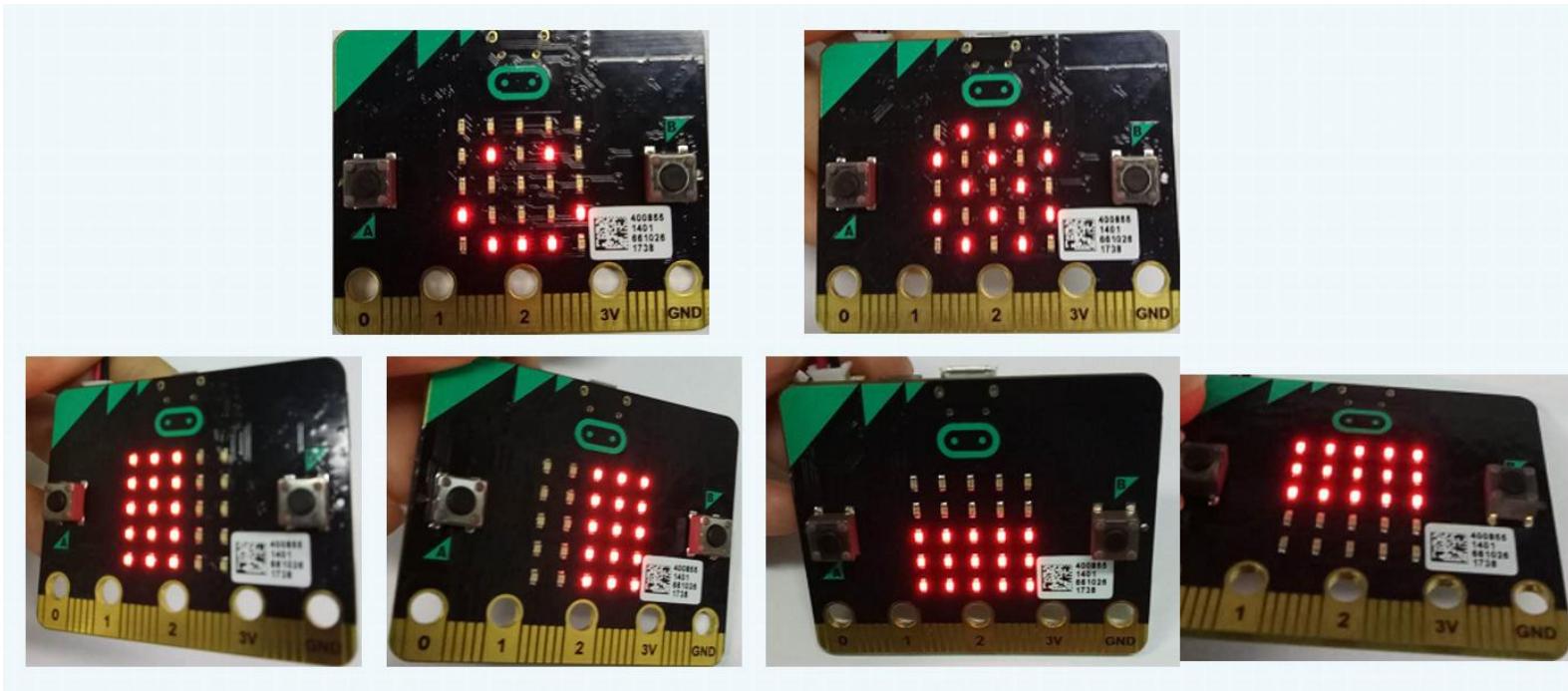
Lesson 3 Flowing sand

Learning goals

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When you download the program, the micro:bit board will show a smile first when it is put up (the dot matrix is facing up).

Shake can show a plate of sand. Tilt to the left and the sand sink to the left, tilt right and to right, tilt down and to the bottom, tilt to up and to above. Look at it, it's not like a flow of sand?





Preparation

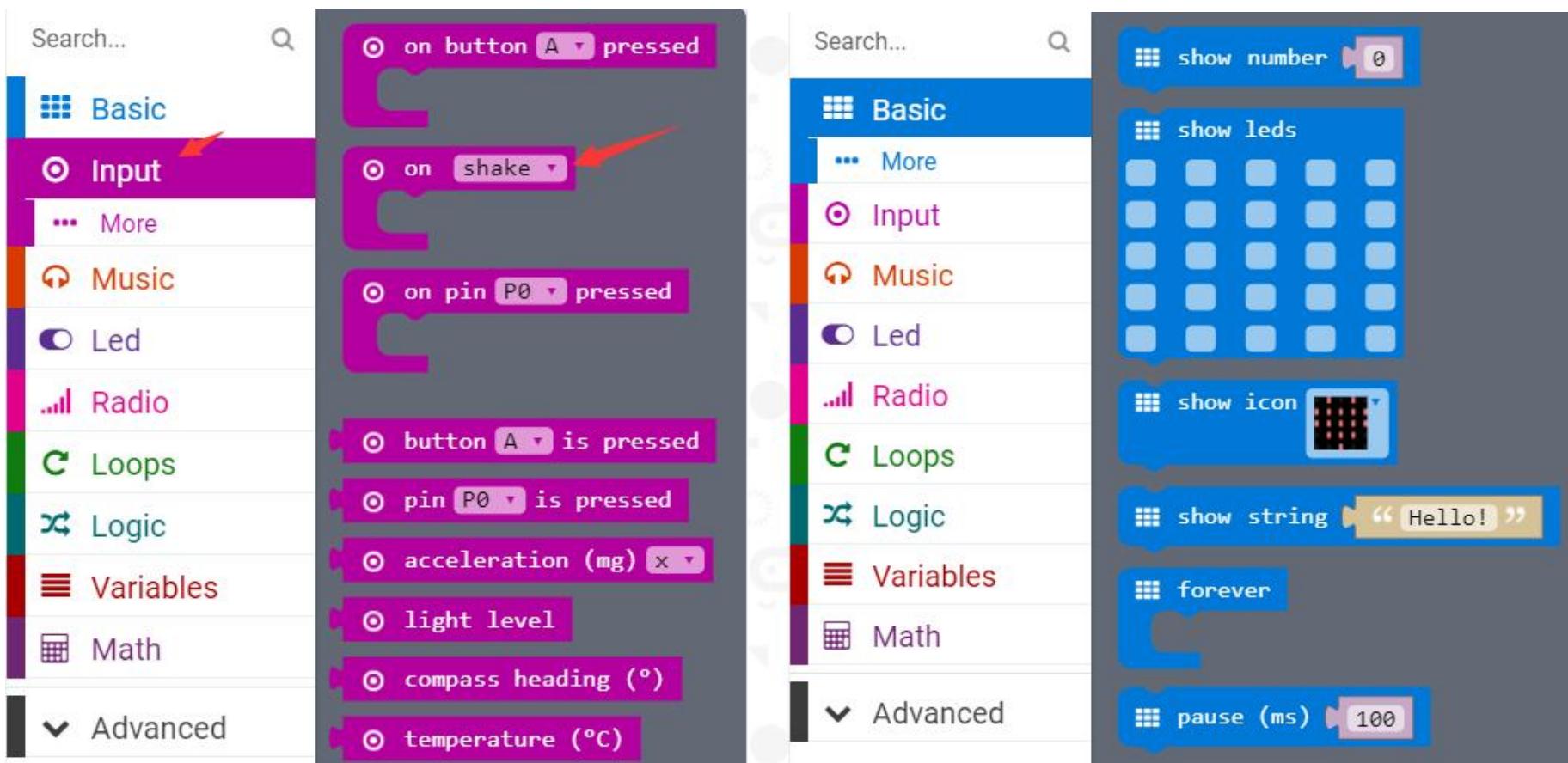
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 2 X AAA batteries

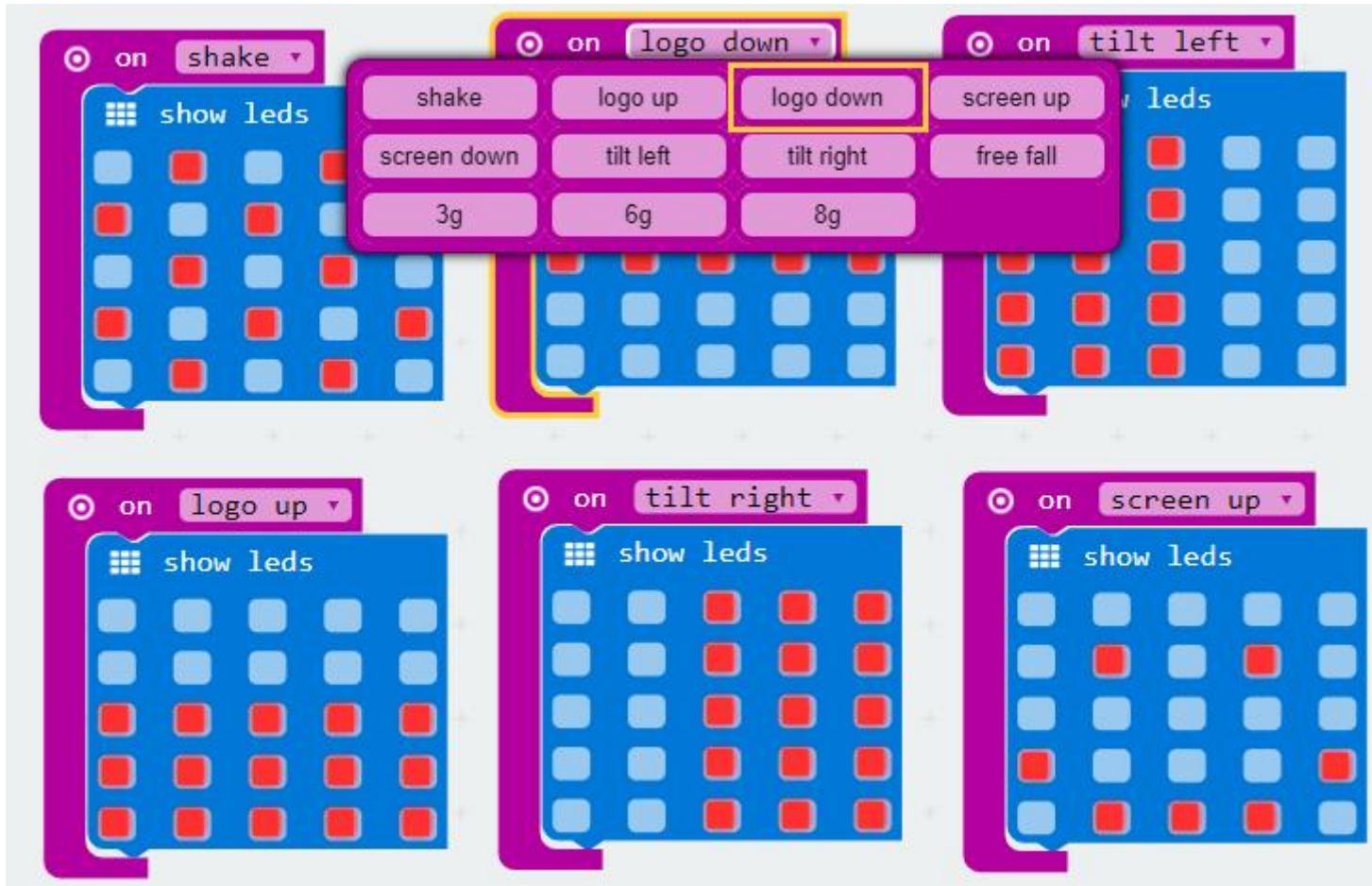
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks

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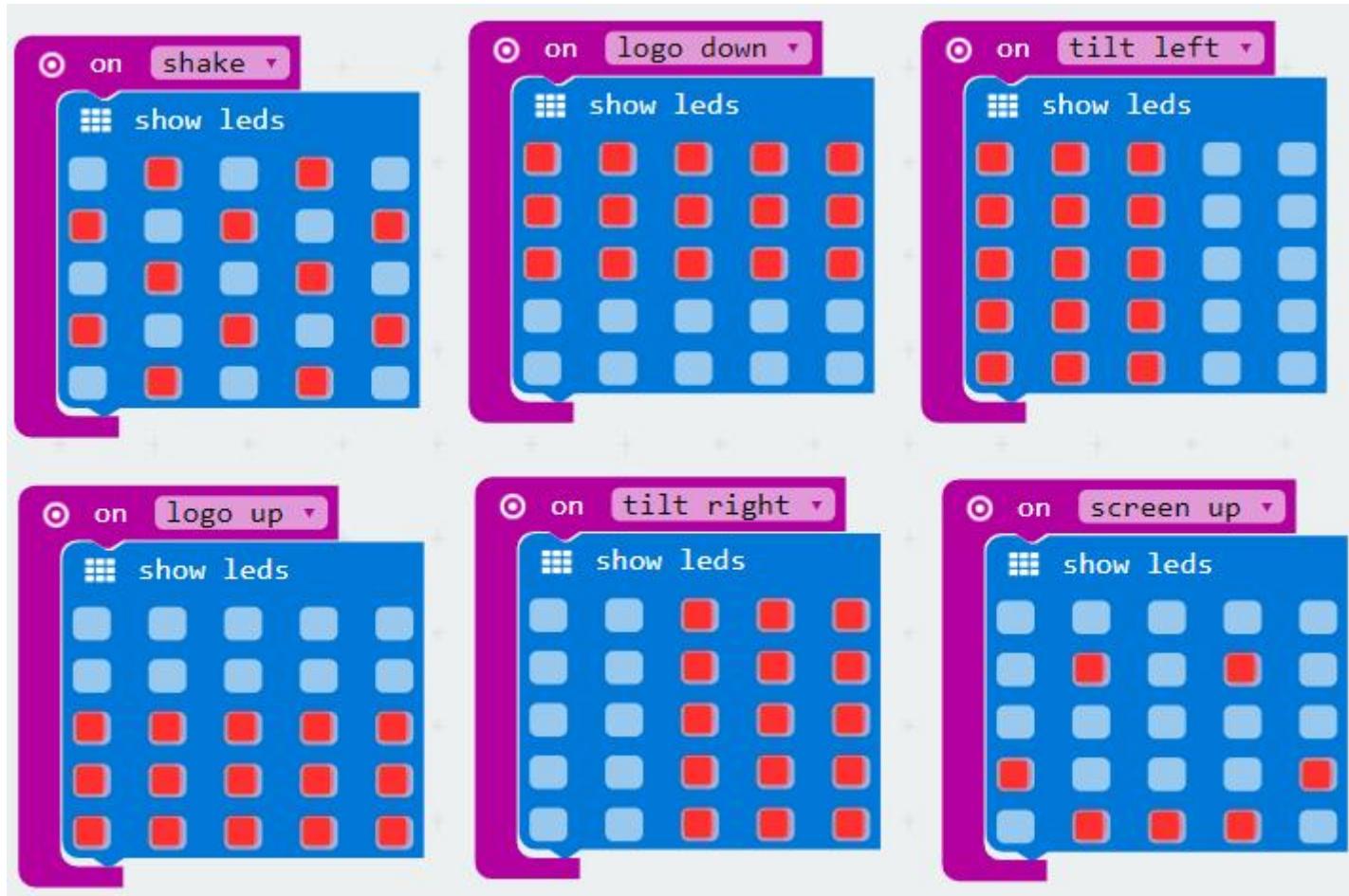


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Combine blocks





Have a try

Do you learn the course today?

If you learn to do it, give yourself a top quack.

Now you have learned how to use the accelerometer in micro:bit.

Do you know how the content of this lesson is actually achieved?

Accelerometer is used to measure the deflection of physical quantities, such as tilt inversion and other azimuth deflection. It can accurately determine the actual actions of users, and send some instructions to micro:bit through these actions he collected. There are many places involved in accelerometer. For example, we can make some small games with accelerometer. For example, dice game, snake game is achieved through micro:bit accelerometer.

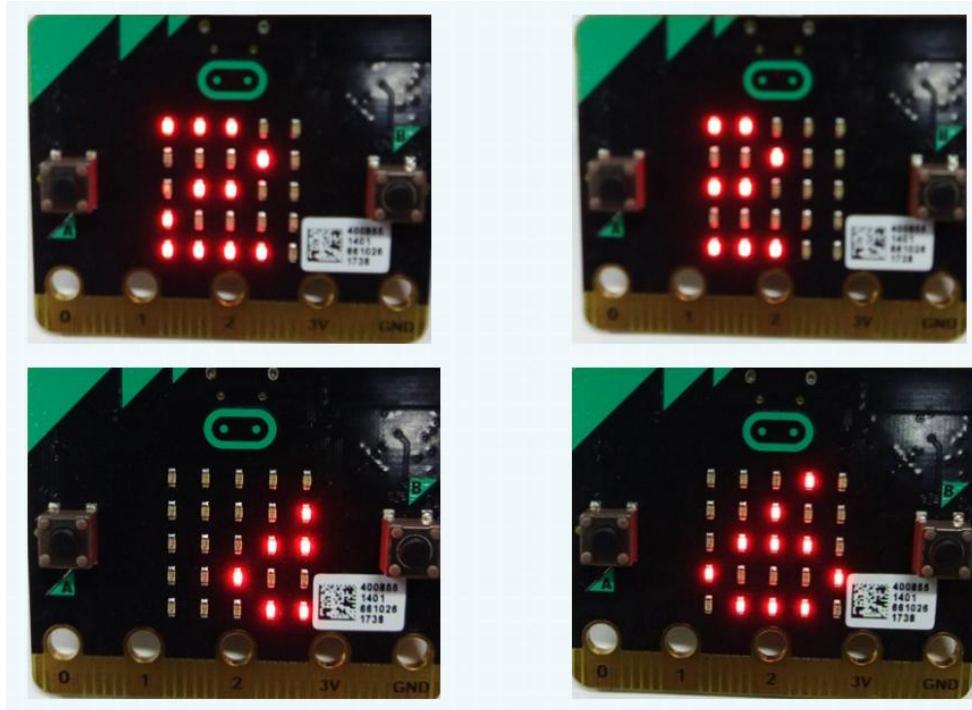
Lesson 4 DIY thermometer

Learning goals

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After you have downloaded the program, you can see the value of the temperature on the micro:bit's dot matrix to the left.

At present, the teacher has measured the temperature of 26 degrees Celsius. The students can try to see how much the temperature is around you.





Preparation

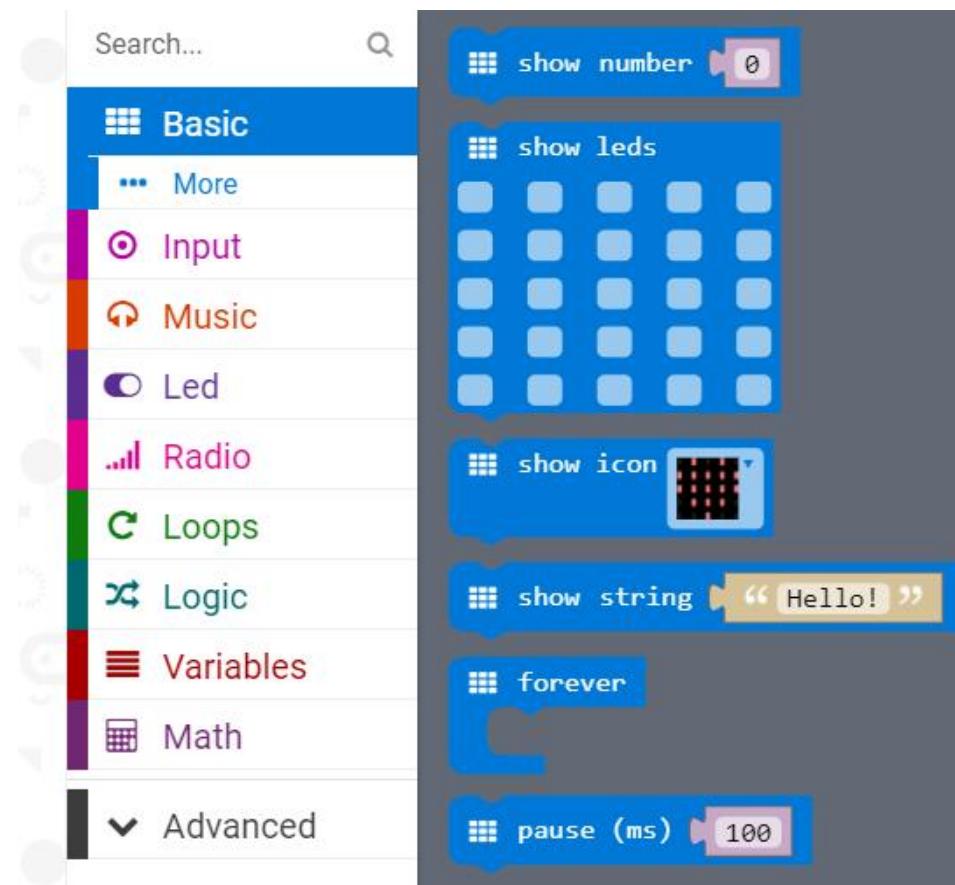
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 2 X AAA batteries

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks

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The image shows a Scratch script editor interface. On the left, there is a sidebar with a search bar at the top. Below the search bar is a list of categories represented by colored squares and text: Basic (blue), Input (purple), Music (orange), Led (dark purple), Radio (pink), Loops (green), Logic (teal), Variables (dark red), Math (dark purple), and Advanced (black). The 'Input' category is currently selected, indicated by a purple background. To the right of the sidebar, a dark gray workspace displays a vertical stack of ten green script blocks. Each block begins with a green hat block followed by a condition block. The conditions are: 'on button A pressed', 'on shake', 'on pin P0 pressed', 'button A is pressed', 'pin P0 is pressed', 'acceleration (mg) x', 'light level', 'compass heading (°)', and 'temperature (°C)'. Each condition block has a dropdown menu next to it.

- Search...
- Basic
- Input
- More
- Music
- Led
- Radio
- Loops
- Logic
- Variables
- Math
- Advanced

- on button A pressed
- on shake
- on pin P0 pressed
- button A is pressed
- pin P0 is pressed
- acceleration (mg) x
- light level
- compass heading (°)
- temperature (°C)

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Combine blocks



Have a try

Do you learn the course today?

If you learn to do it, give yourself a top quack.

Now you have learned how to use the thermometer in micro:bit.

But do you know what the temperature means?

Temperature is the physical quantity that represents the degree of cold and heat of a body. Microscopically speaking, it is the intensity of the thermal movement of an object molecule. In this experiment, we measured the Celsius temperature. The

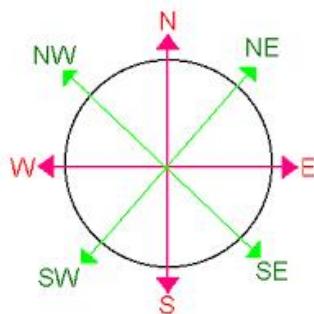
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inventor was Anders Celsius, the freezing point was 0 degrees, and the boiling point was 99.974 degrees. So what are your temperature now, children?

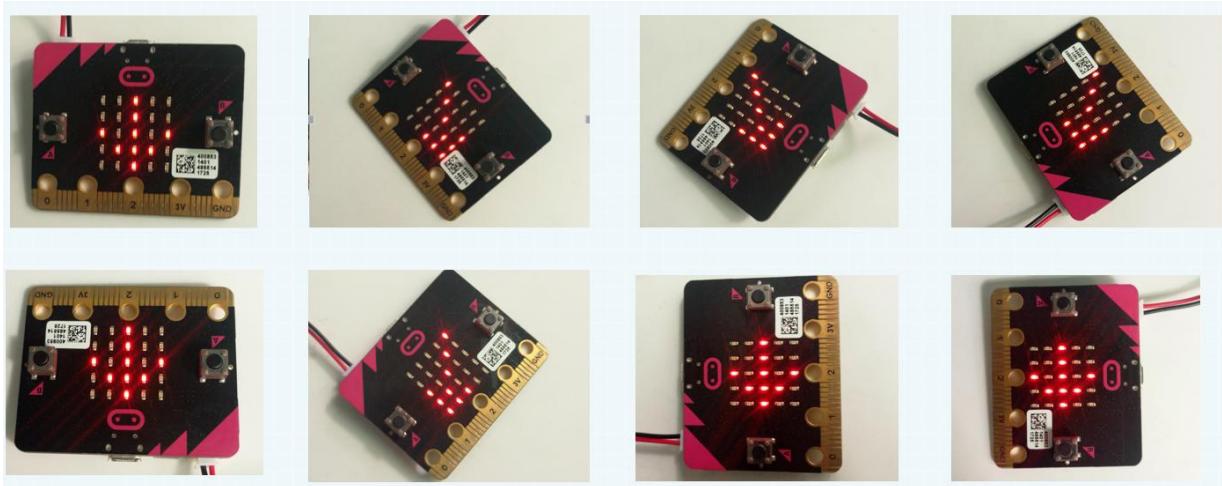
Lesson 5 Direction follower

Learning goals

After downloading the program, the bit development board can be swung to the east, west, south, north, northeast, northwest, southeast, southwest eight different directions. You can see that no matter which direction the micro:bit swings, the pointer on the dot will point to this direction.



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Preparation

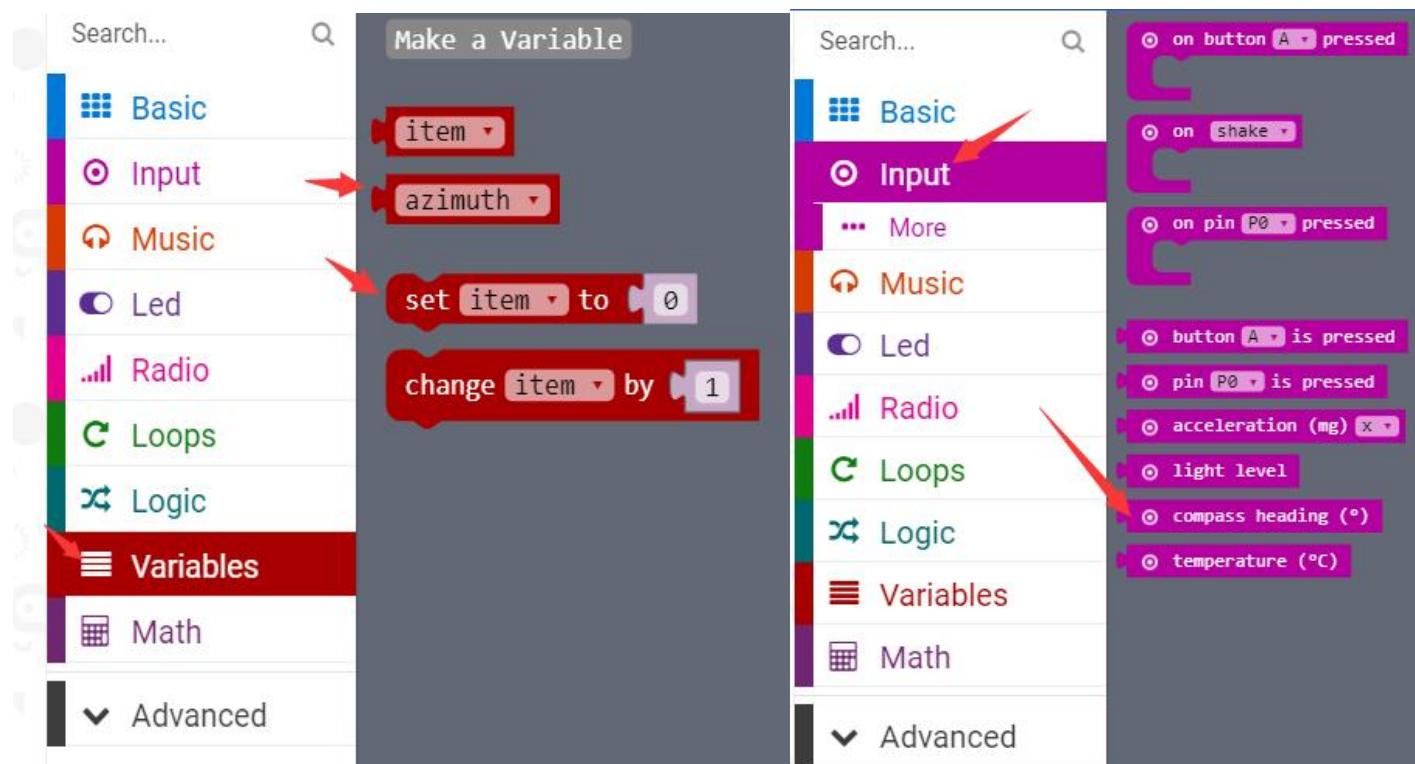
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 2 X AAA batteries

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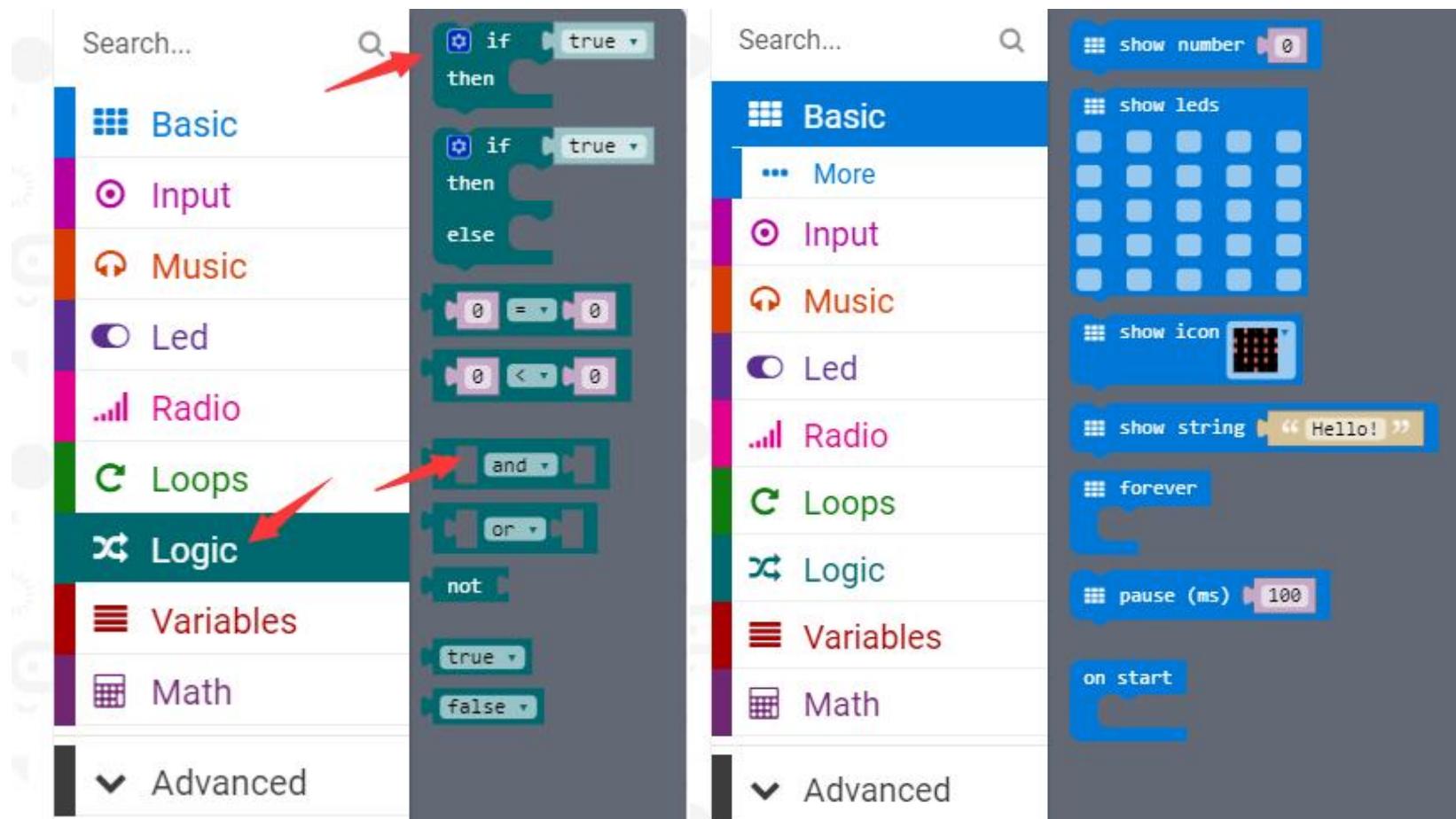
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks

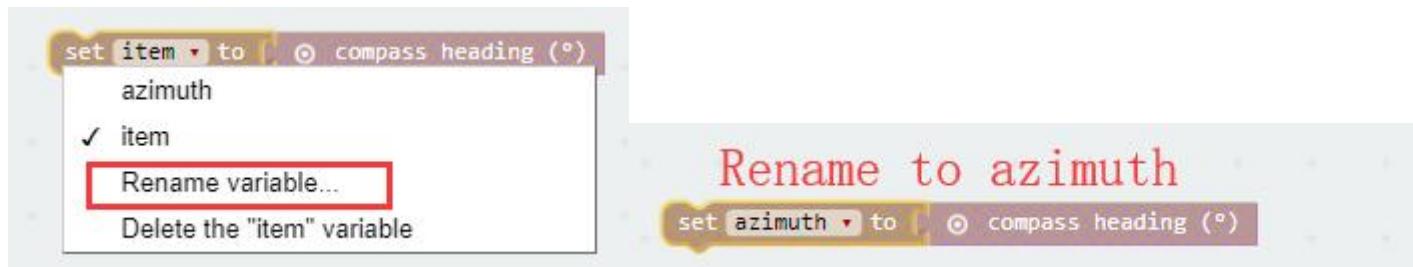


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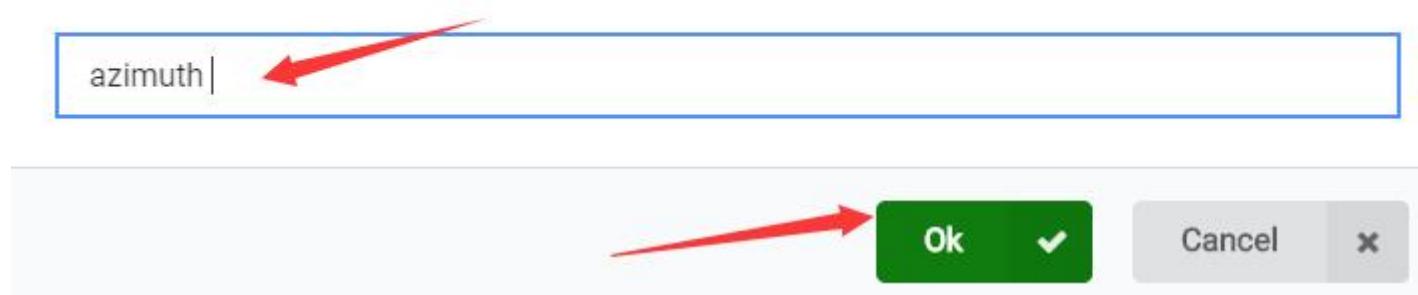
compass heading "the direction of the compass", In micro:bit, we use the degree to indicate its direction by default.



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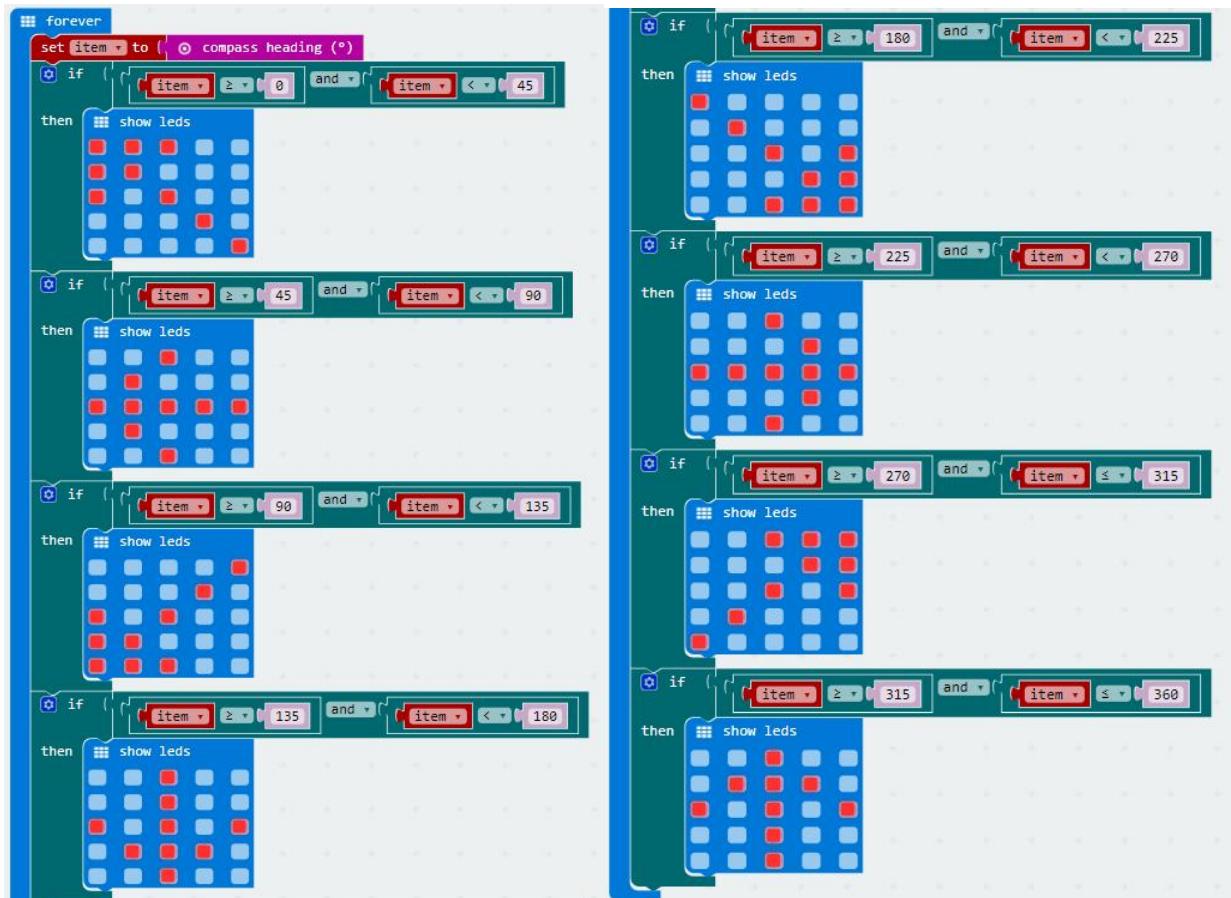


Rename all 'item' variables to:



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Combine blocks





Note: After downloading the program, we need to calibrate the compass for normal use.

The calibration method is:

We need to bias the micro:bit in different directions, illuminate all the LED lights on the LED dot matrix, and a smile appears, indicating that the calibration is successful. We can use the micro:bit compass normally.

Have a try

Do you learn the course today?

If you learn to do it, give yourself a top quack.

Now give you a homework assignment.

Today, our content is a simple compass, the compass is one of the four great inventions of ancient China. Let's go and find out what the other three of the four great inventions of ancient China are.

Start your little brain. Try it.

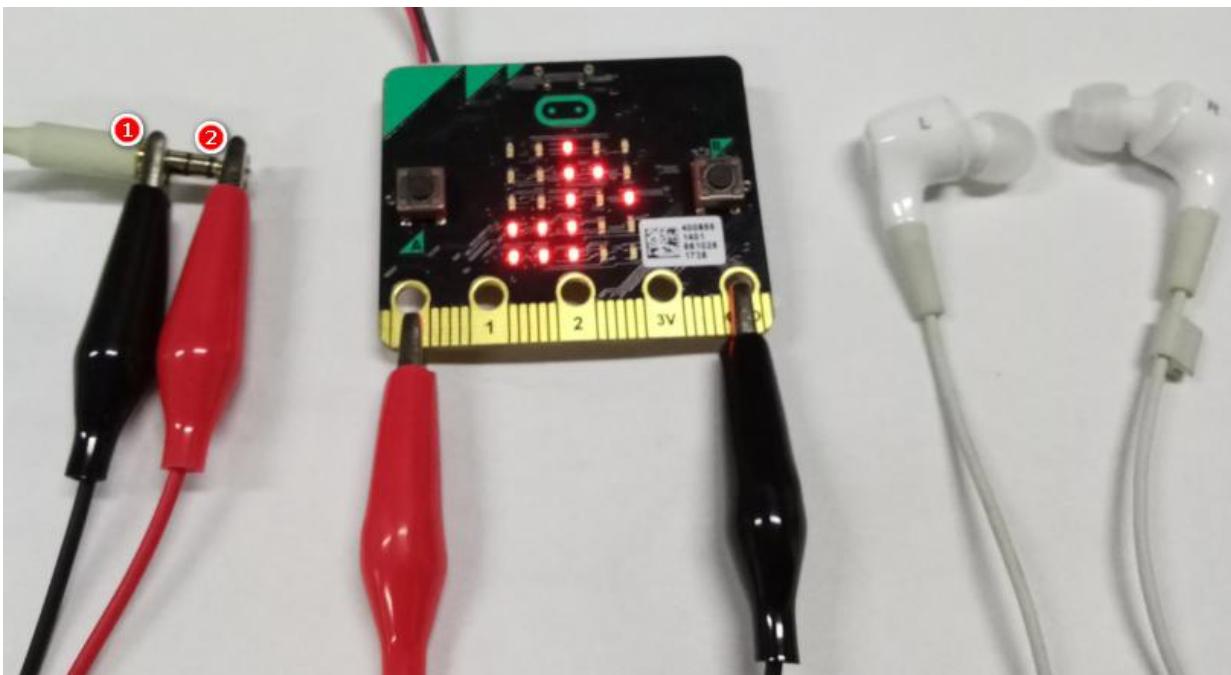


Lesson 6 Listen to music

Learning goals

You need two crocodile clips and a pair of headphones for this experiment. First, the black crocodile clip is used to clamp the GND of micro:bit, and the black crocodile clip on the other side clamps the interface of the earphone. Then use the red crocodile clip to clamp P0, and the other end clamps the interface of the earphone 2. After downloading the program, you can play music from the earphone.

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| PIN | Description |
|-----|---------------------|
| 1 | Ground |
| 2 | Microphone |
| 3 | Right Side Earpiece |
| 4 | Left Side Earpiece |

A diagram of a 4-pin cable. It shows a white connector with four pins labeled 4, 3, 2, and 1 from left to right. Pin 4 is a female connector, while pins 3, 2, and 1 are male pins.

Preparation

Hardware:

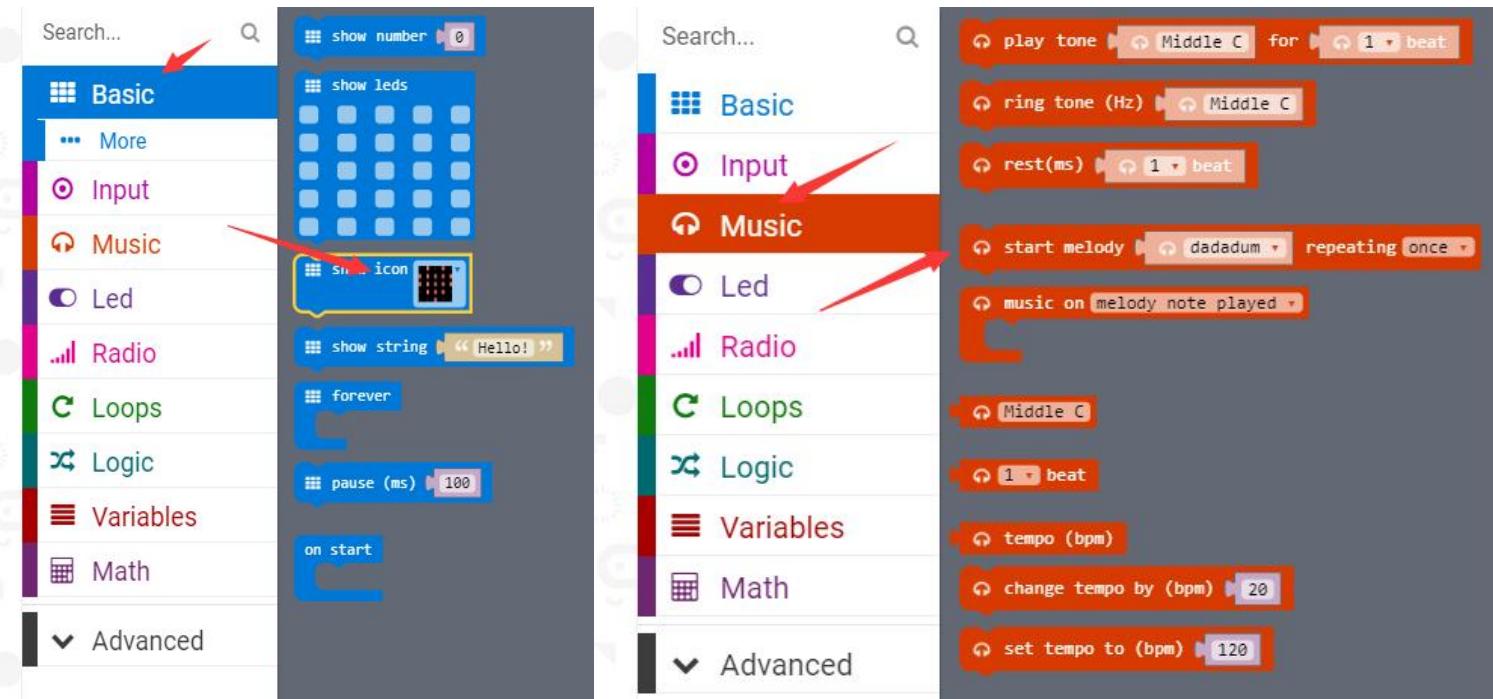
- 1 X Micro: bit Board
- 1 X Micro USB Cable

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- 2 X AAA batteries

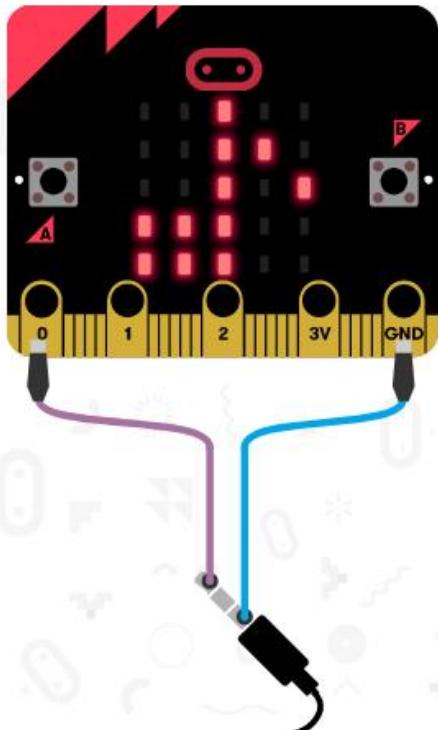
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks



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Combine blocks



A screenshot of the Scratch programming environment. On the left, a vertical palette lists categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Advanced. The 'Basic' category is currently selected. On the right, a script is displayed on a light gray grid background:

```
on start
  [show icon v]
  [start melody v dadadum v repeating once v]
  [show icon v]
```

The script starts with an 'on start' hat block. Inside the loop, there are three blocks: 'show icon' with a 4x4 grid icon, 'start melody' with parameters 'dadadum' and 'repeating once', and another 'show icon' block with a smaller 2x2 grid icon.

Have a try

Do you learn the course today?



If you learn to do it, give yourself a top quack.

Now give you a homework assignment.

On the basis of the playing music we just realized, plus the function of the key, we play the song after pressing the key, and the name of the song is displayed on the dot matrix.

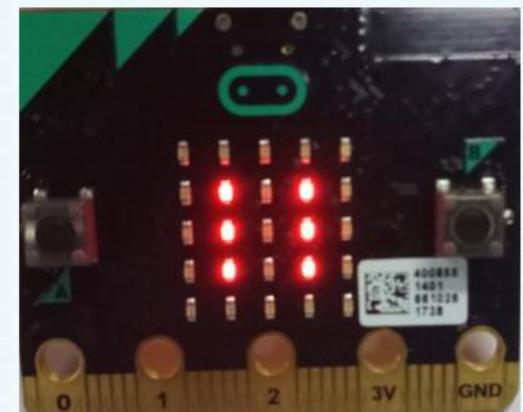
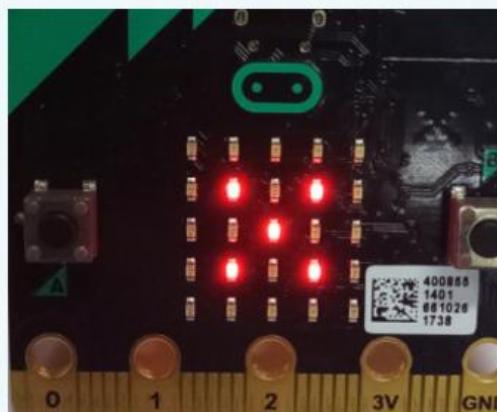
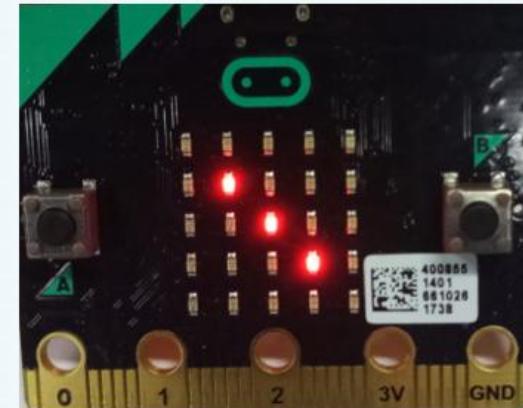
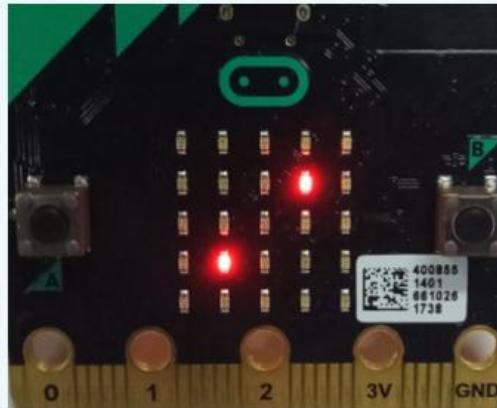
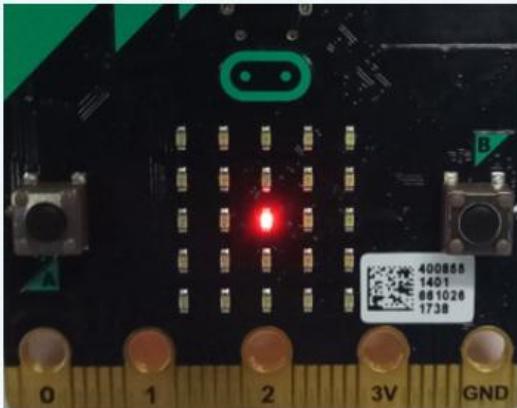
Start your little brain. Try it.

Lesson 7 Dice game

Learning goals

After downloading the program, shake a roll of micro:bit. There are 1-6 points randomly appearing on the dot matrix, which is exactly the same as playing the dice. You can call your buddy to play this game, see who points out relatively large.

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Preparation

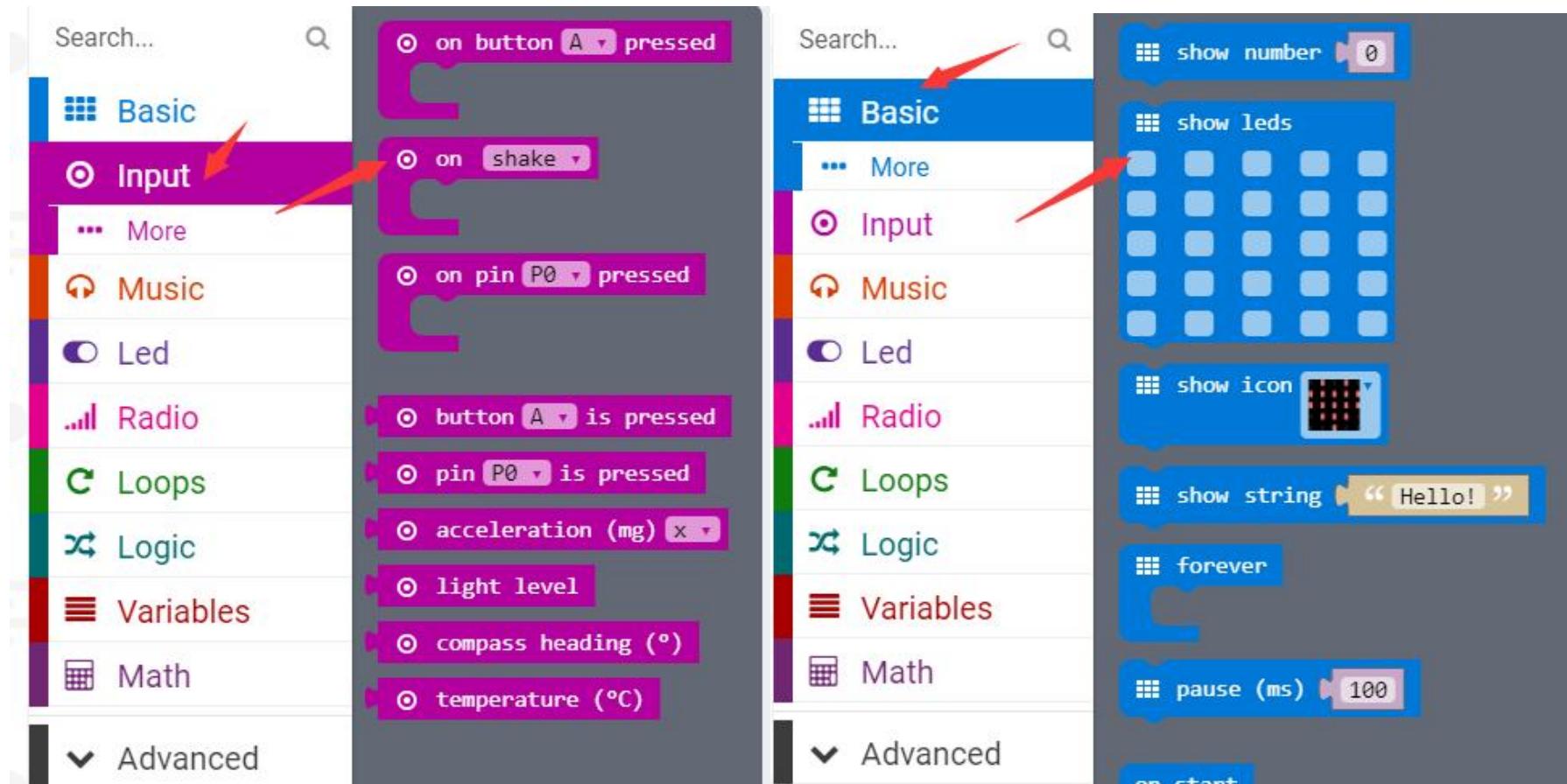
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 2 X AAA batteries

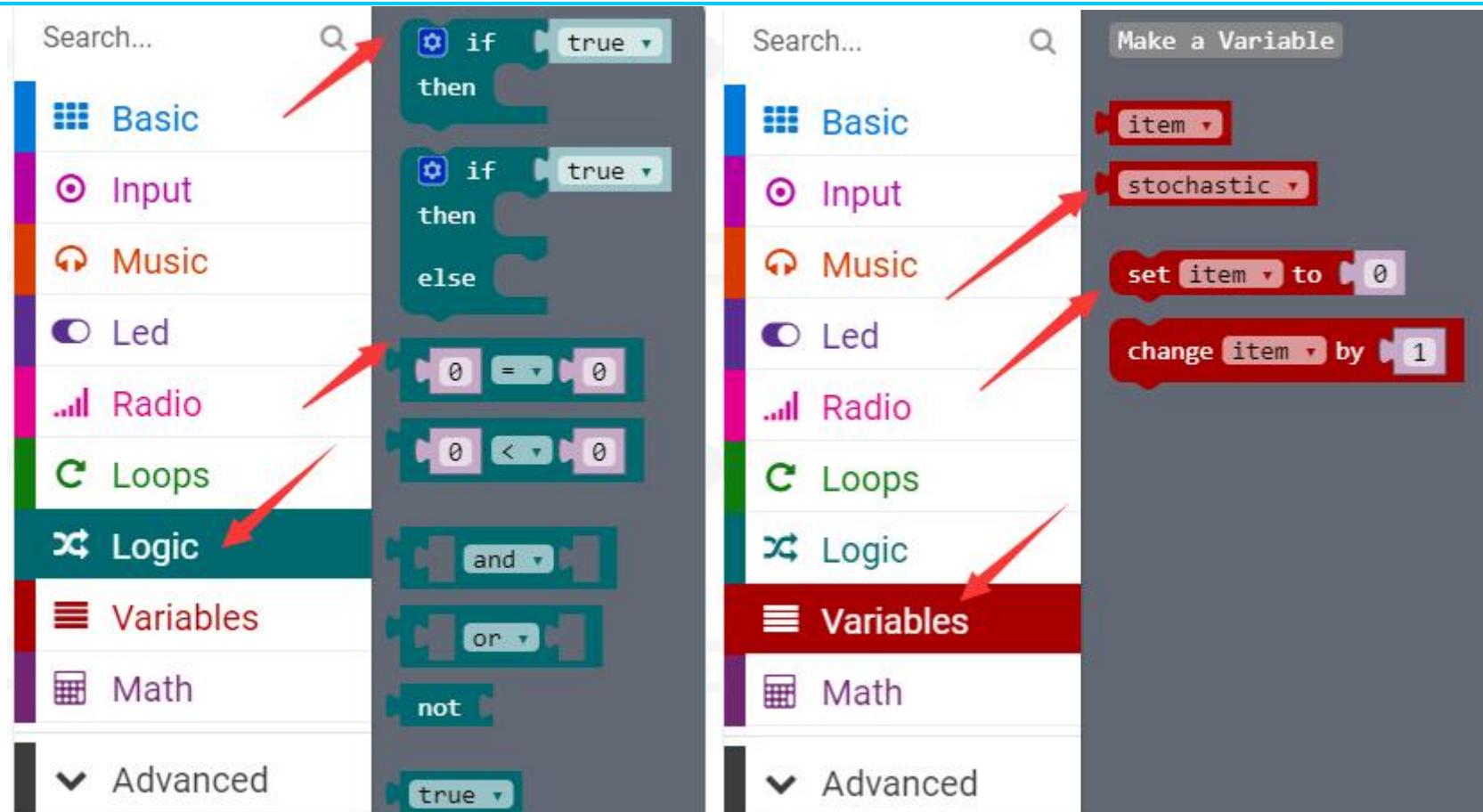
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks

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The image shows a Scratch script editor interface. On the left, there is a sidebar with a search bar at the top and a list of categories below it. Red arrows point from the category names 'Loops' and 'Math' to their respective sections in the main workspace. The main workspace contains several Scratch blocks:

- Basic: `0 + 0`, `0 - 0`, `0 × 0`, `0 ÷ 0`
- Input: `[0 v]`
- Music: `pick random 0 to 4`
- Led: `pick random true or false`

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Rename all 'item' variables to:

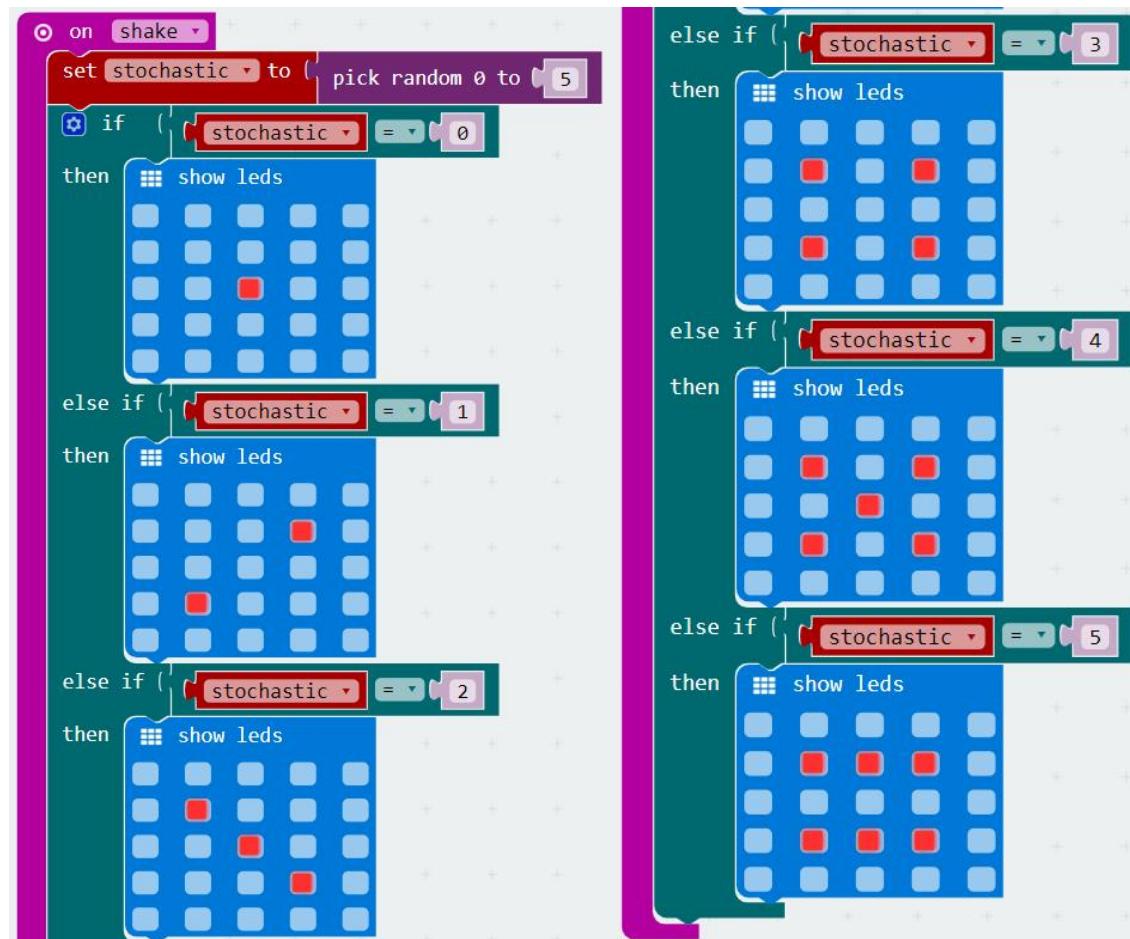
stochastic

Ok ✓

Cancel ✕

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Combine blocks





Have a try

Do you learn the course today?

If you learn to do it, give yourself a top quack.

Now give you a homework assignment.

On micro:bit, we can play a melody when we shake it.

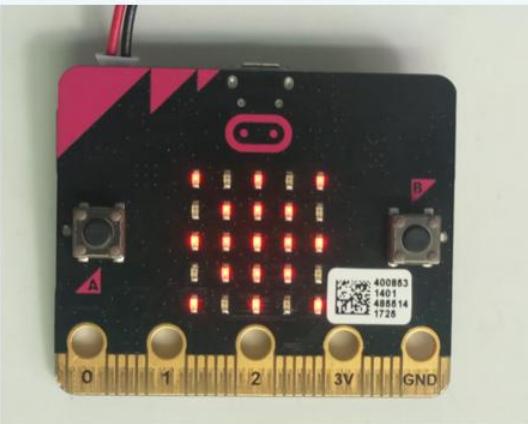
Start your little brain. Try it.

Lesson 8 Good morning, good night

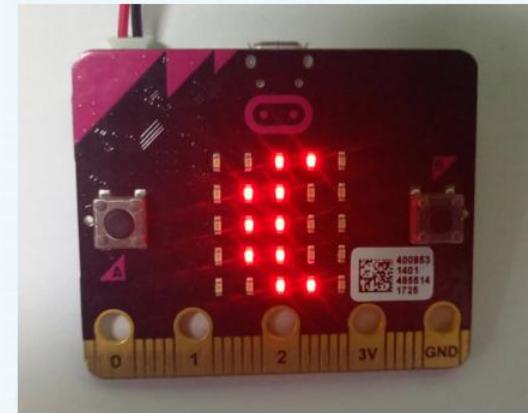
Learning goals

After downloading the program, When the micro:bit development board is in the brighter environment, a pattern of the sun will be displayed on the dot matrix, which means to say "good morning" to everyone. similarly, when in a dark environment, the moon pattern will be displayed on the dot matrix, which means to say "good night" to everyone.

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Sunlight
(Good morning)



Moon
(Good evening)

Preparation

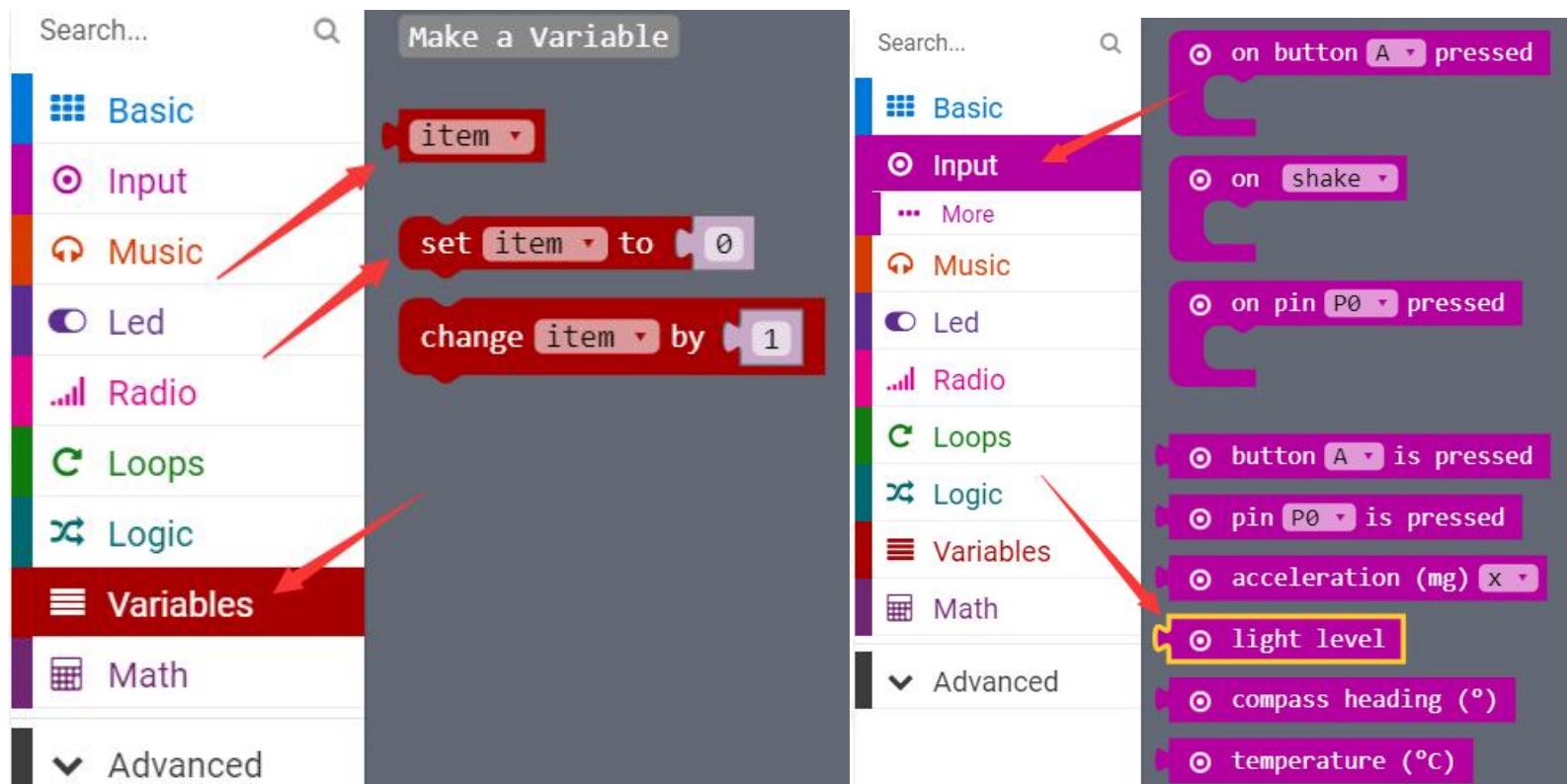
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 2 X AAA batteries

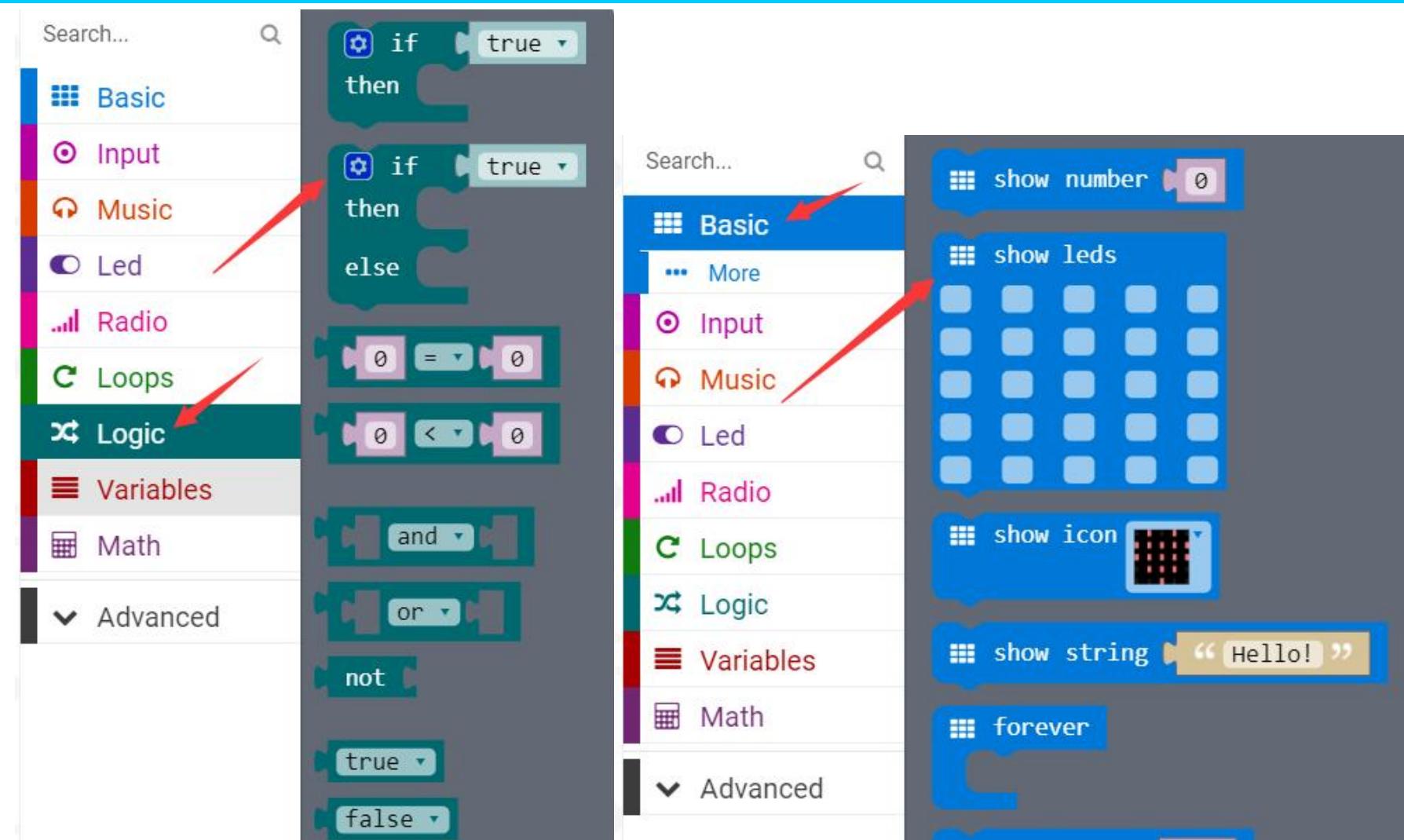
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Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks

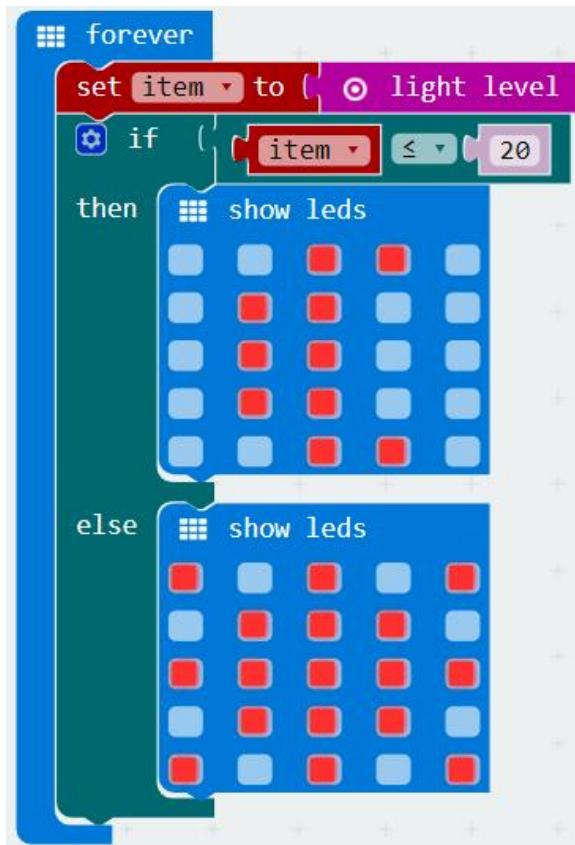


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Combine blocks





20 here is an intermediate value set freely, The meaning of building blocks is that: If the current light intensity is less than 20, the moon will appear on the dot matrix. If greater than 20, the sun will appear.

Median value: Put all the numbers in numerical order. If there is an odd number of results, the median is the middle number.

If there is an even number of results, the median will be the mean of the two central numbers.

(in this course, you can set the middle value on your own).

Have a try

Do you learn the course today?

If you learn to do it, give yourself a top quack.

Now give you a homework assignment.

The value of the current luminance is displayed on the micro:bit dot matrix.

Children can use the mobile phone lights or turn off the lights at home to change the current brightness.

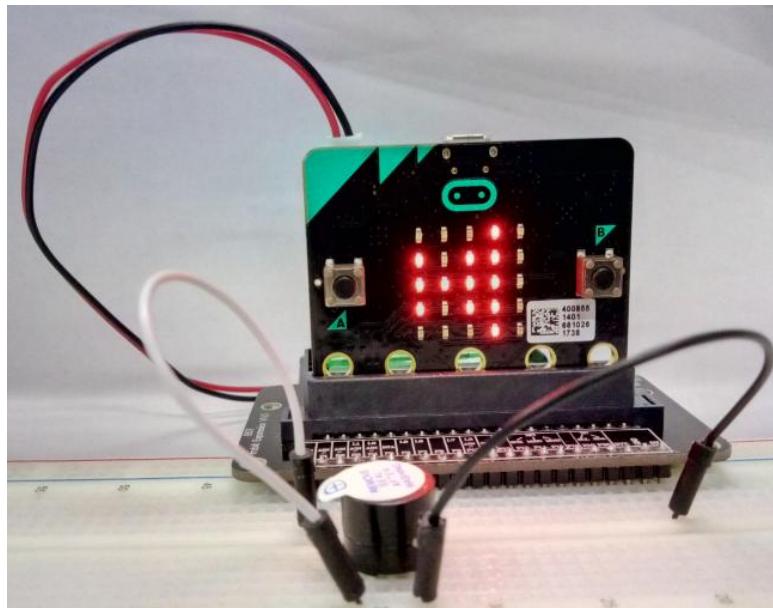
Start your little brain. Try it.

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Lesson 9 Small speaker

Learning goals

After you download the program, press the A button, you can hear the buzzer's "tick", and there will be a small horn flashing on the screen.





Preparation

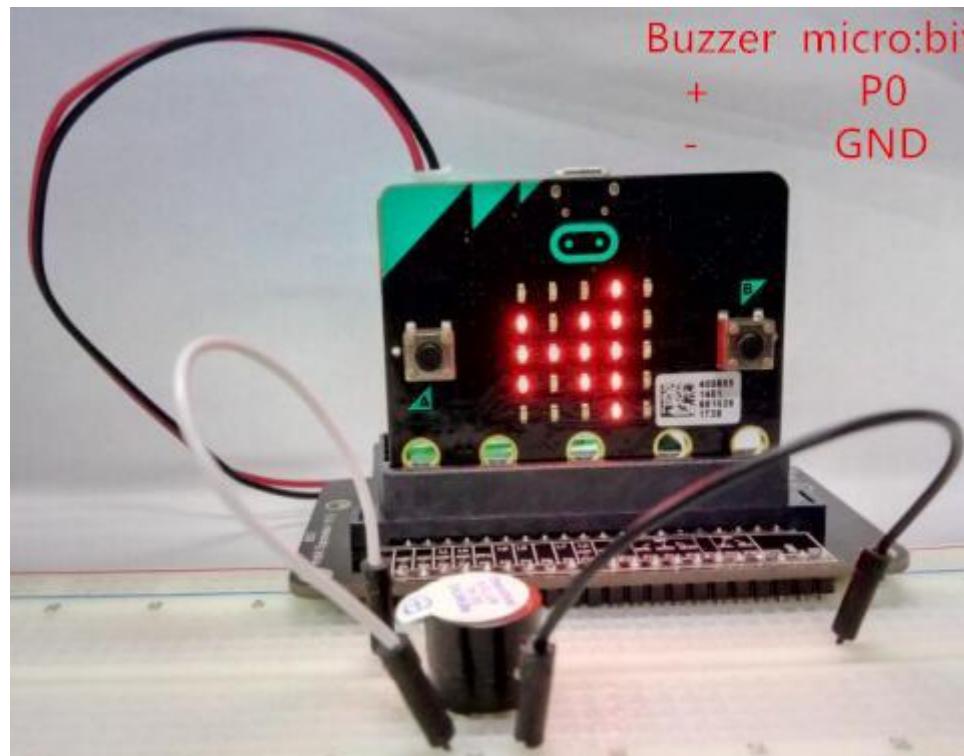
Hardware:

- 1 X Micro: bit Board
- 1 X Micro:bit breakout
- 2 X Male to male cable
- 1 X Micro USB Cable
- 1 X Active buzzer
- 1 X PC

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

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Connection



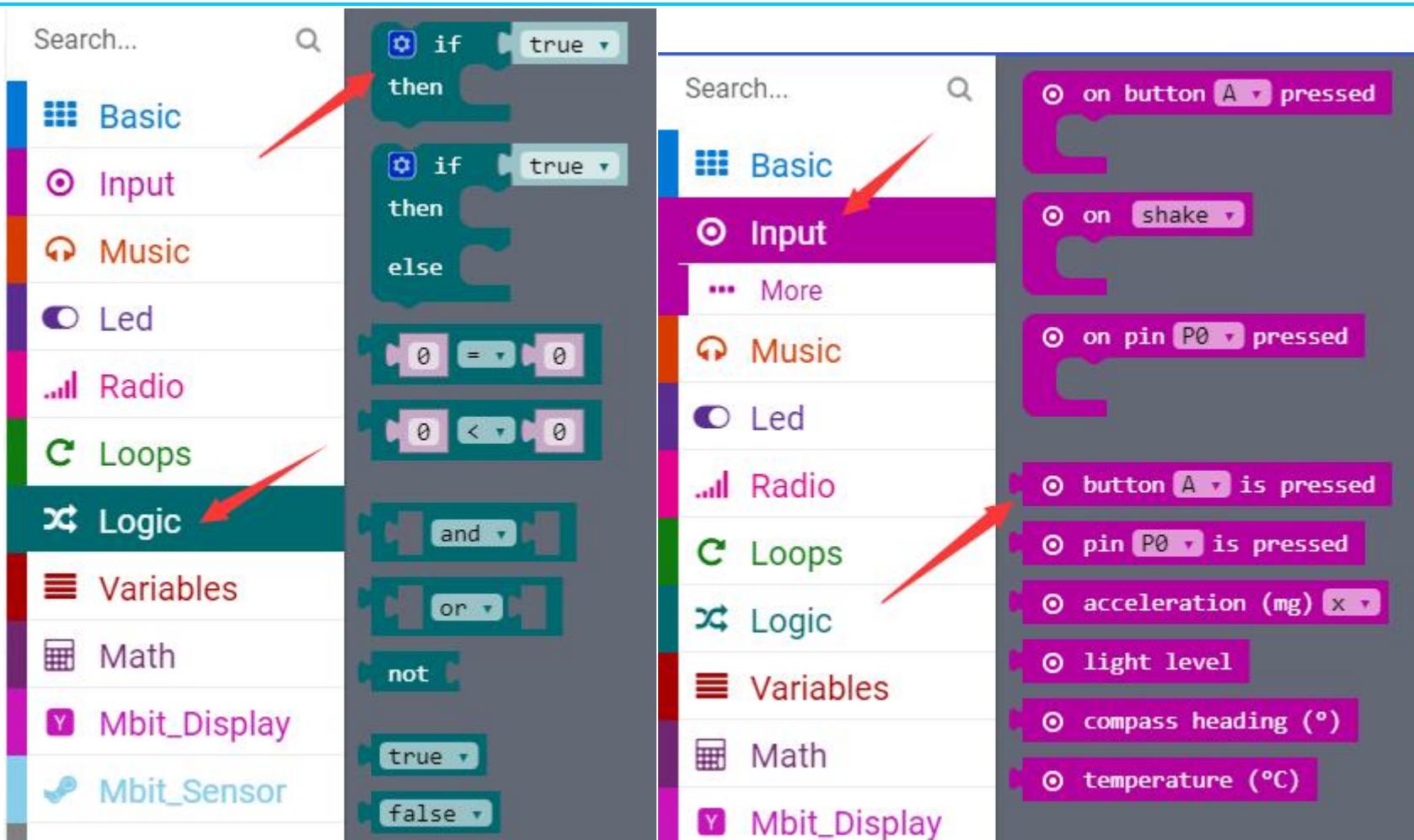


The children need to move their own small fingers, connecting the P0 pins on the micro:bit extension board to the positive pole of the buzzer with DuPont line, connecting the GND pins on the micro:bit extension board to the negative pole of the buzzer.

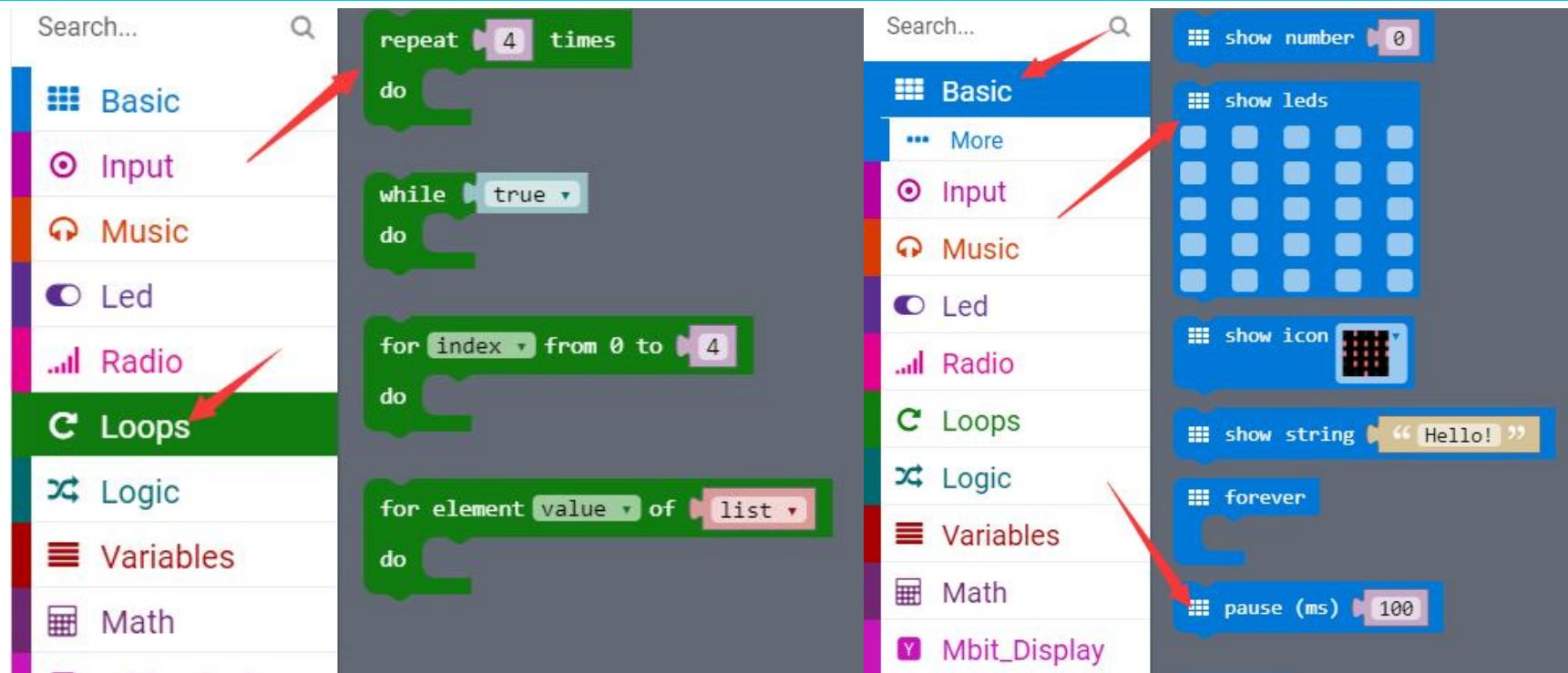
Our buzzer is on top of the breadboard. The long pin of the buzzer is the positive pole, the short pin is the negative pole, and the "+" corresponds to the positive pole on the label paper.

Search for blocks

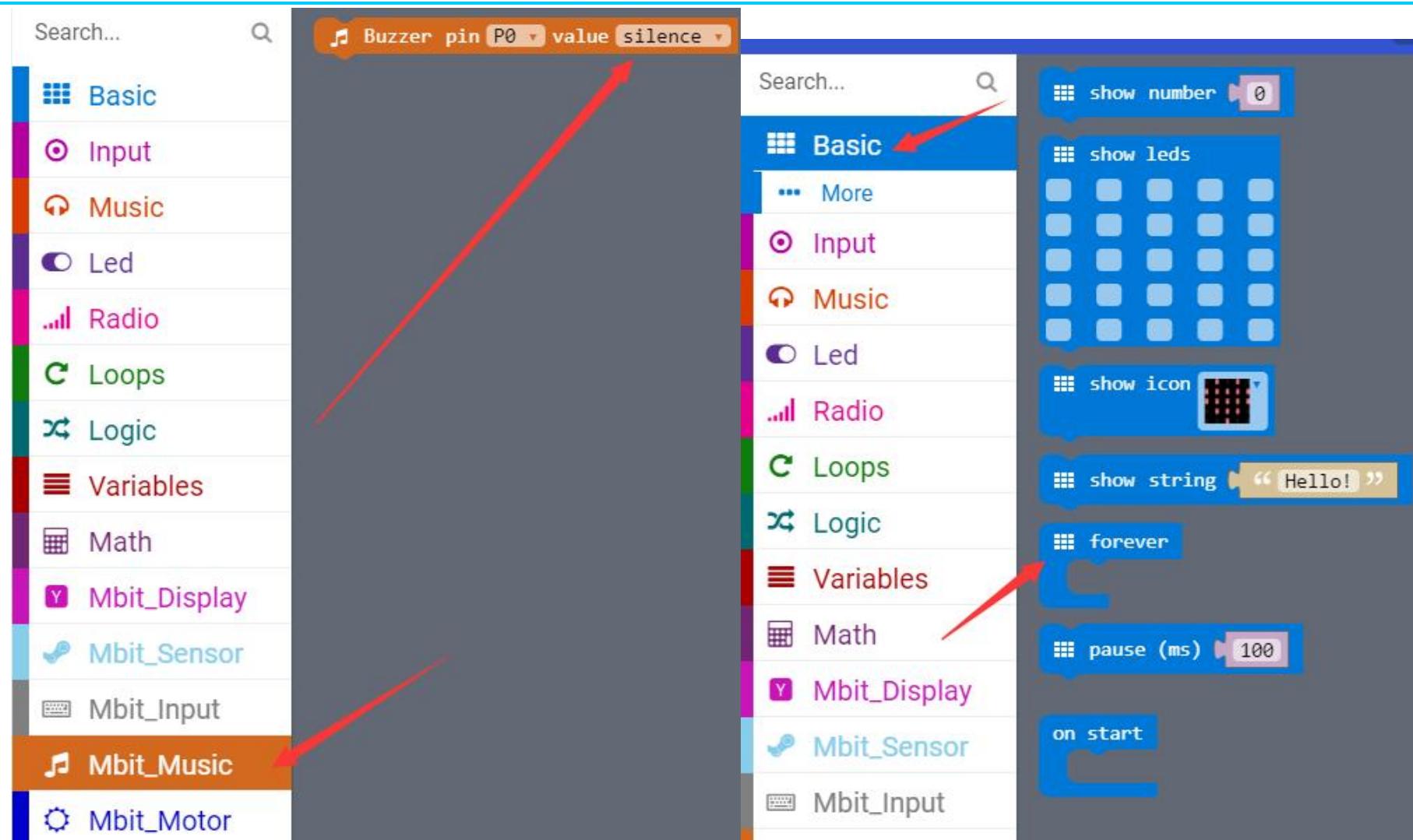
LROBRUYA



LROBRUYA

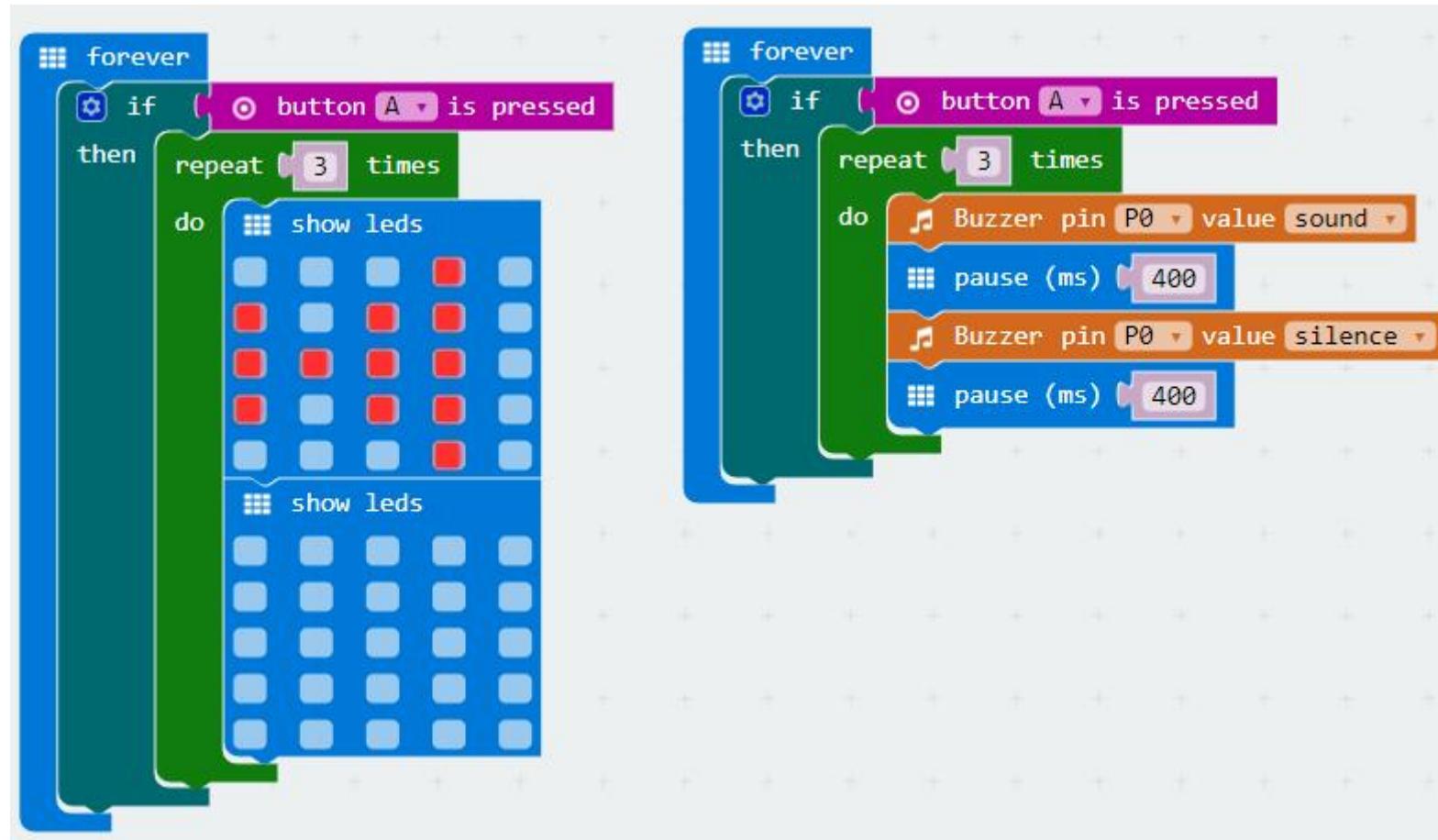


LROBRUYA



LROBRUYA

Combine blocks

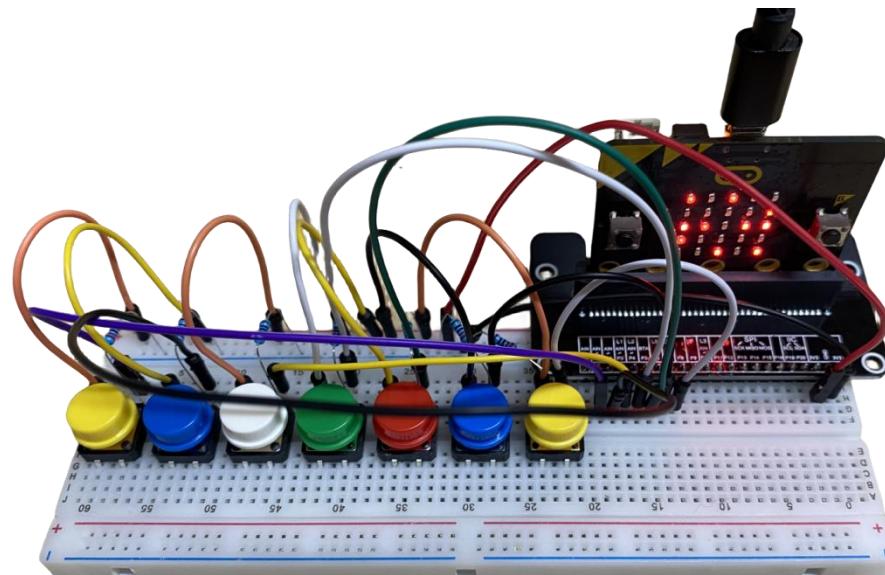


LROBRYA

Lesson 10 Electronic organ

Learning goals

Through this lesson, you can create an electronic keyboard and use different buttons to control the production of different sounds.





Preparation

Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 7 X Button

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Combine blocks

LROBRUYA

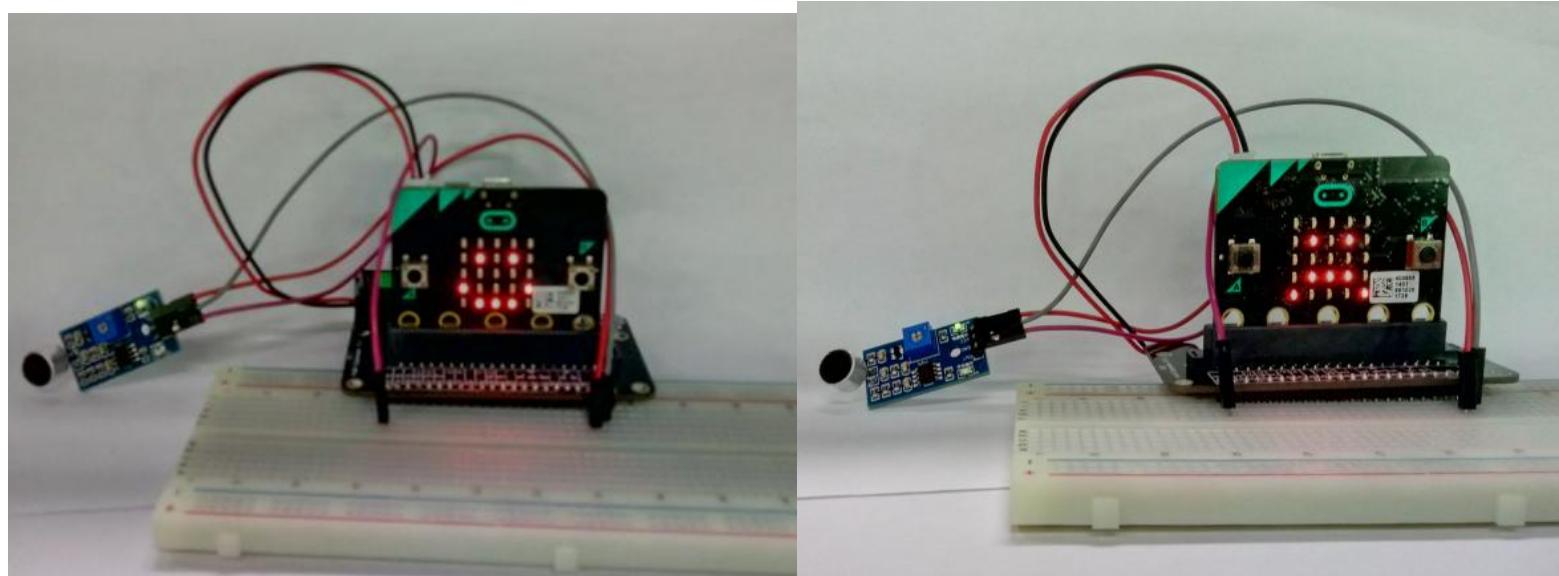


LROBRUYA

Lesson 11 A coward

Learning goals

Hello, I'm micro:bit. I'm a coward. I'm always smiling like the first picture. If you talk to me loudly, I'll be scared into second pictures. Do you want to make a coward with micro:bit? Follow me.





Preparation

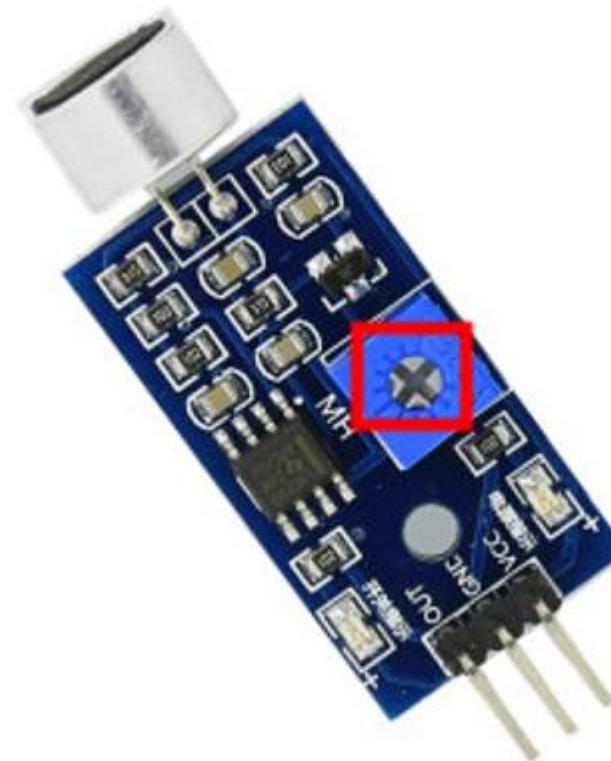
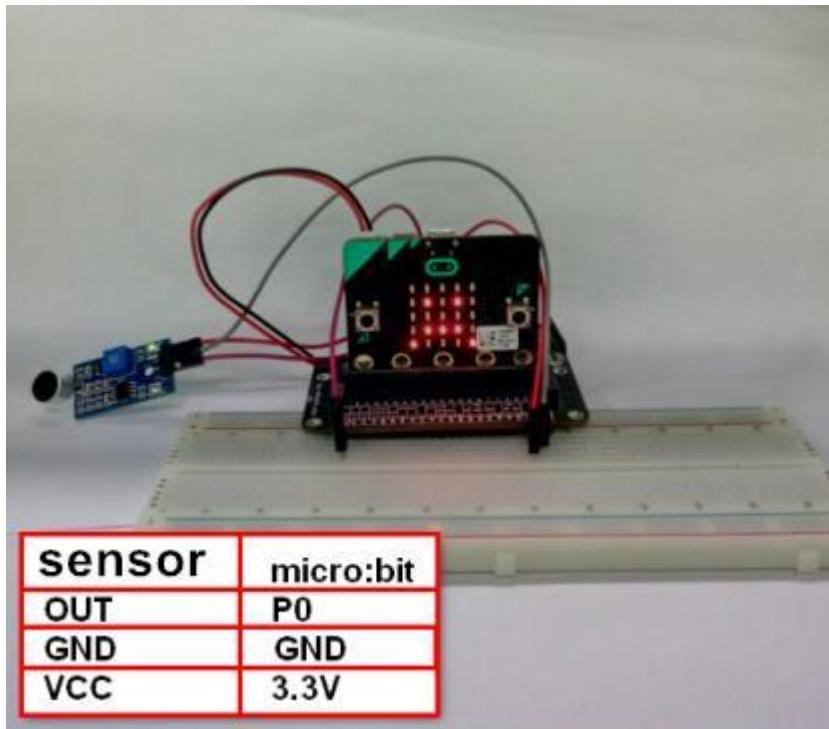
Hardware:

- 1 X Micro: bit Board
- 1 X Micro:bit breakout
- 1 X 830 holes breadboard
- 1 X Micro USB Cable
- 3 X Female to male cable
- 1 X Sound sensor

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

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Connection

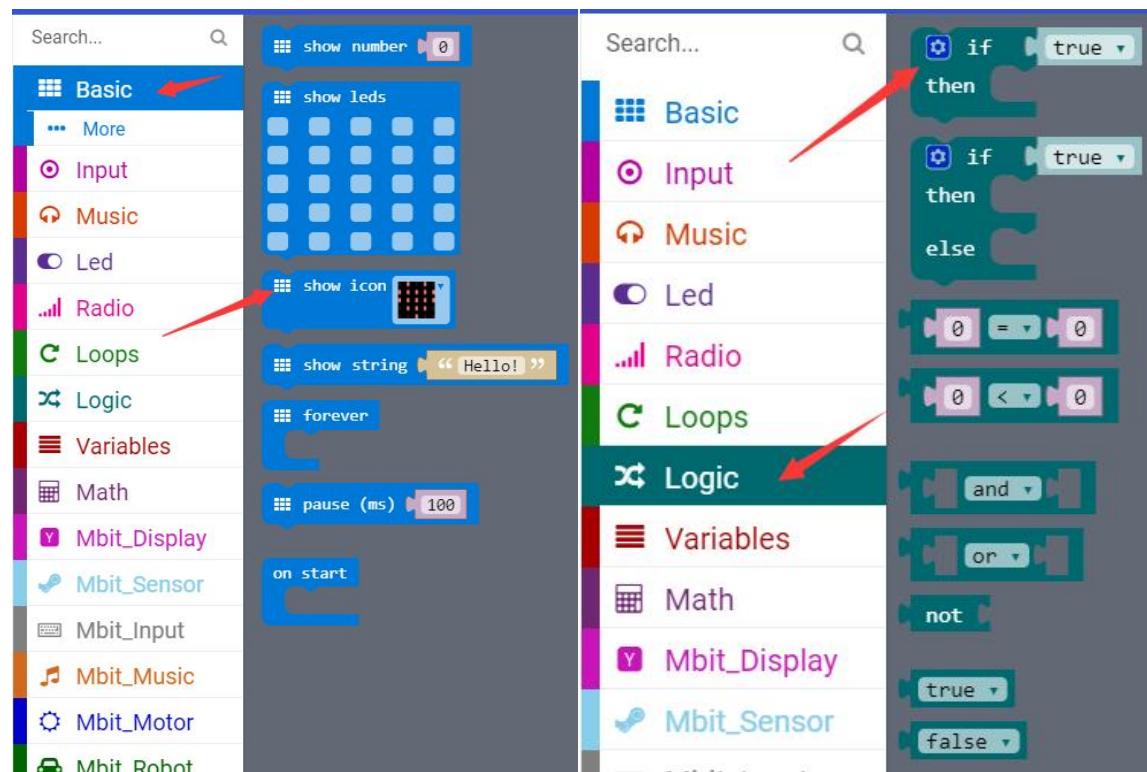


You can connect the cable according to the connection table above. A sound sensor needs to be debugged before use, and a screwdriver is needed to adjust the sensitivity of the sound sensor (a ring of small circles around). The lattice

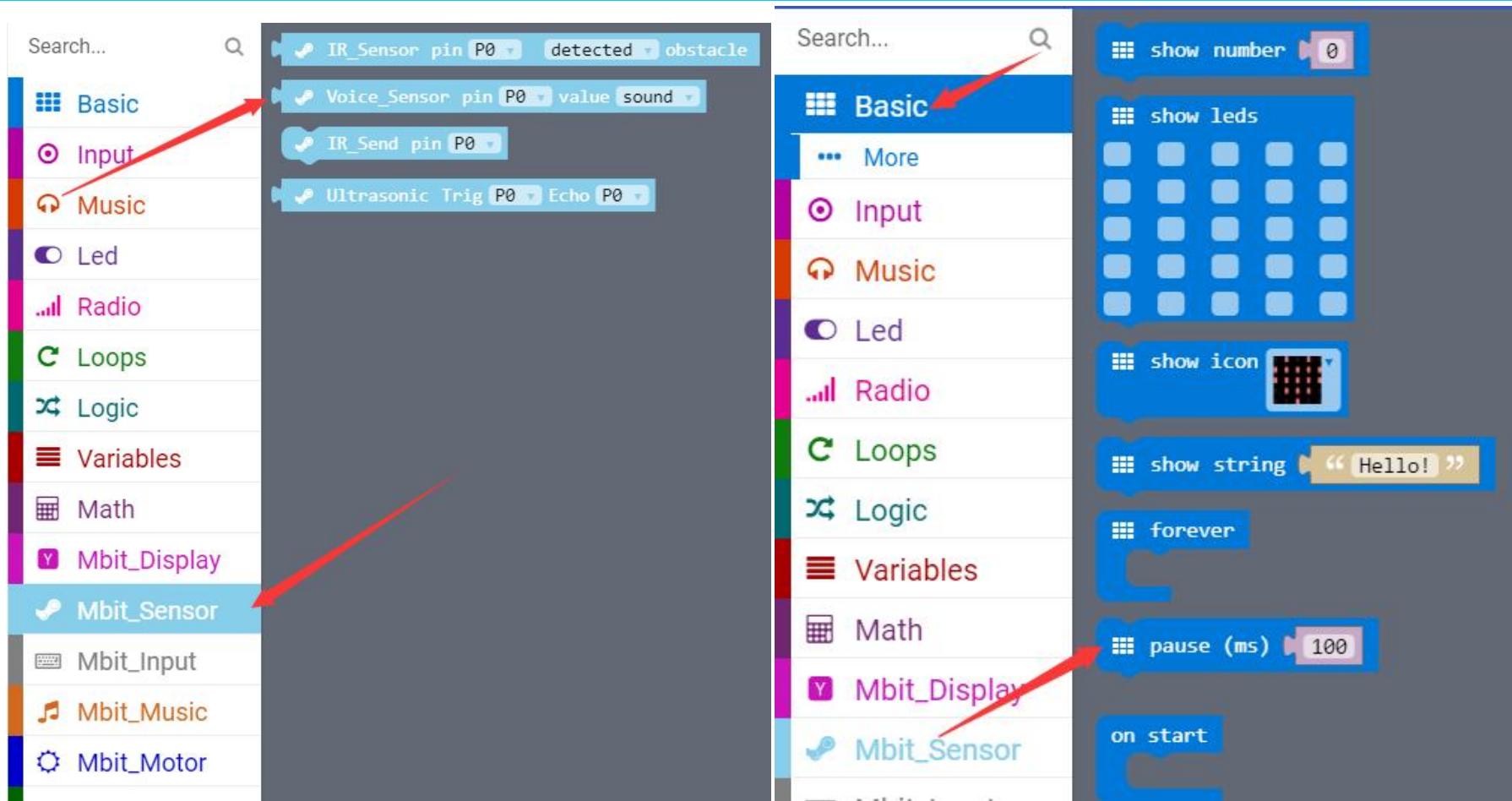
LROBRUYA

has always been a smiling face or a dot matrix and often turns into a crying face because the sensitivity is not well adjusted.

Search for blocks

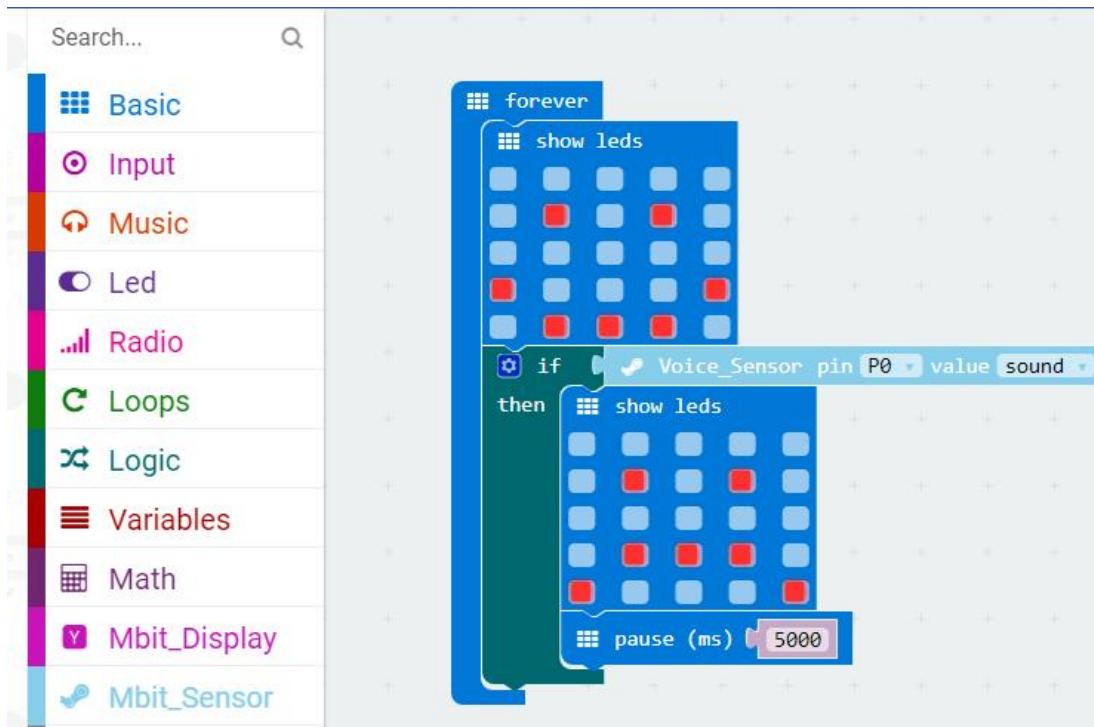


LROBRUYA



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Combine blocks

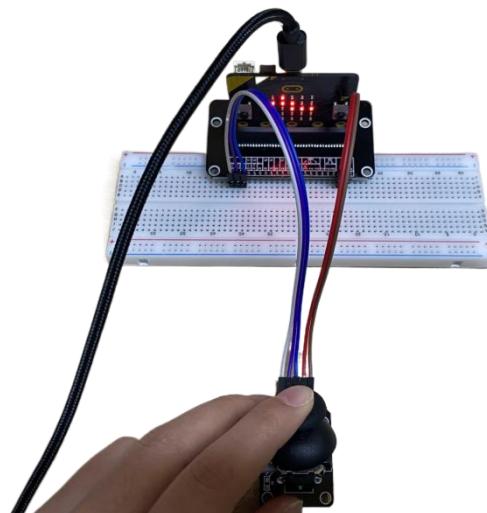




Lesson 12 Animal World

Learning goals

After you download the program, you can shake the rocker bar up and down, you can switch the pattern on the dot matrix, just like looking at the photo album, there are many small animals in the album. Going up we can see the ducklings. Turn down to see the butterfly. Turn left to see the giraffe. Turn to the right to see the cow. Press to see the snake.





Preparation

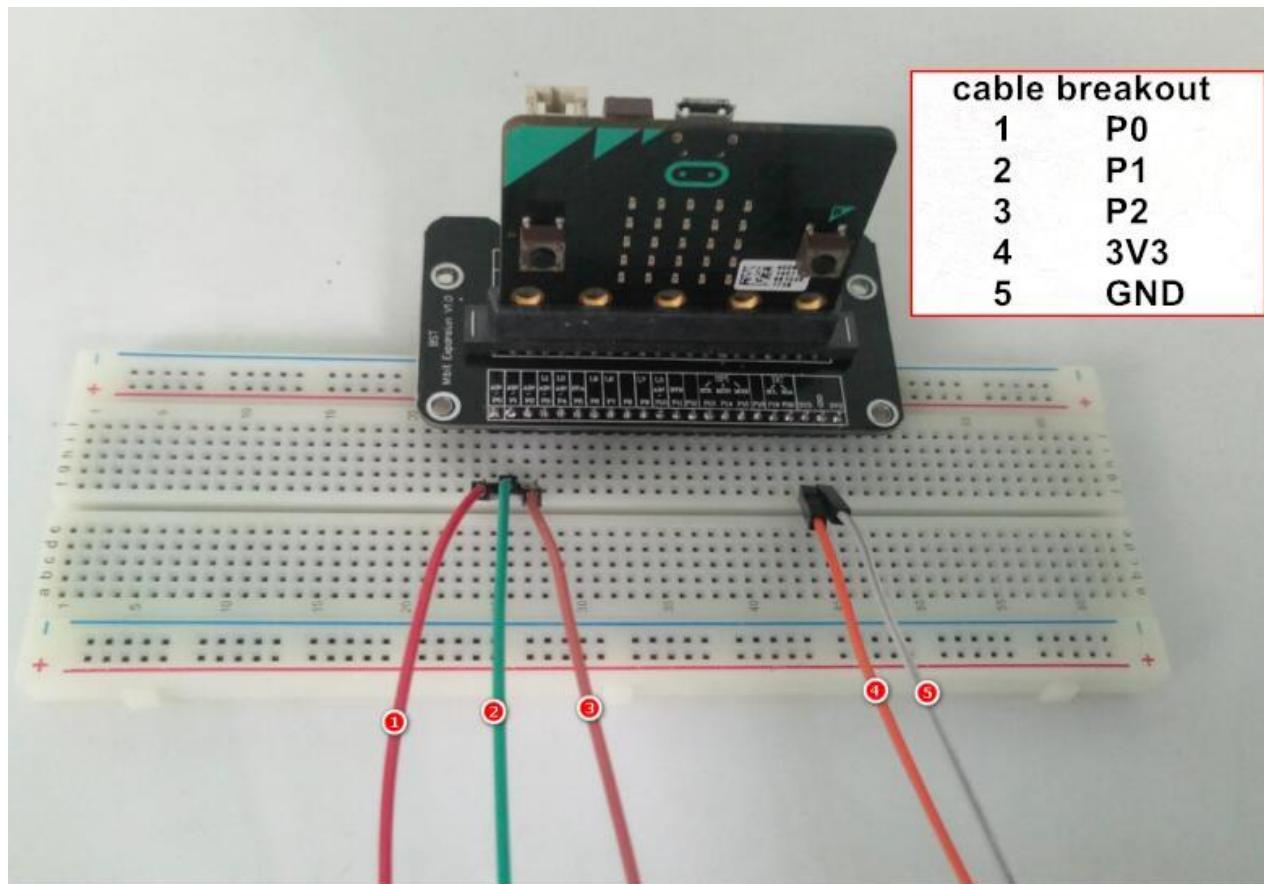
Hardware:

- 1 X Micro: bit Board
- 1 X Micro:bit breakout
- 5 X Male to male cable
- 1 X Micro USB Cable
- 1 X Rocker module
- 1 X 830 holes breadboard
- 1 X PC

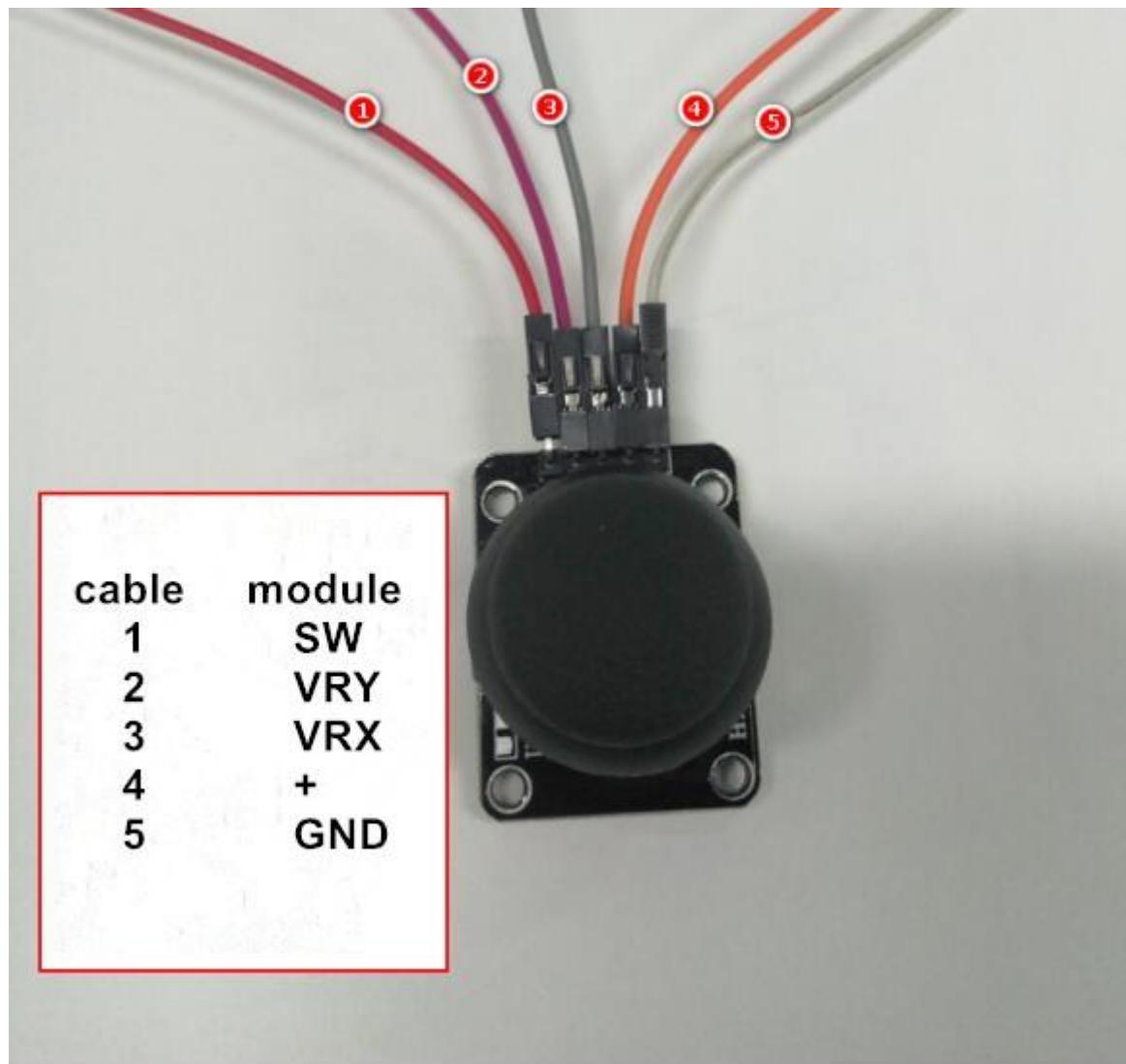
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

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Connection

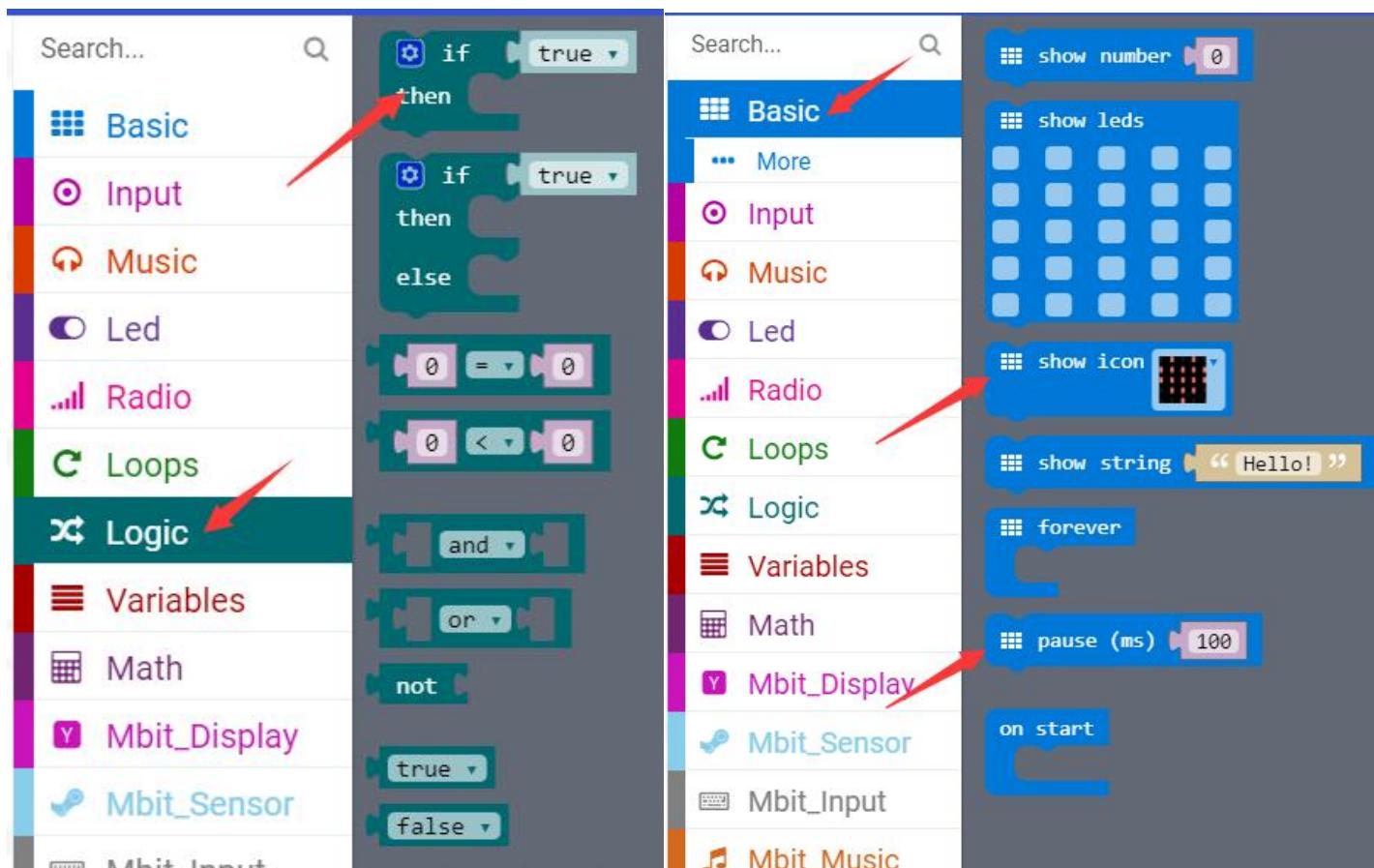


LROBRUYA

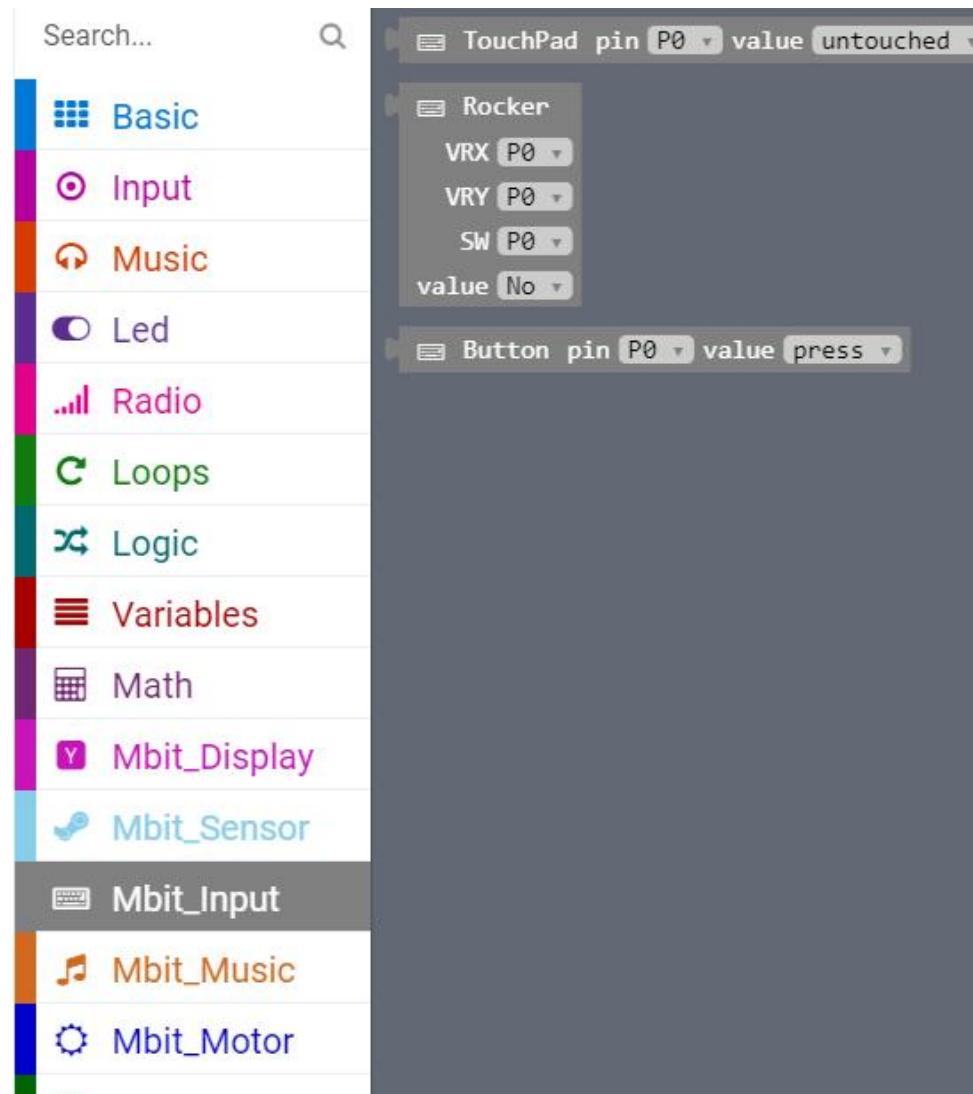


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Search for blocks

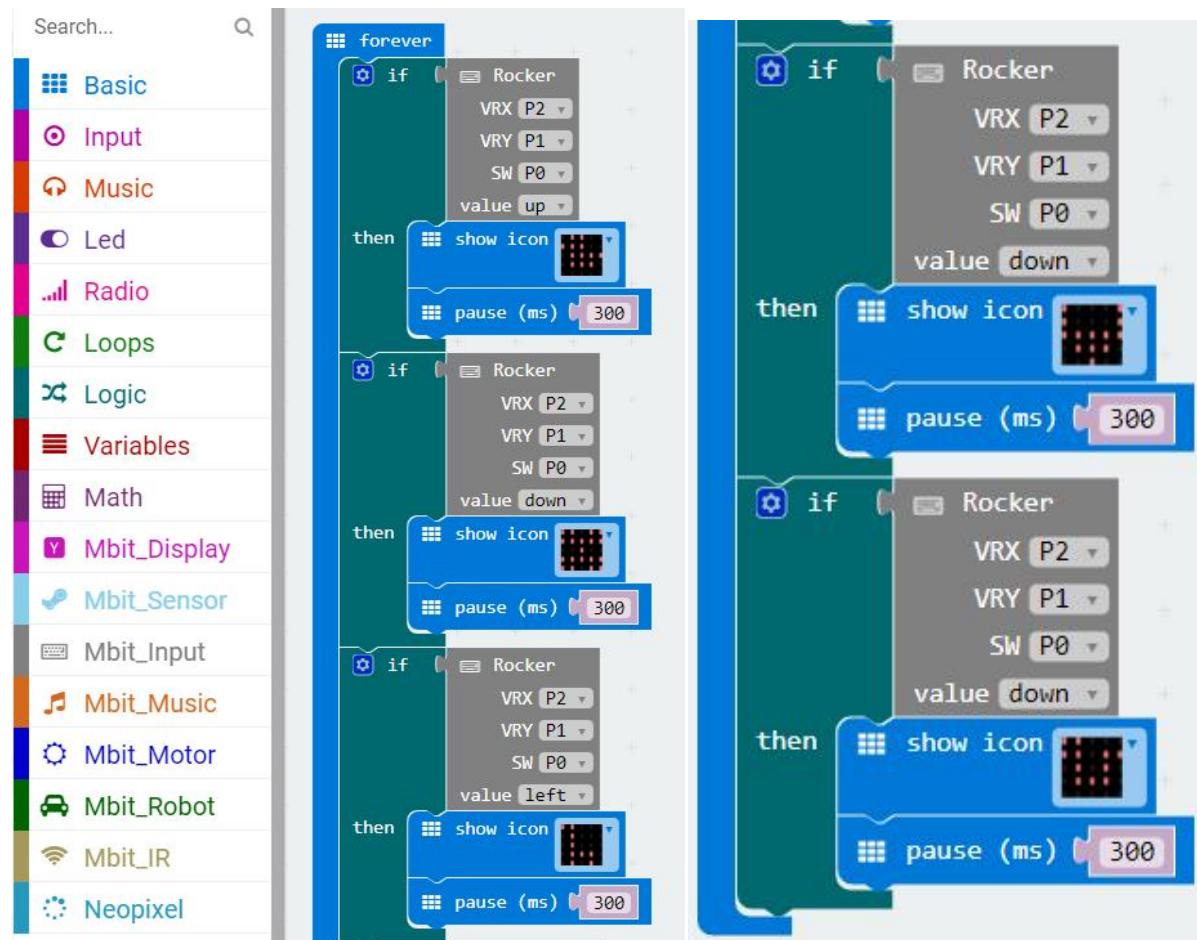


LROBRUYA



LROBRUYA

Combine blocks

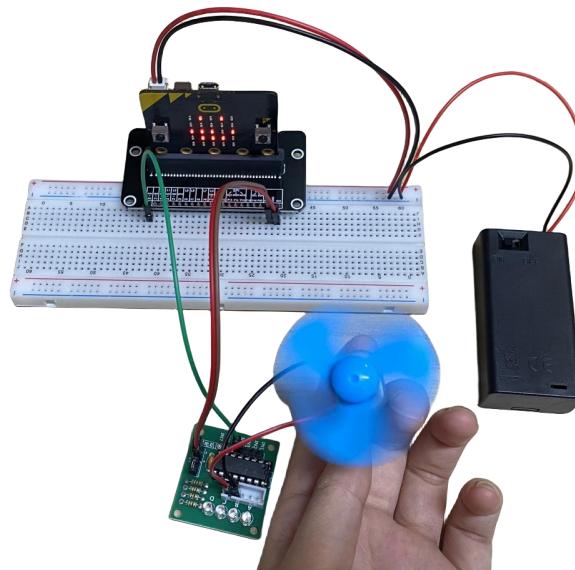


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Lesson 13 DIY fan

Learning goals

The children can use a fan and its drive board and a micro:bit to make a small fan. When the A key is pressed, the fan turns, and the heart icon is on the dot matrix; when the B key is pressed, the fan stops turning, and the dot matrix is still showing a smile pattern. Children, this class must have adults around. When fans turn, they can't touch fans.





Preparation

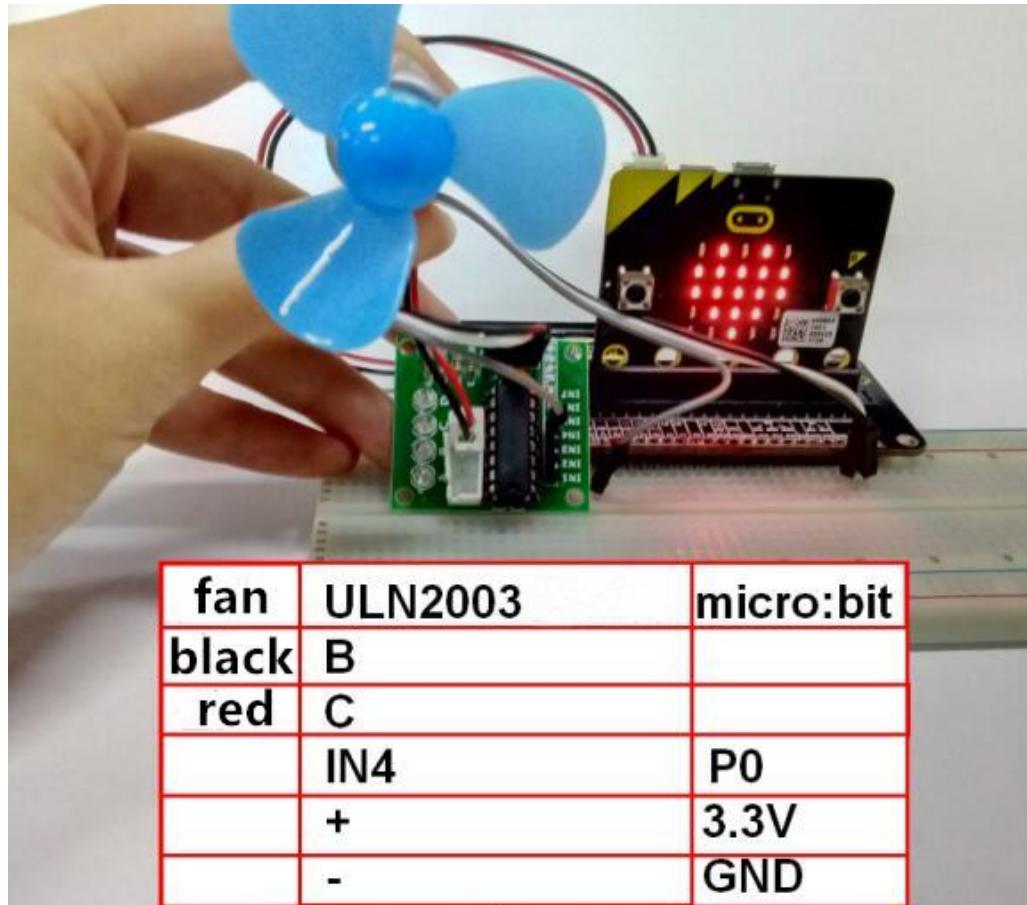
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 1 X Micro:bit breakout
- 5 X Male to male cable
- 1 X 830 holes breadboard
- 1 X fan
- 1 X ULN2003 driver board

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

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Connection

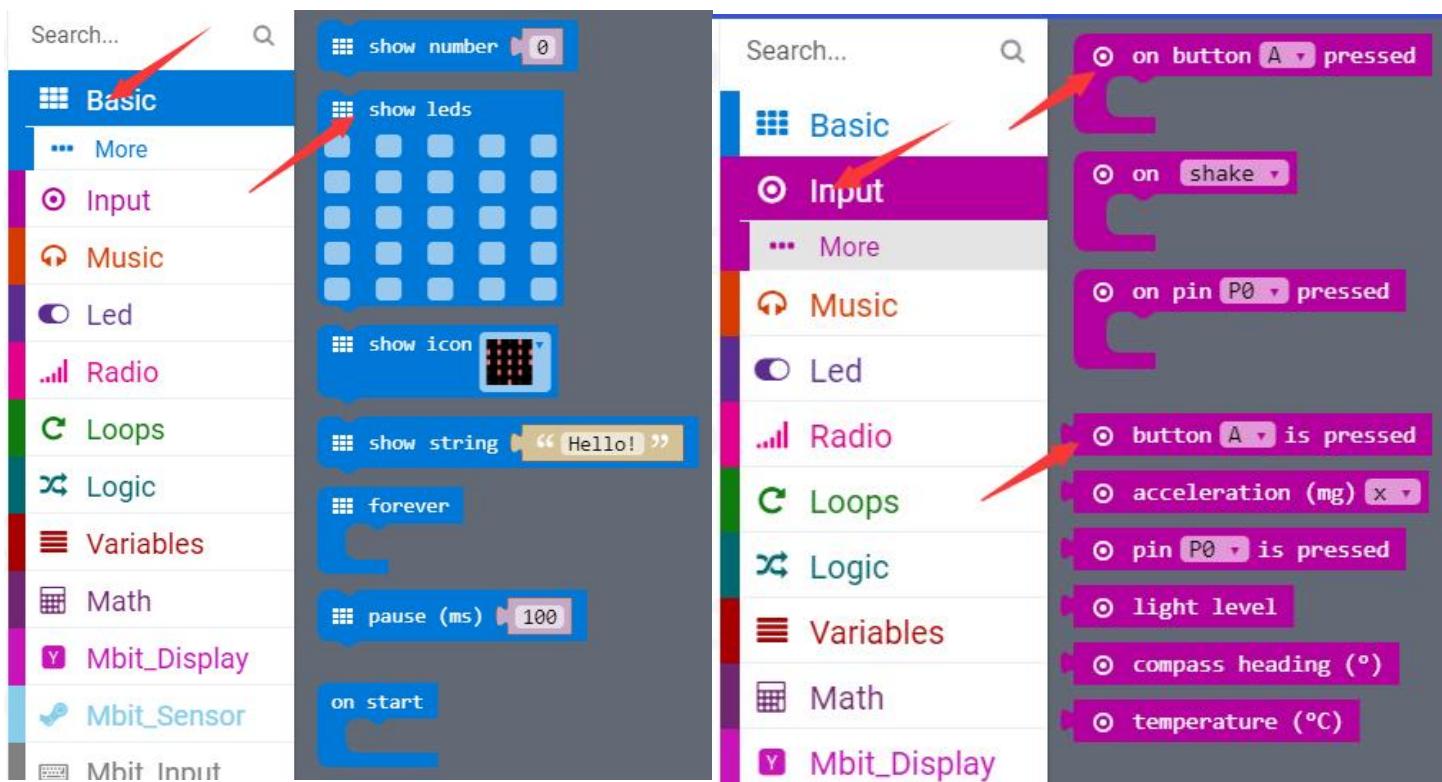


LROBRUYA

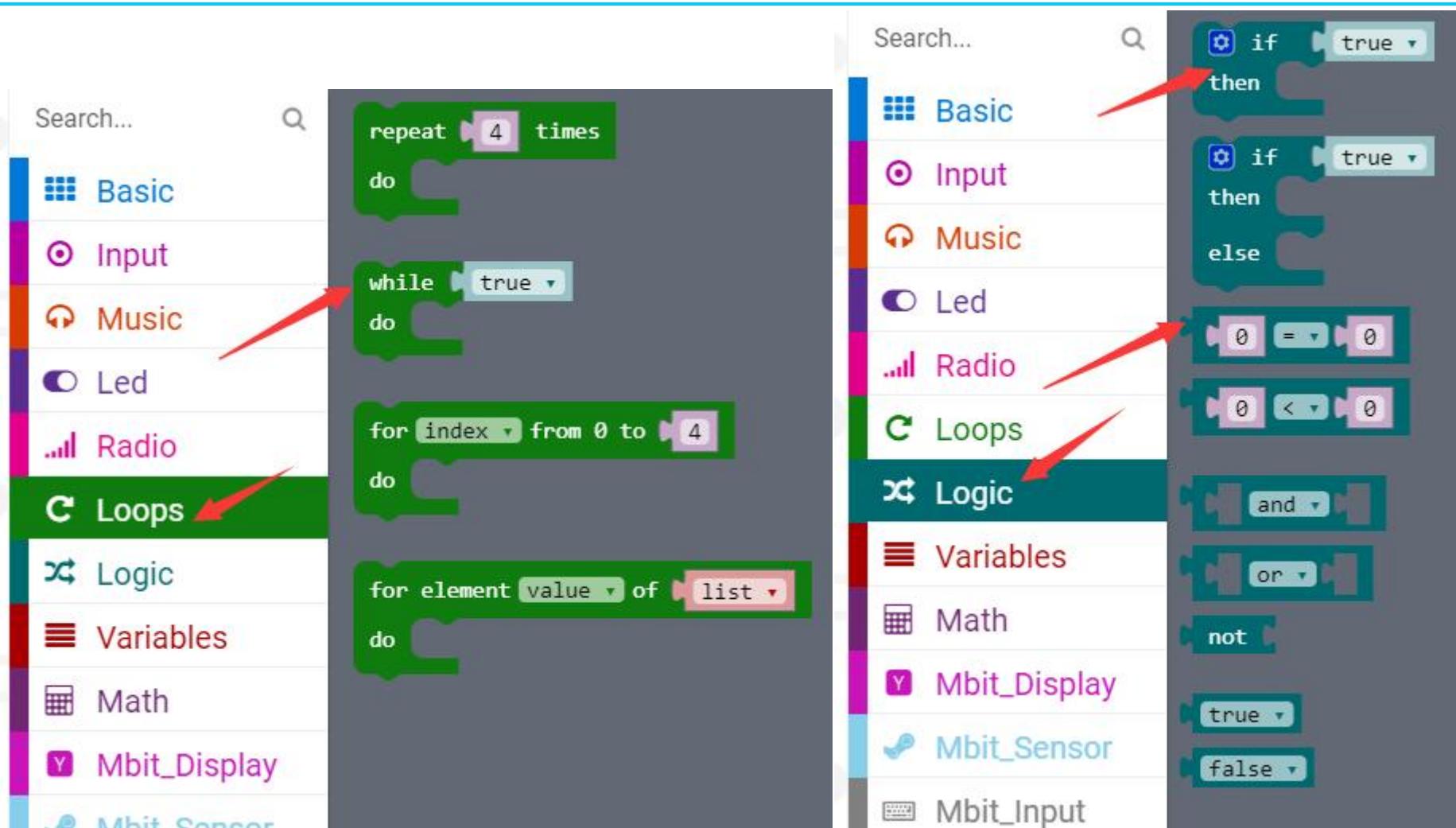
Refer to the figure to complete the wiring.

The fan cannot touch with your finger while it is turning.

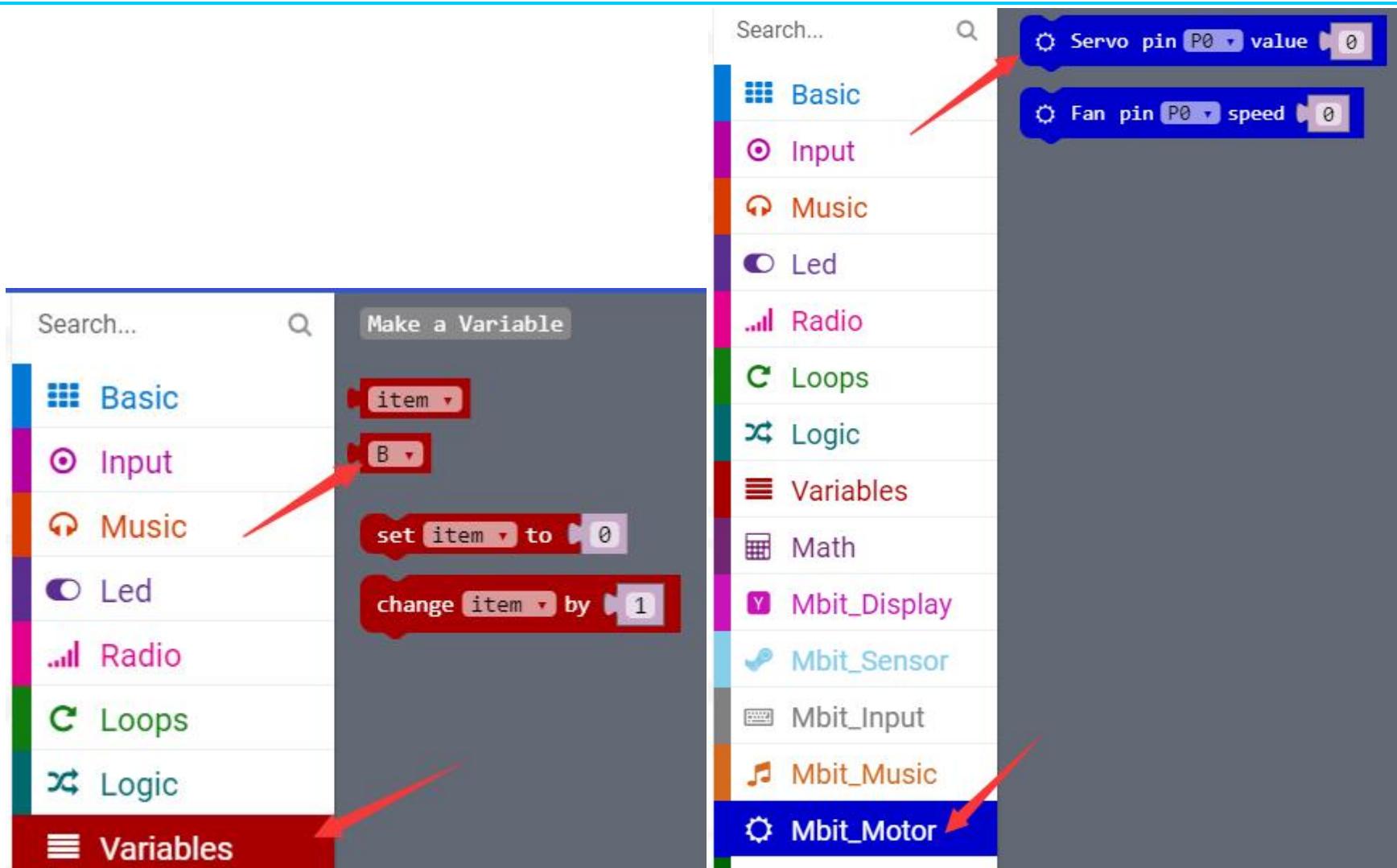
Search for blocks



LROBRUYA

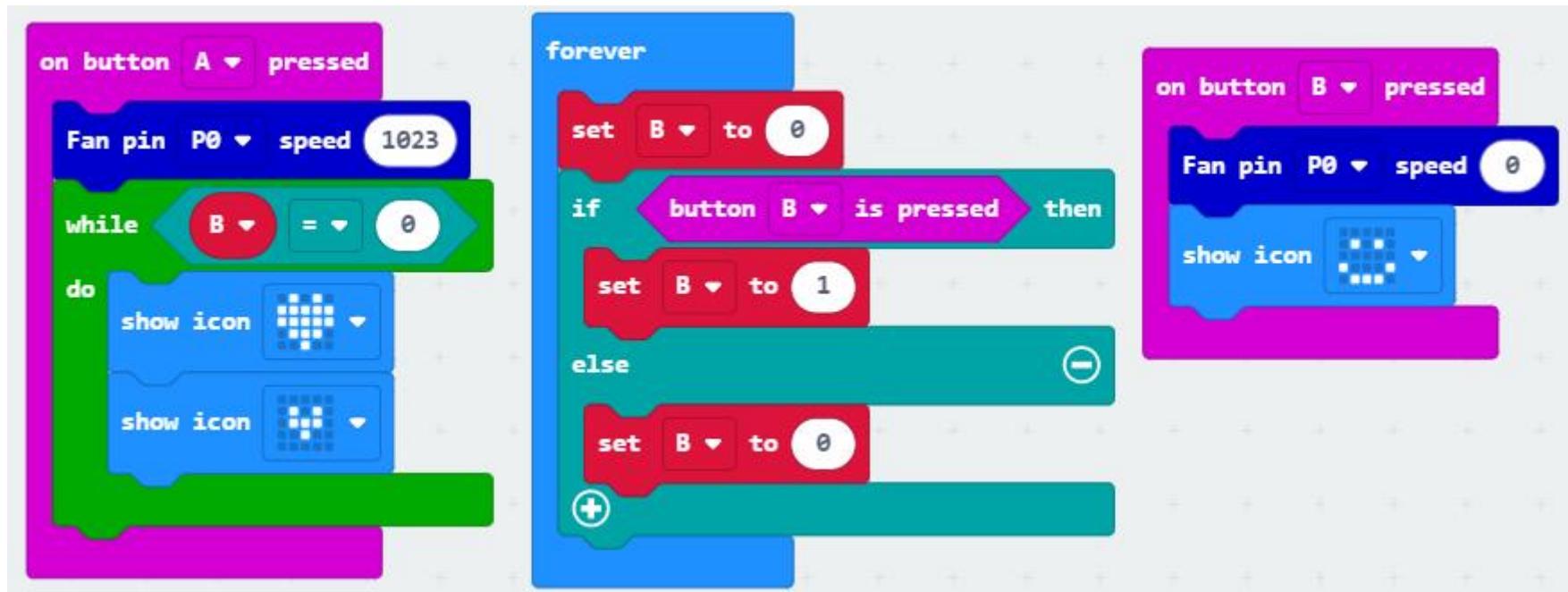


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Combine blocks

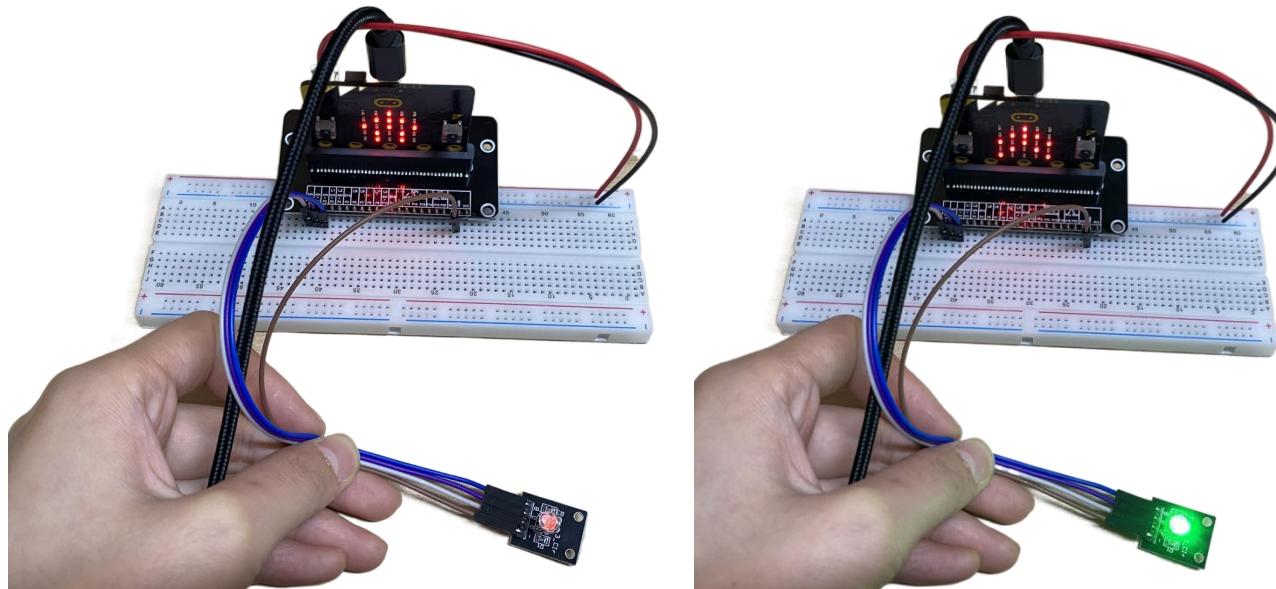




Lesson 14 Red is stop, green is go

Learning goals

Do you know what the traffic rules on the road are, boys and girls? Red is stop, green is go. When children cross the street, they must have adults around. And the red light is to let the car pass through, the green light to cross the road.





Preparation

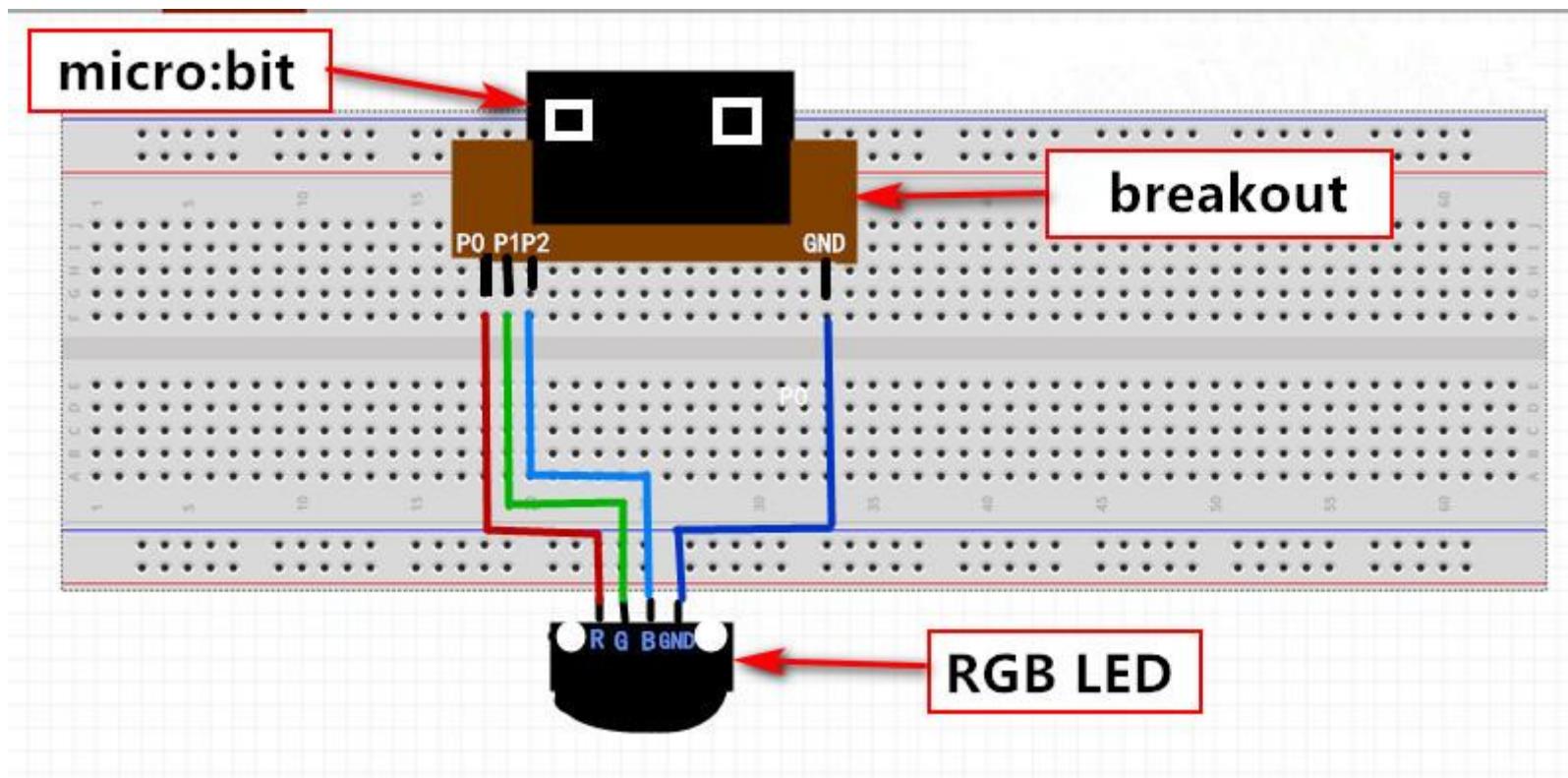
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 1 X Micro:bit breakout
- 4 X Male to male cable
- 1 X 830 holes breadboard
- 1 X RGB LED

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

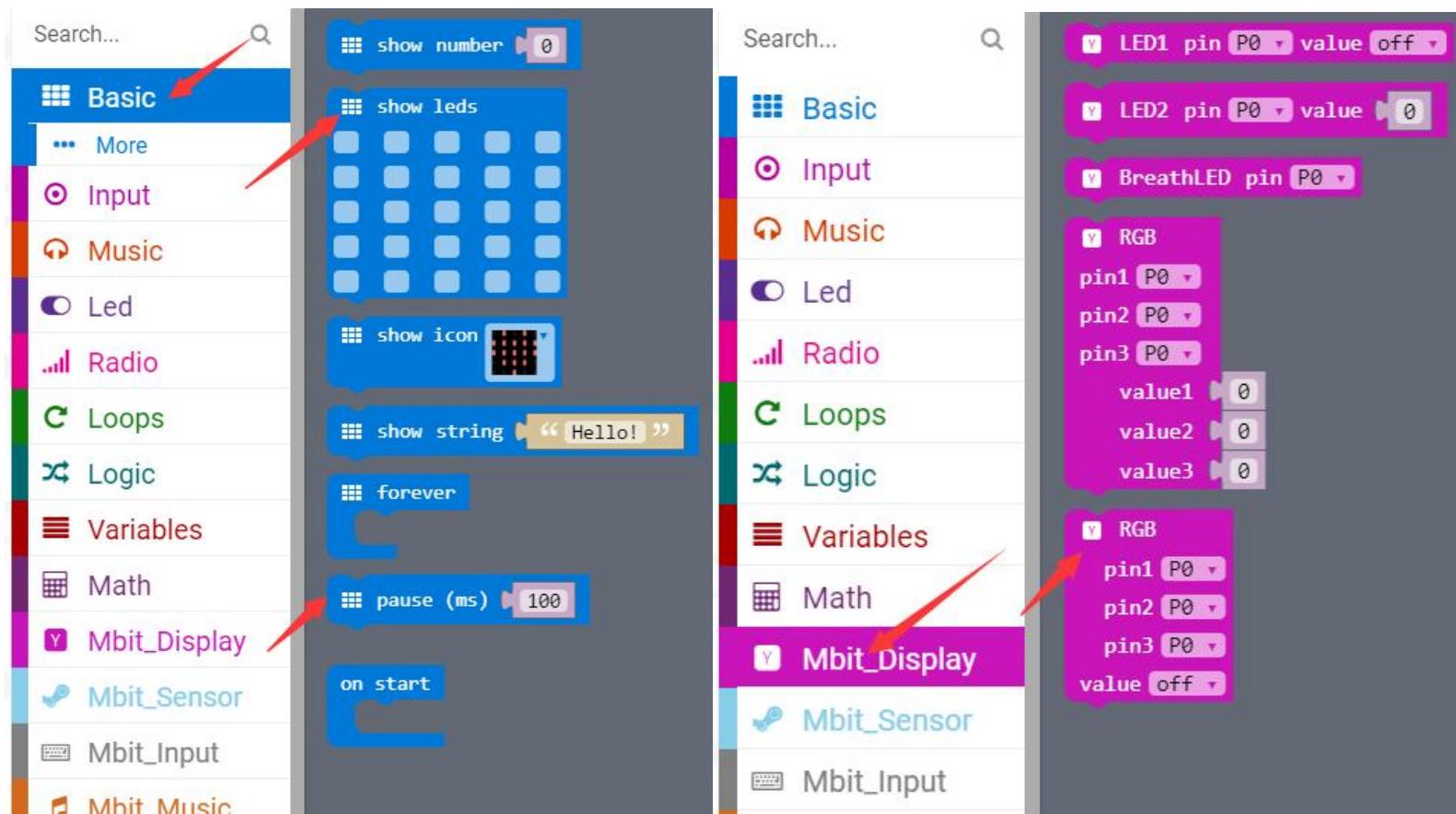
LROBRUYA

Connection



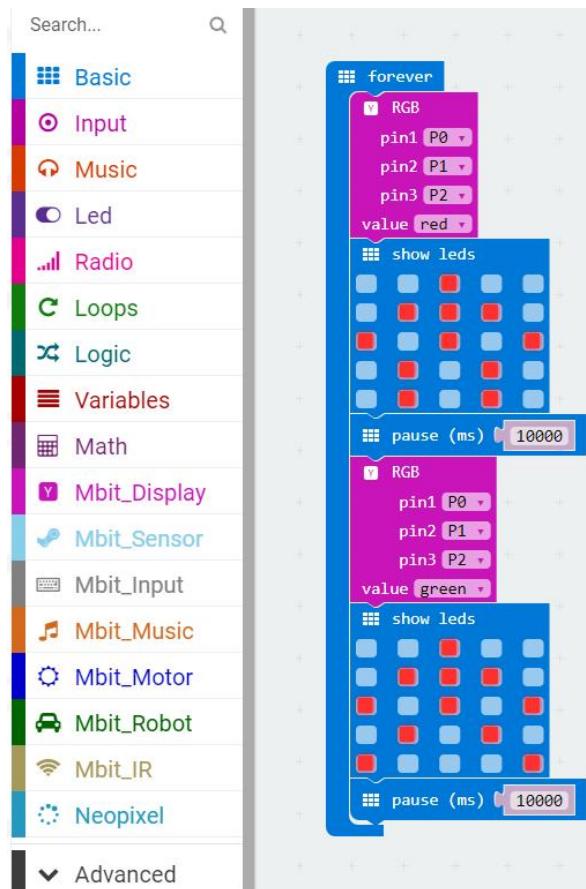
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Search for blocks



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Combine blocks

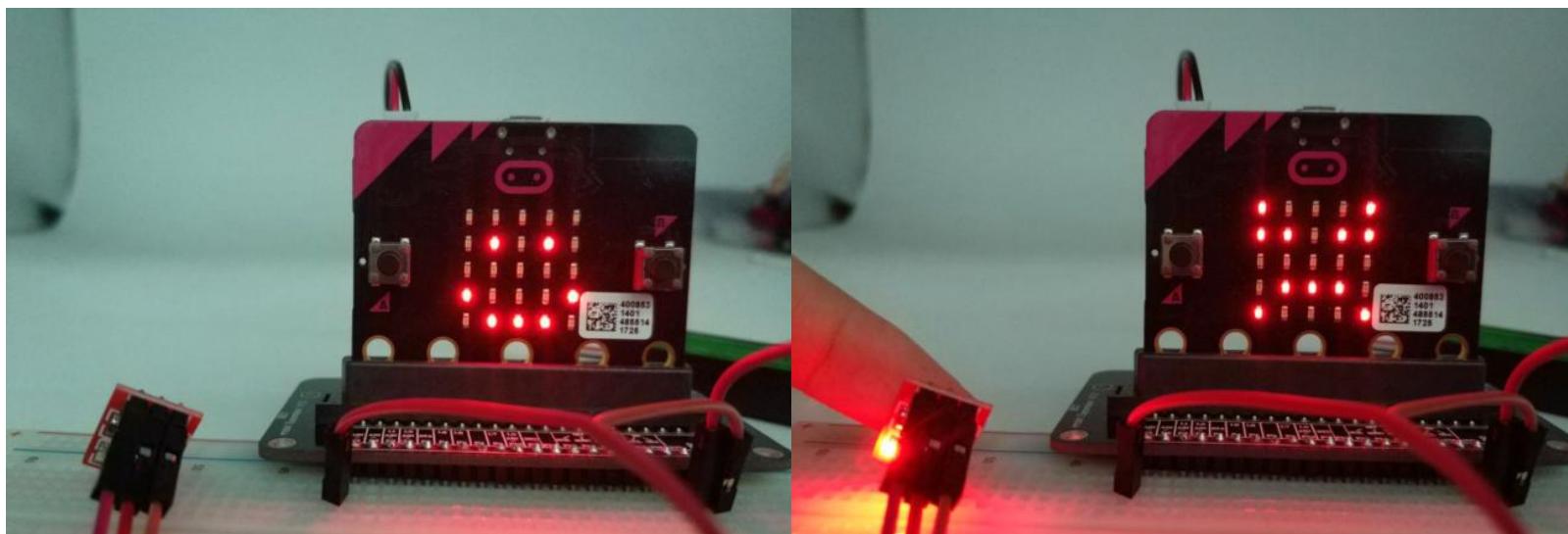


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Lesson 15 Don't touch me

Learning goals

Today we need a touch switch for our experiment. When children touch the touch switch, there will be an angry pattern on the dot matrix of micro:bit. On the contrary, if no one touches the touch switch, there is a happy pattern on the dot matrix.





Preparation

Hardware:

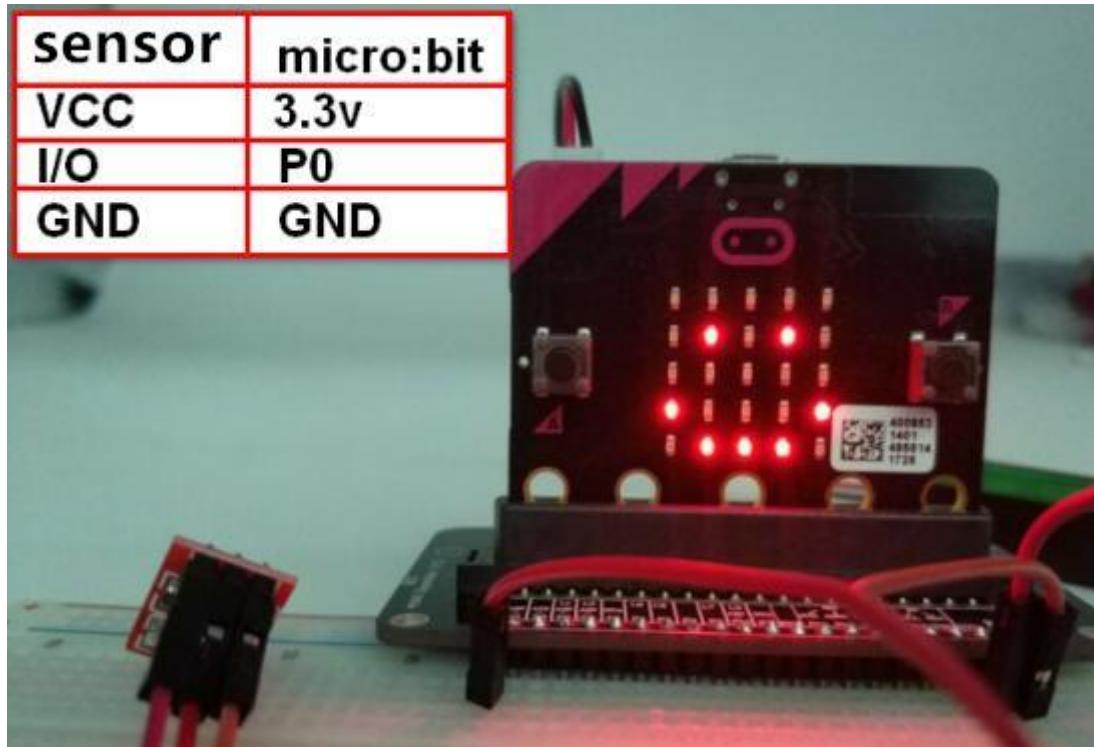
- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 1 X Micro:bit breakout
- 3 X Male to male cable
- 1 X 830 holes breadboard
- 1 X Touch sensor

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

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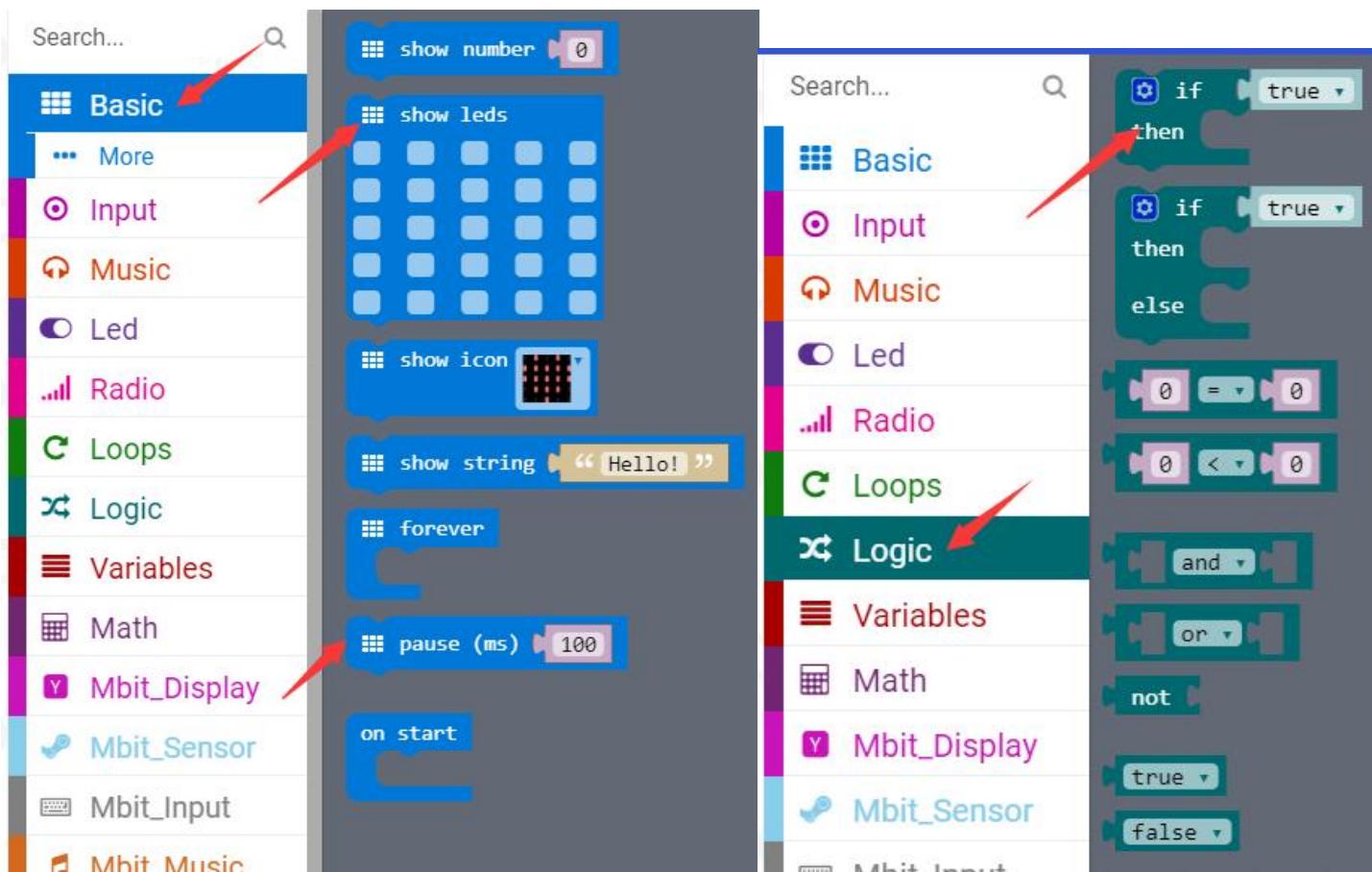
Connection

| sensor | micro:bit |
|--------|-----------|
| VCC | 3.3v |
| I/O | P0 |
| GND | GND |

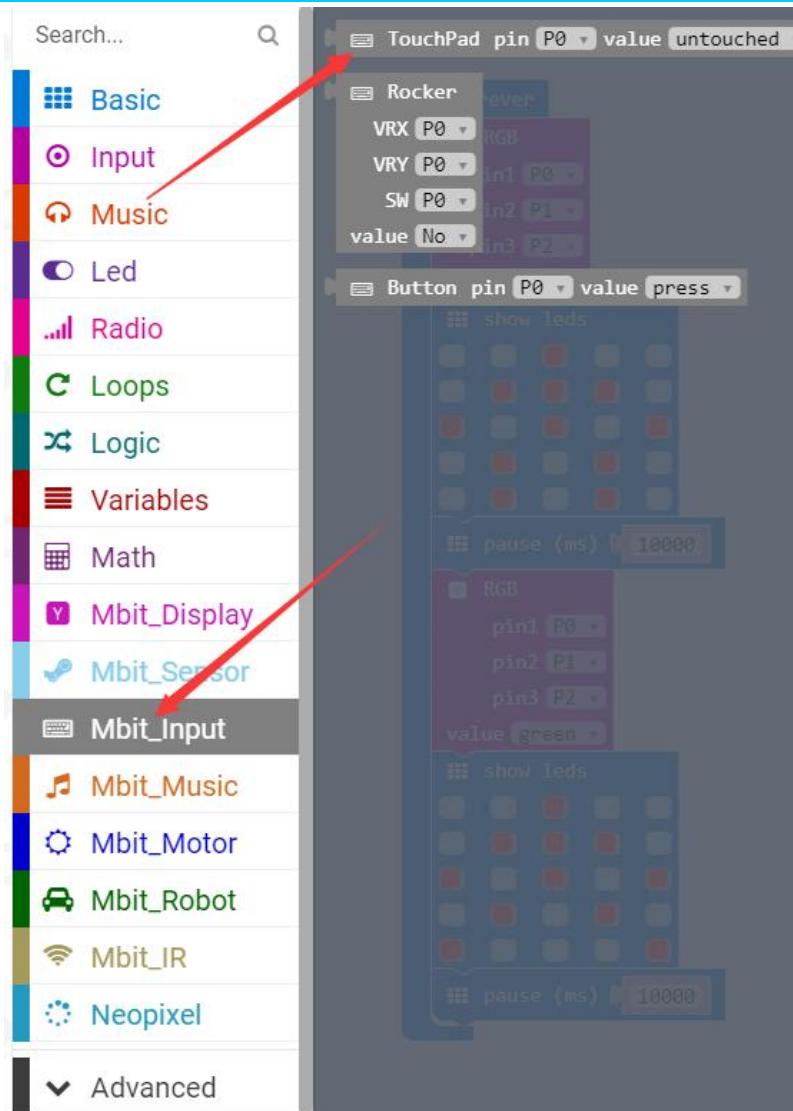


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Search for blocks

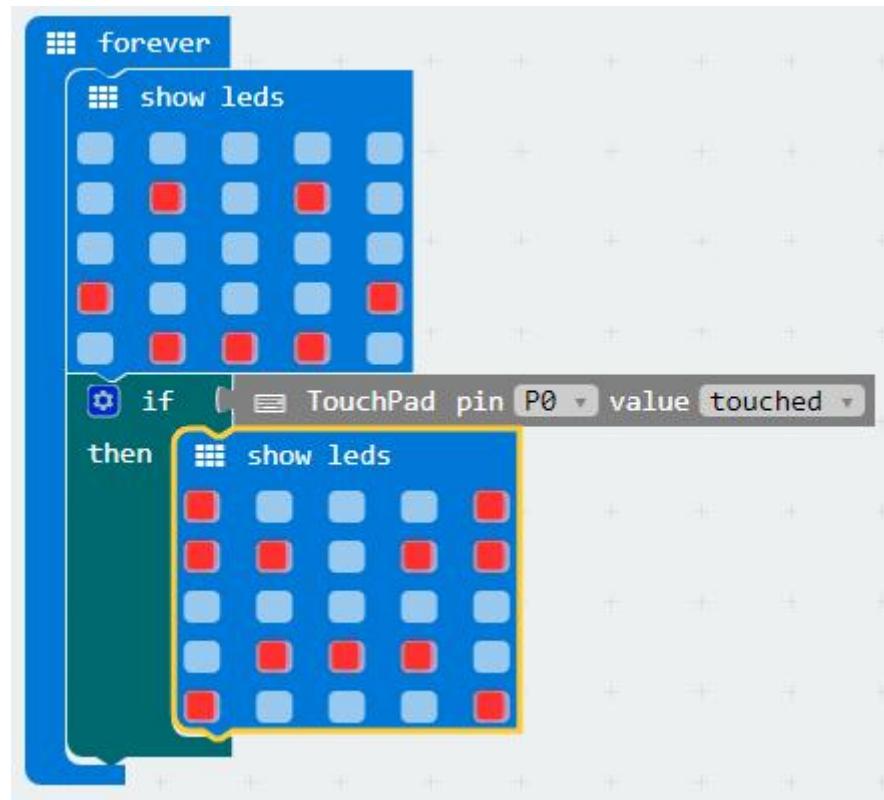


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Combine blocks





Lesson 16 Look how far you are from me

Learning goals

Children can use a ultrasonic module and a micro:bit to make a distance detector to see how far you are from me. The jumper wire cap of the power supply module connects 5V to OFF to output 5V voltage.

Preparation

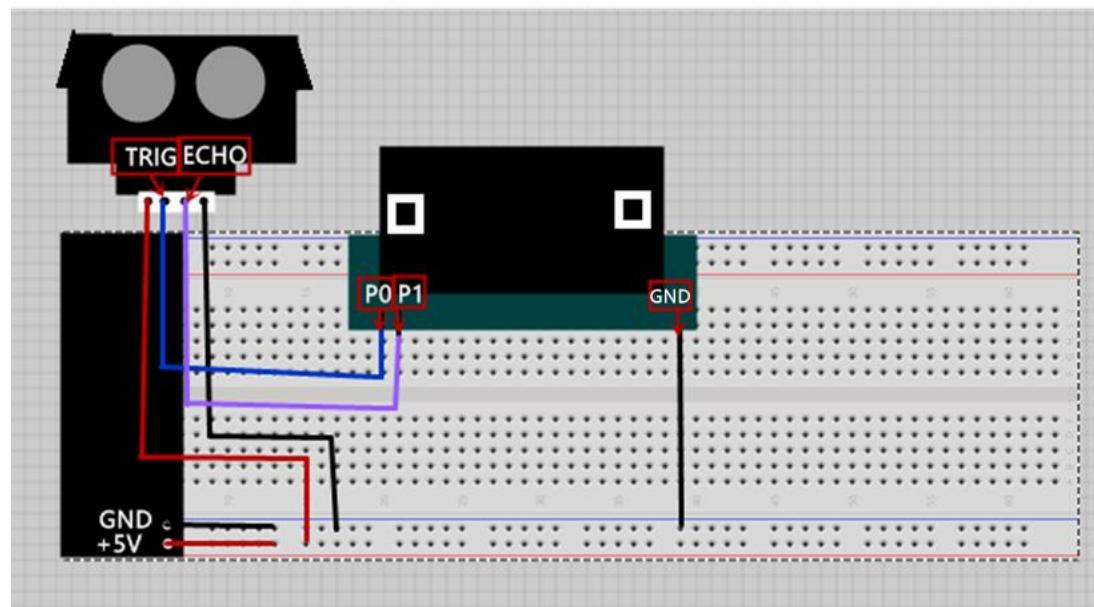
Hardware:

- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 1 X Micro:bit breakout
- 1 X Male to male cable
- 4 X Female to male cable
- 1 X 830 holes breadboard

- 1 X Ultrasonic sensor

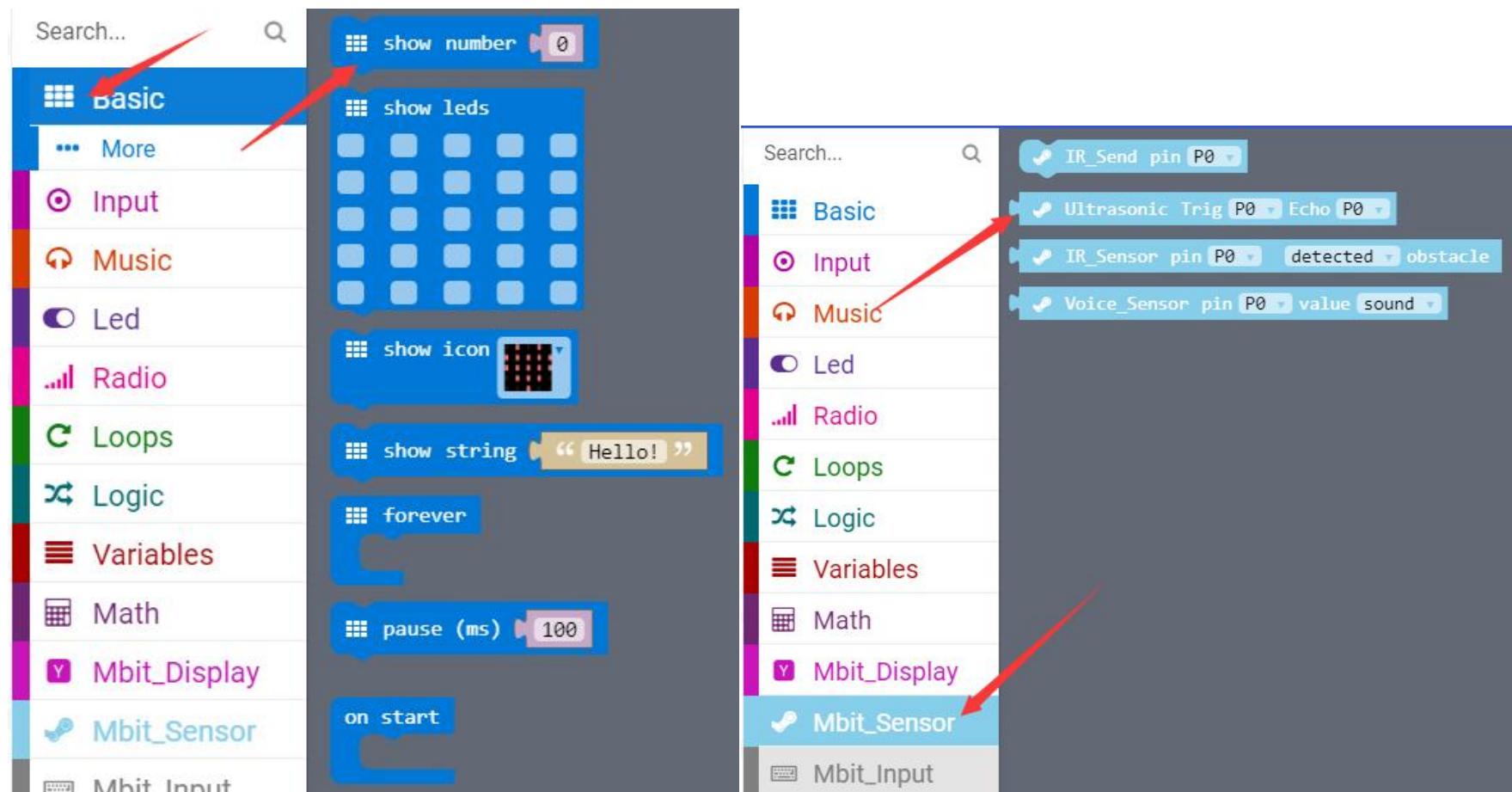
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

Connection



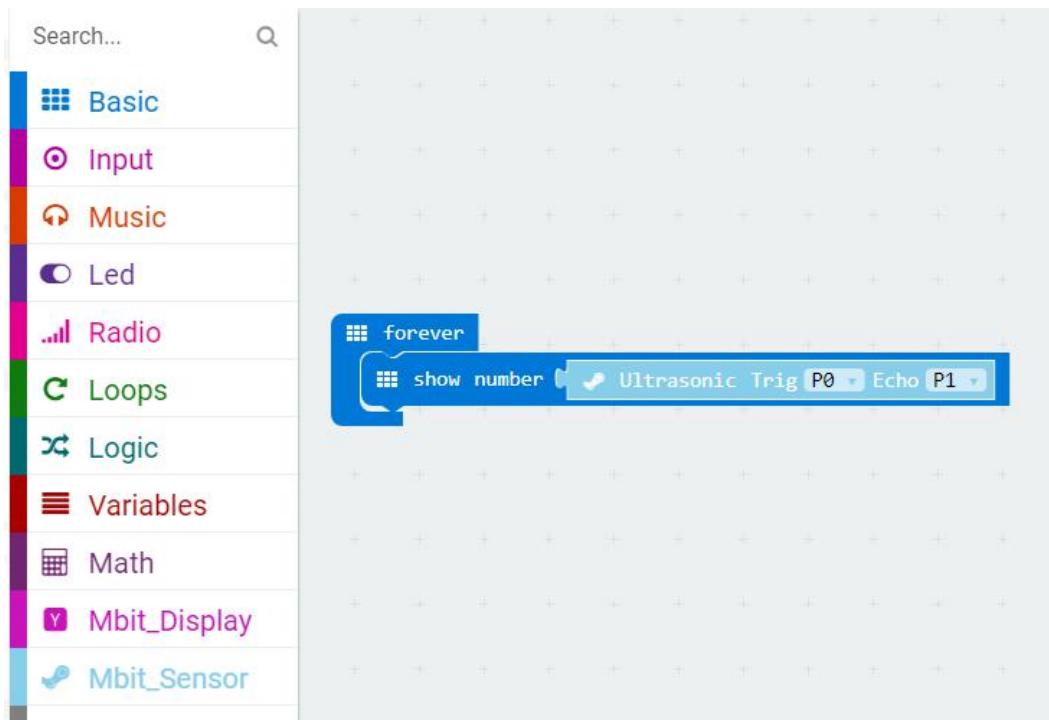
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Search for blocks



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Combine blocks





Lesson 17 fruit picking

Learning goals

After you download the program, there will be a flickering picture on the micro:bit dot matrix, which means that the game will start. Then there will be a LED light falling down randomly (like a fruit falling down). There is a LED lamp on the bottom row (like a basket). We want to catch the fruit fallen on it. Press the A button, move it to the left, press the B button, and move to the right side. When the two touch together, it means that the basket receives the fruit and gets a point. You can play with your little buddies and see who gets more.

Preparation

Hardware:

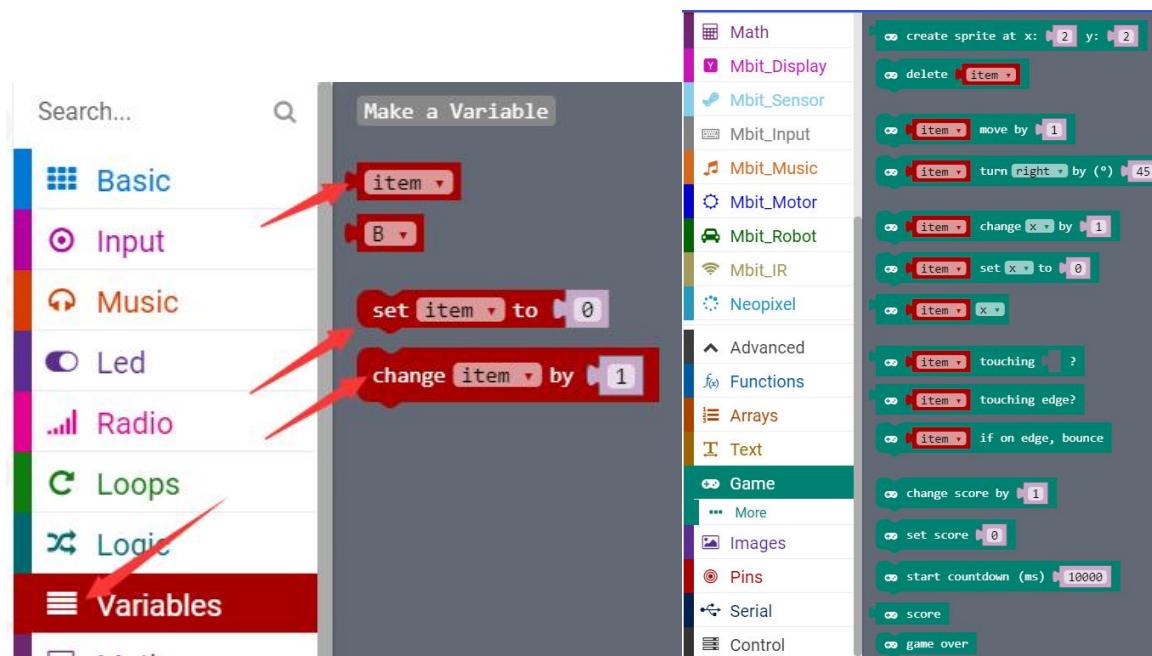
- 1 X Micro: bit Board
- 1 X Micro USB Cable
- 1 X Consoles shell

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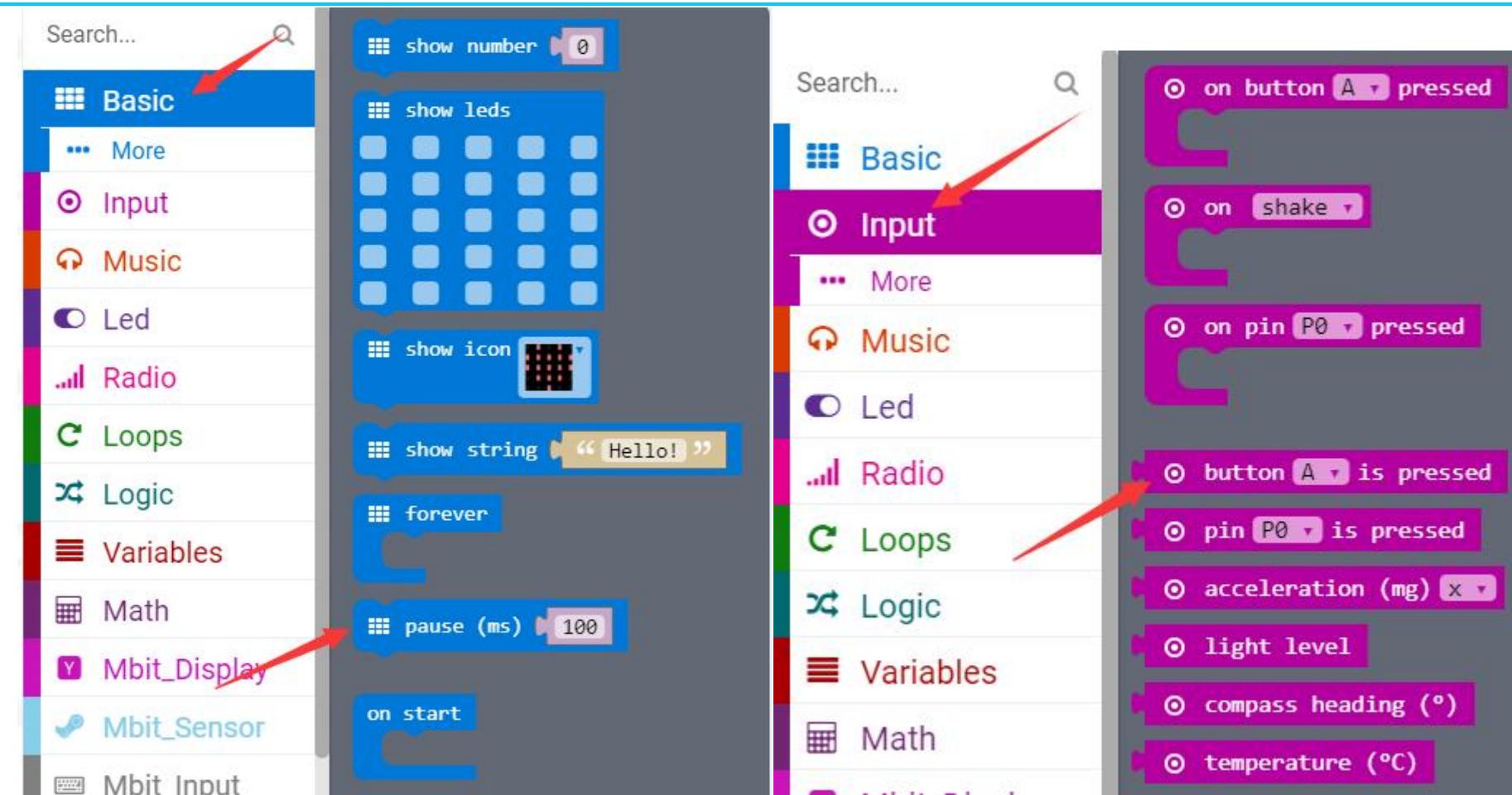
- 1 X PC

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks



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The image shows two Scratch script editors side-by-side, each displaying a script and its corresponding blocks palette.

Left Script:

```
if [true] then
  if [true] then
    else
  end
end
```

Left Blocks Palette:

- Search...
- Basic
- Input
- Music
- Led
- Radio
- Loops
Logic (highlighted)- Variables
- Math
- Mbit_Display
- Mbit_Sensor

Right Script:

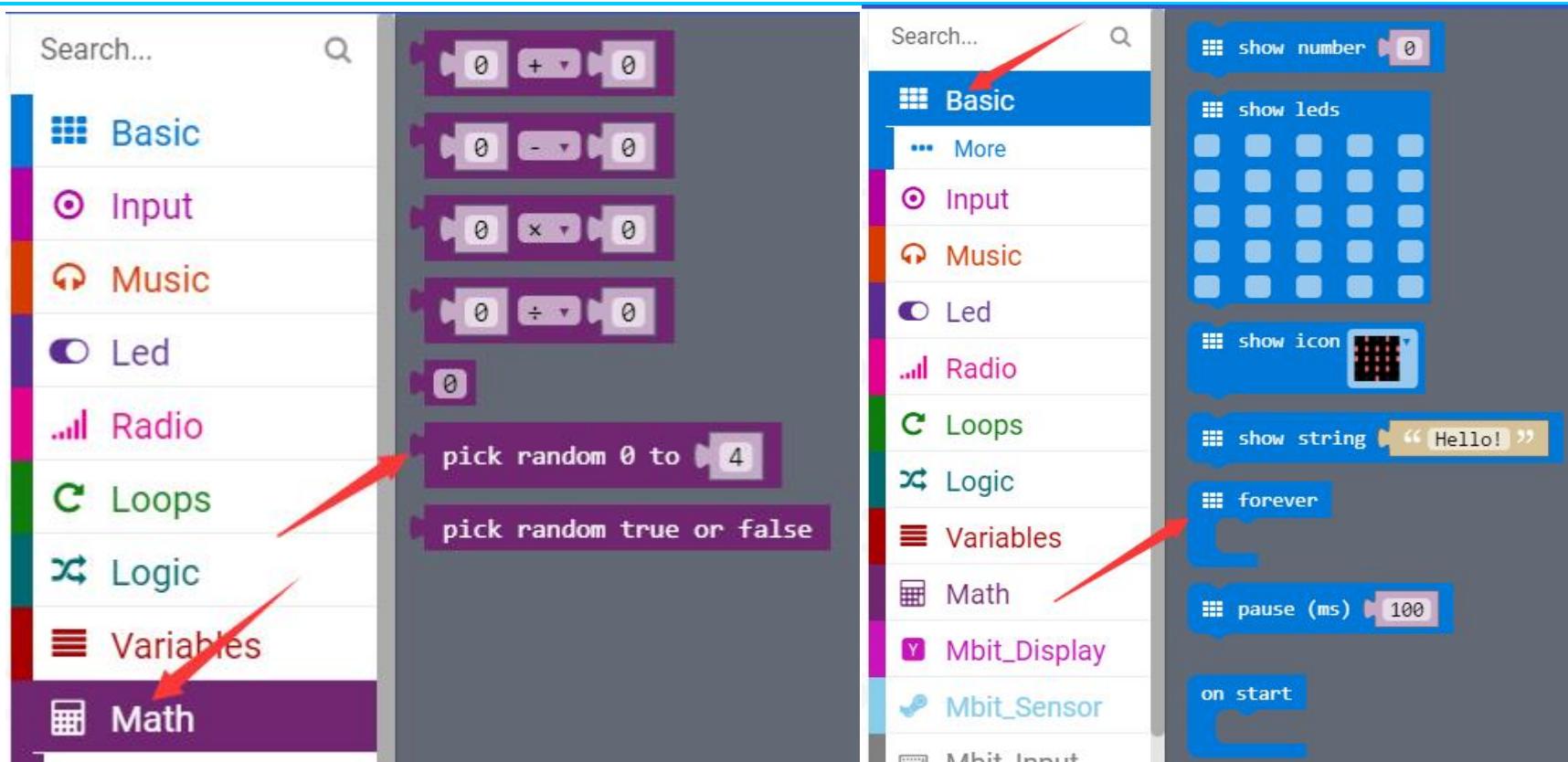
```
repeat (4) times
  do
    while [true] do
      do
        for [index] from [0] to [4]
          do
            for [element] [value] of [list]
              do
```

Right Blocks Palette:

- Search...
- Basic
- Input
- Music
- Led
- Radio
Loops (highlighted)- Logic
- Variables
- Math

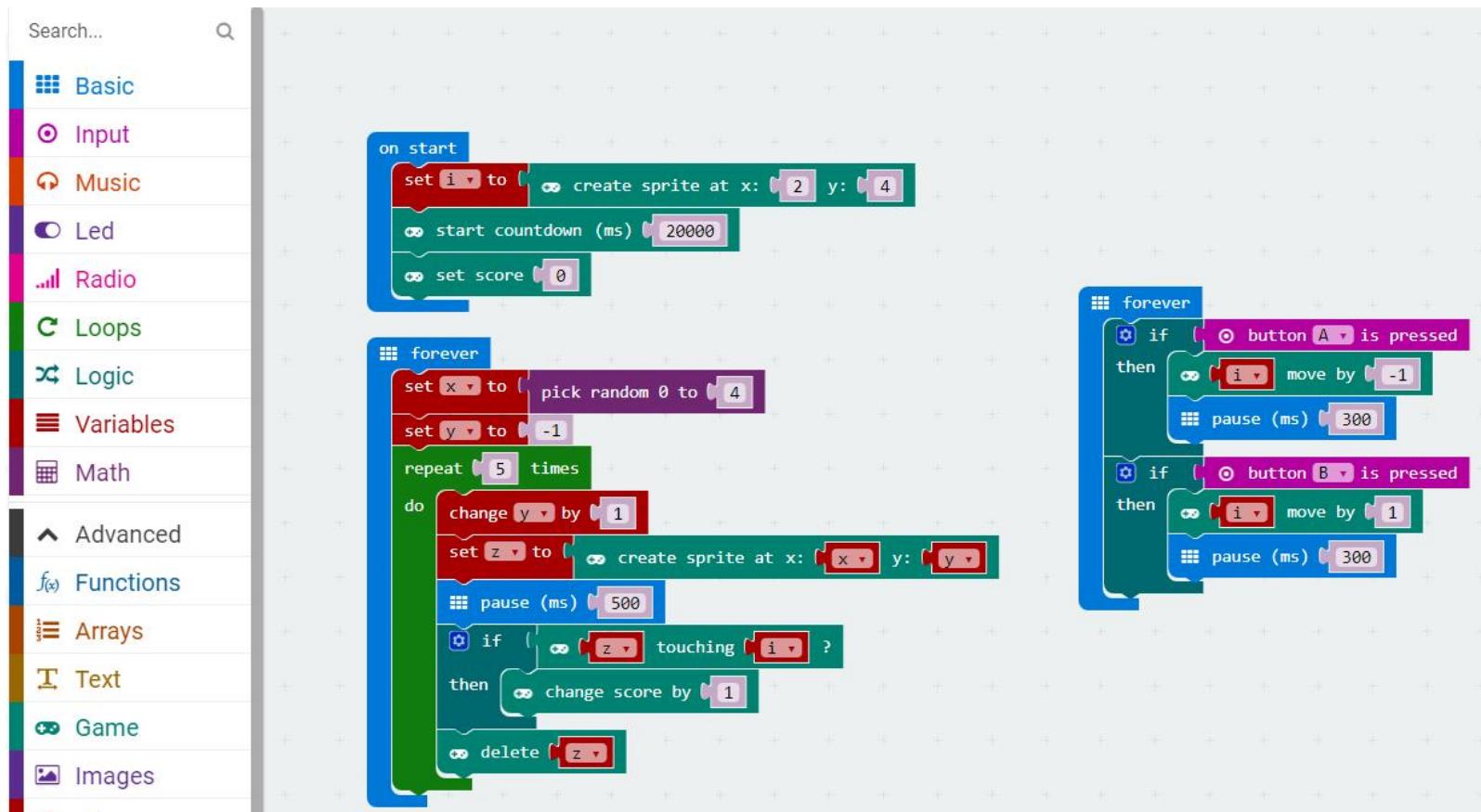
Red arrows point from the "Logic" and "Loops" categories in both palettes towards the respective blocks in the scripts.

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Combine blocks



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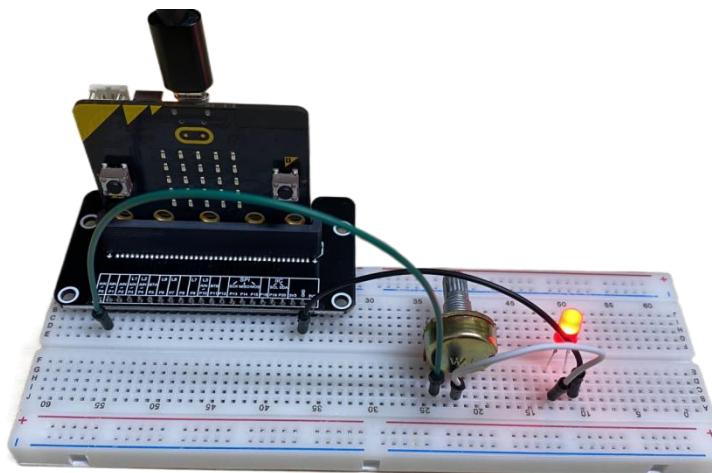
Lesson 18 Ball small light

Learning goals

After you download the program, turn the adjustable knob to change the brightness of the small light.

Turn off the lights in the room, it will be more beautiful.

Just like in the picture in the upper right corner. Is it like a round moon?





Preparation

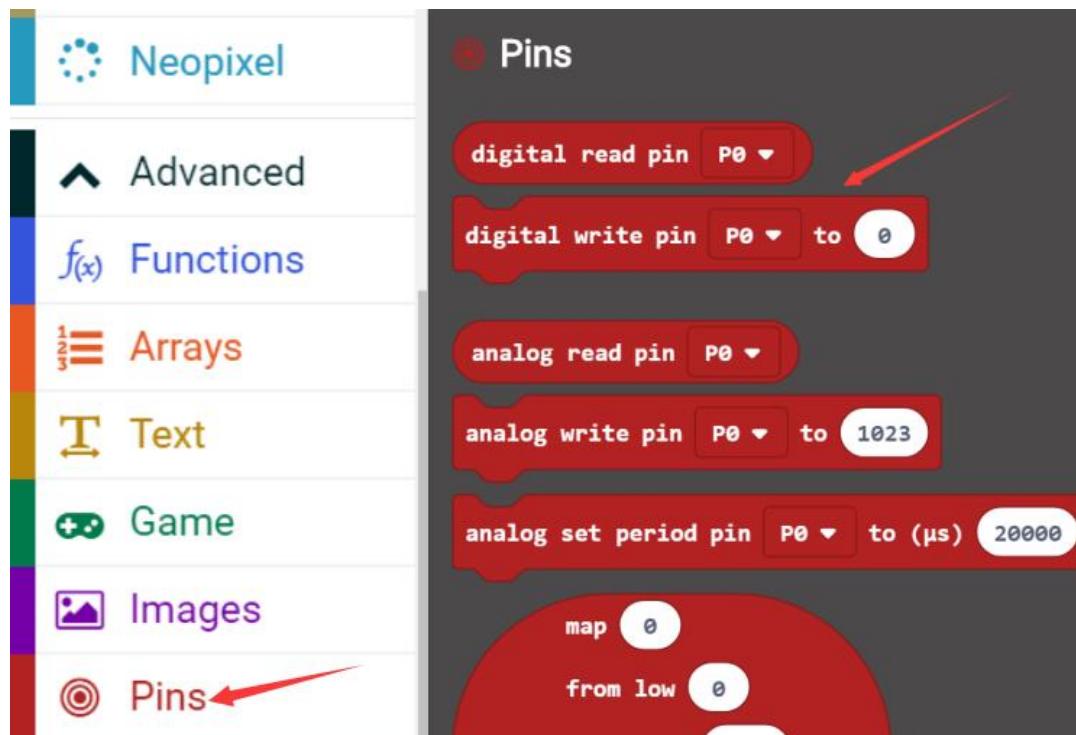
Hardware:

- 1 x Micro:bit Board
- 1 x Micro:bit expansion board
- 3 x DuPont line male to male
- 1 x LED
- 1 x Adjustable knob
- 1 x Breadboard
- 1 x Table tennis with holes
- 1 x PC
- 1 x USB Cable

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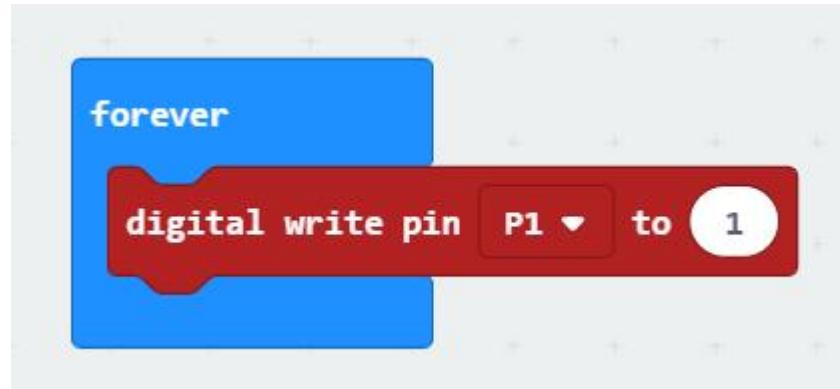
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface.

Search for blocks



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Combine blocks



Lesson 19 Automatic door

Learning goals

After you download the program, please the ultrasonic module on the side of the door. If the ultrasonic module is blocked by hand (simulating someone standing in front of the door), the servo will rotate 90 degrees to open the door. After two seconds, the door will automatically close. Let's try it together.



Preparation

Hardware:

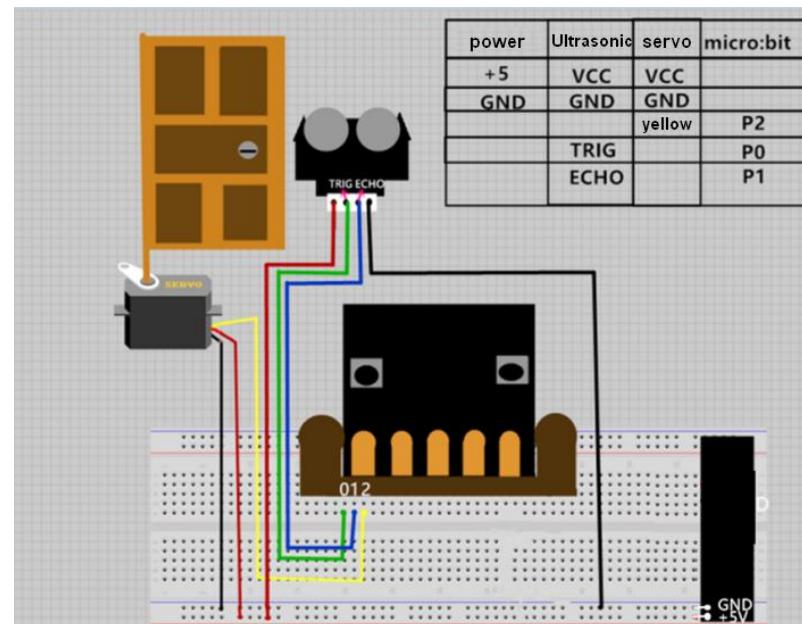
- 1 x Micro:bit Board
- 1 x Micro:bit expansion board
- 1 x servo kit
- 1 x Ultrasonic
- 1 x door (Owned)
- 4 x DuPont line female to male
- 3 x DuPont line male to male
- 1 x Power module
- 1 x Breadboard
- 1 x PC

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- 1 x USB Cable

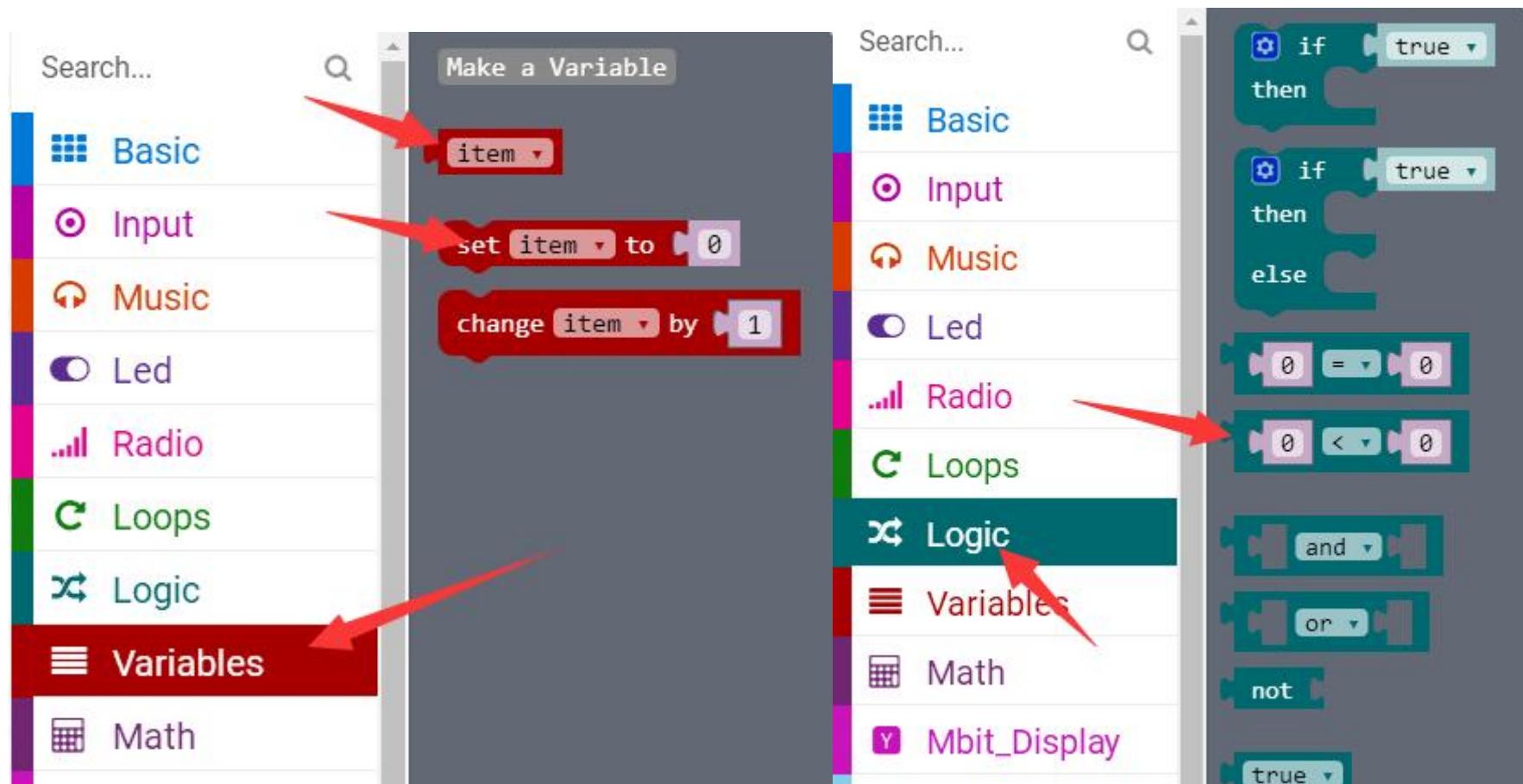
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

Connection

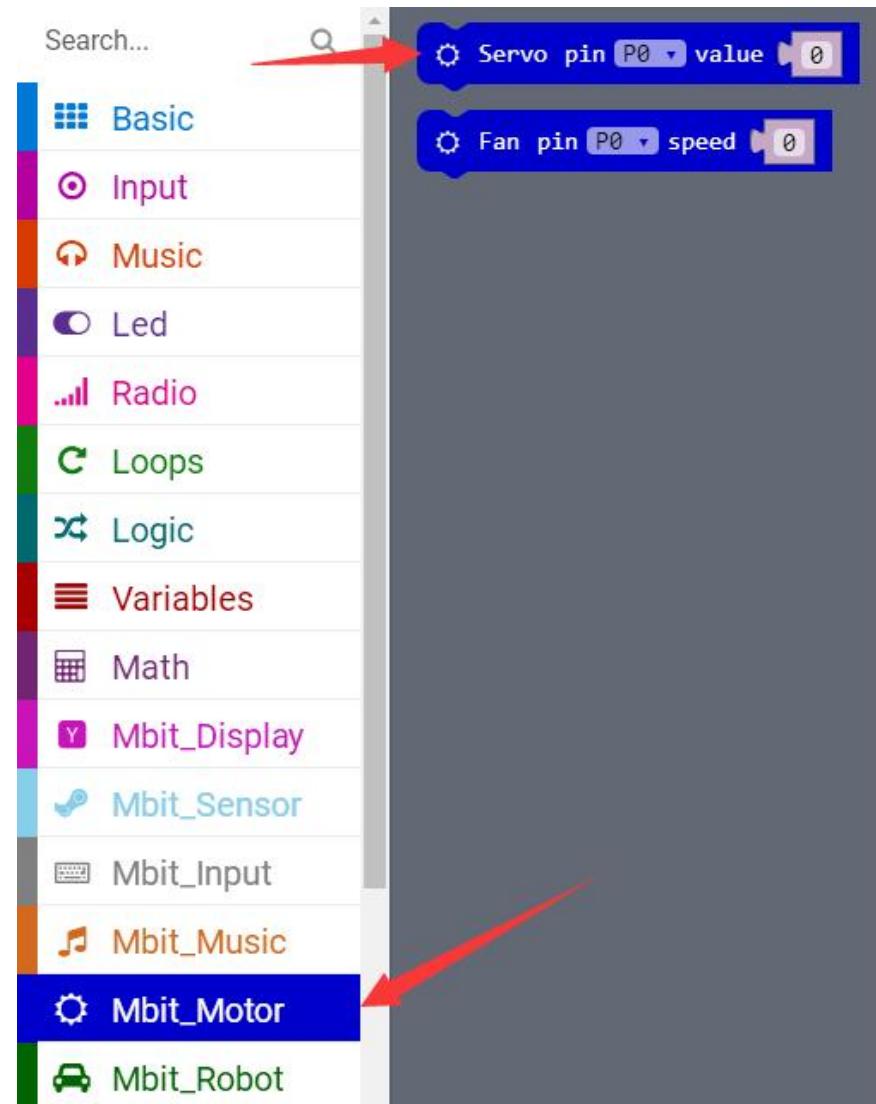


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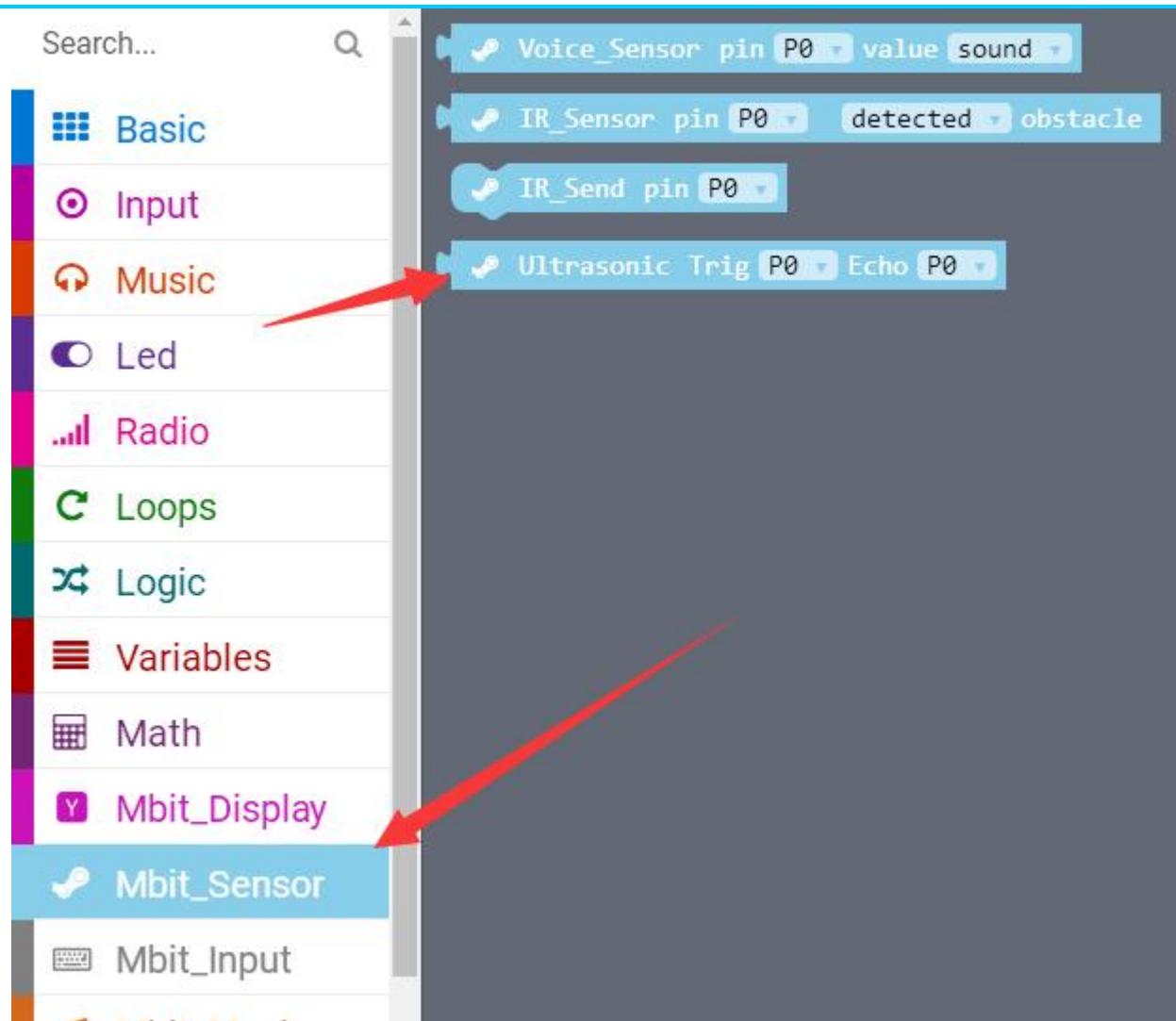
Search for blocks



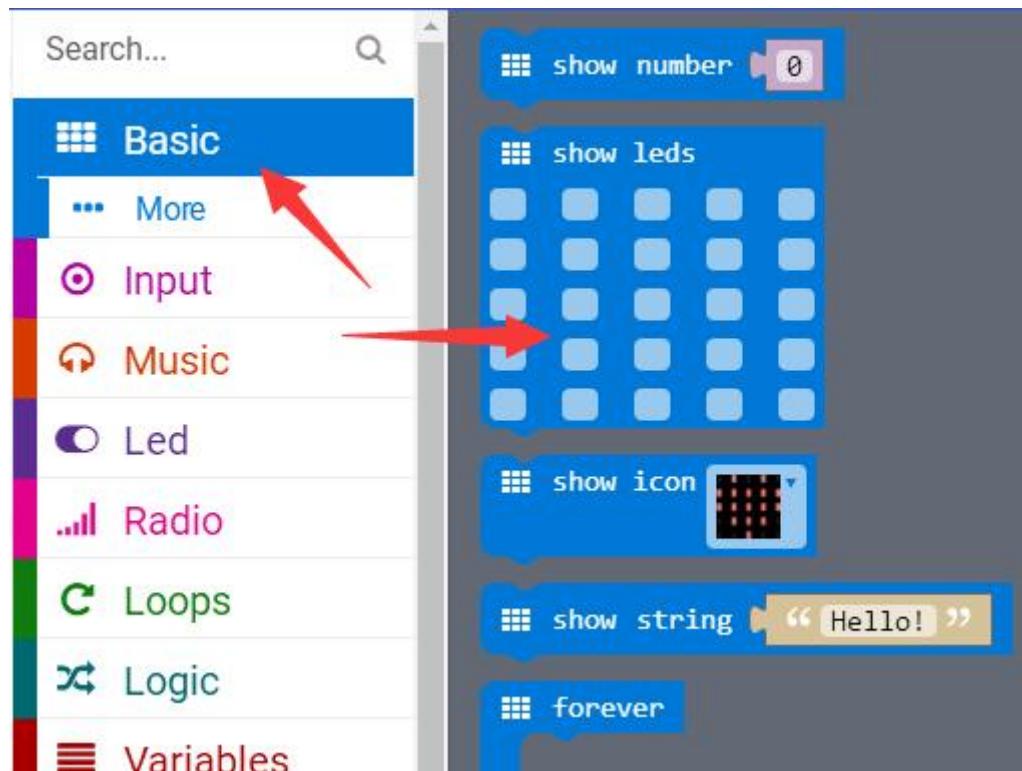
LROBRYA



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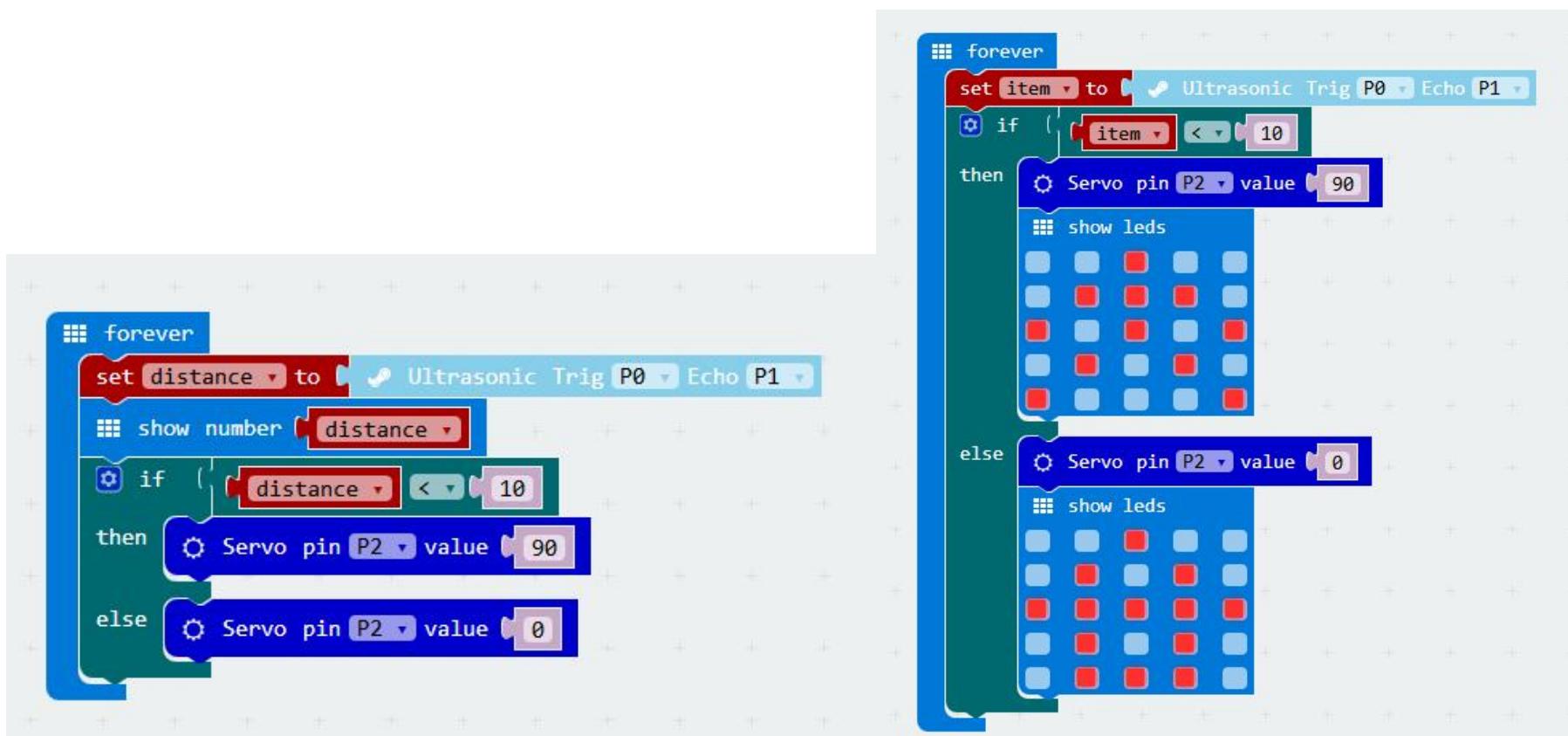


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Combine blocks

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Lesson 20 Colorful gesture lights

Learning goals

After you download the program, we can hold the micro:bit and use gravity sensing of micro:bit to make different gestures to control the color of the light as well as the light up and the light off. We can see in the picture, when we pick up the micro:bit and the array is up, it will light up the white light composed of red, green and blue. In addition, different gestures can also show red, green, blue ,yellow, etc.

Preparation

Hardware:

- 1 x Micro:bit Board
- 1 x USB Cable
- 1 x RGB module
- 4 x Dupont line

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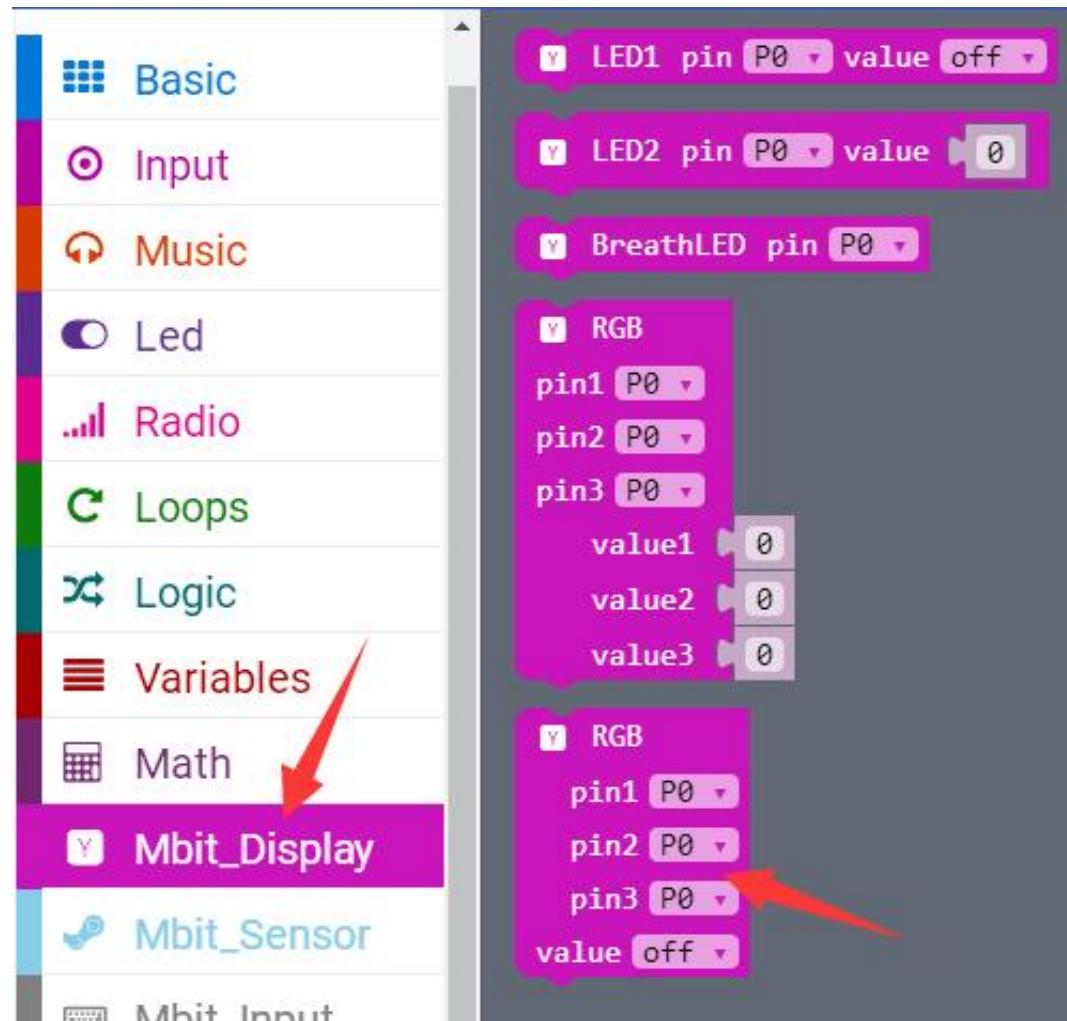
- 4 x Alligator clip

Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

Search for blocks

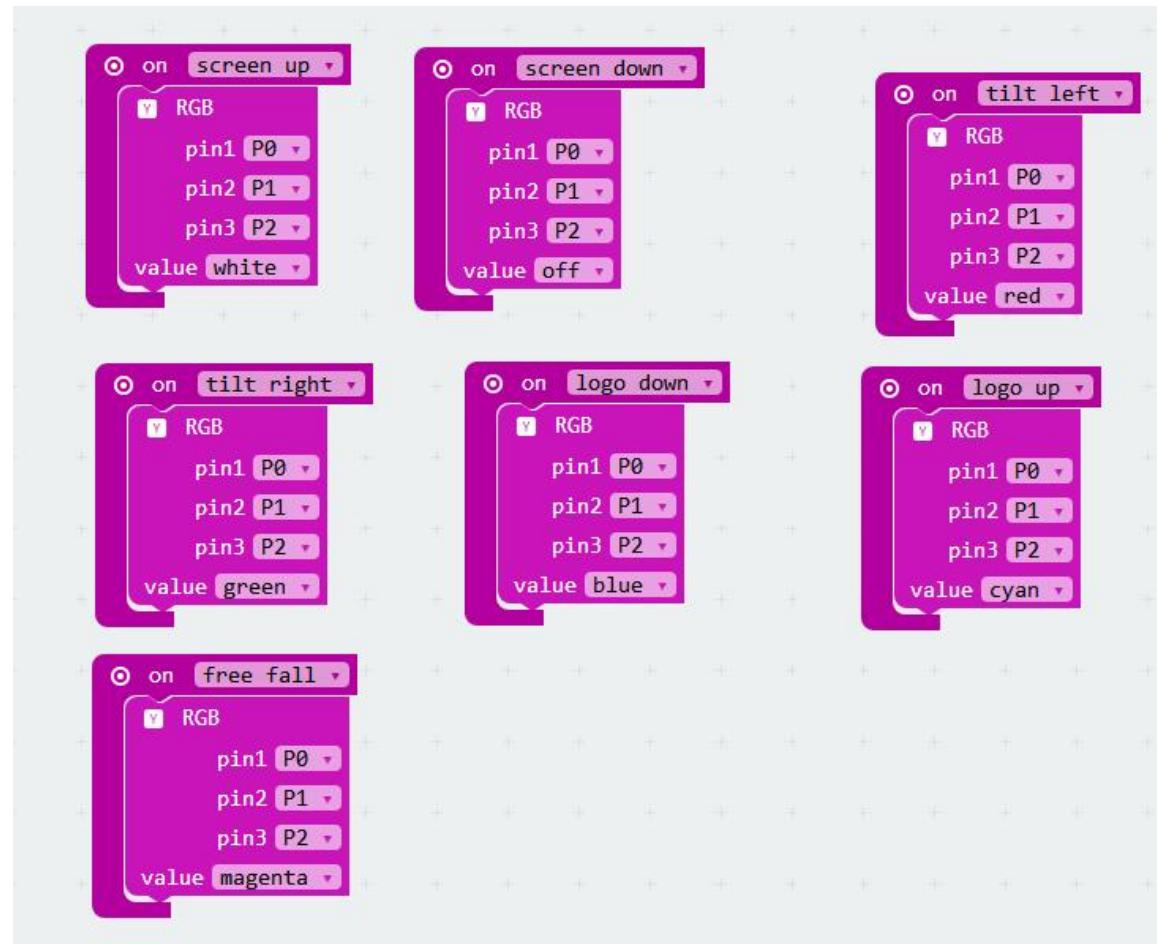


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Combine blocks

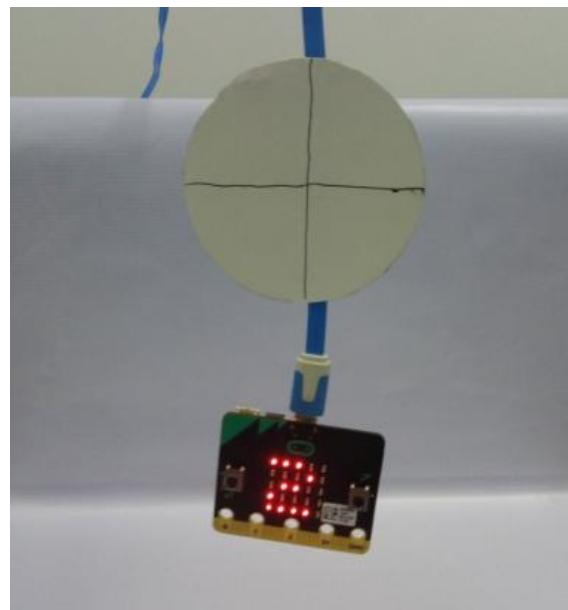


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Lesson 21 Target score

Learning goals

After you download the program, you can use a piece of cardboard as a target on the cable. You can use ping-pang ball as a throwing dart. Whenever you hit it, the scorer will add one point. If you don't hit it, you won't score.





Preparation

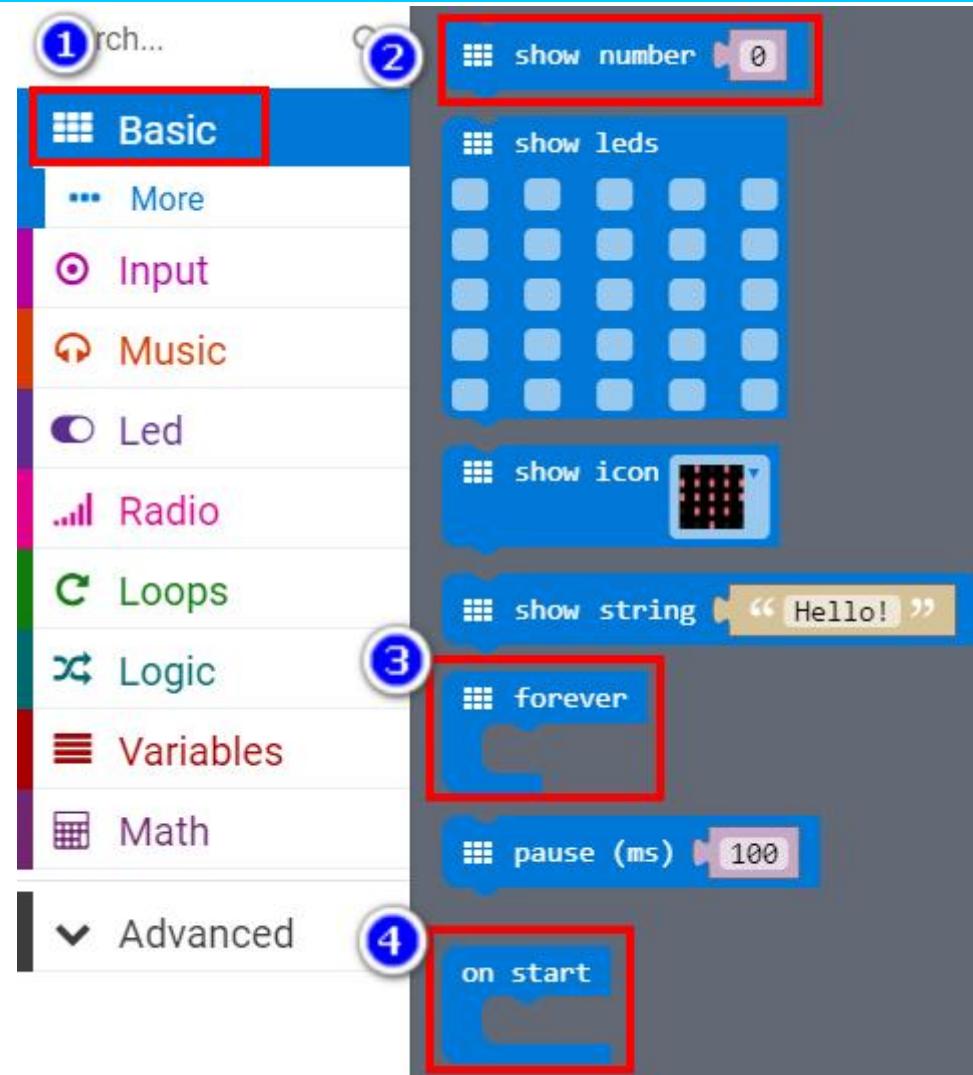
Hardware:

- 1 x Micro:bit Board
- 1 x USB Cable
- 1 x cardboard
- 2 x ping-pang Ball

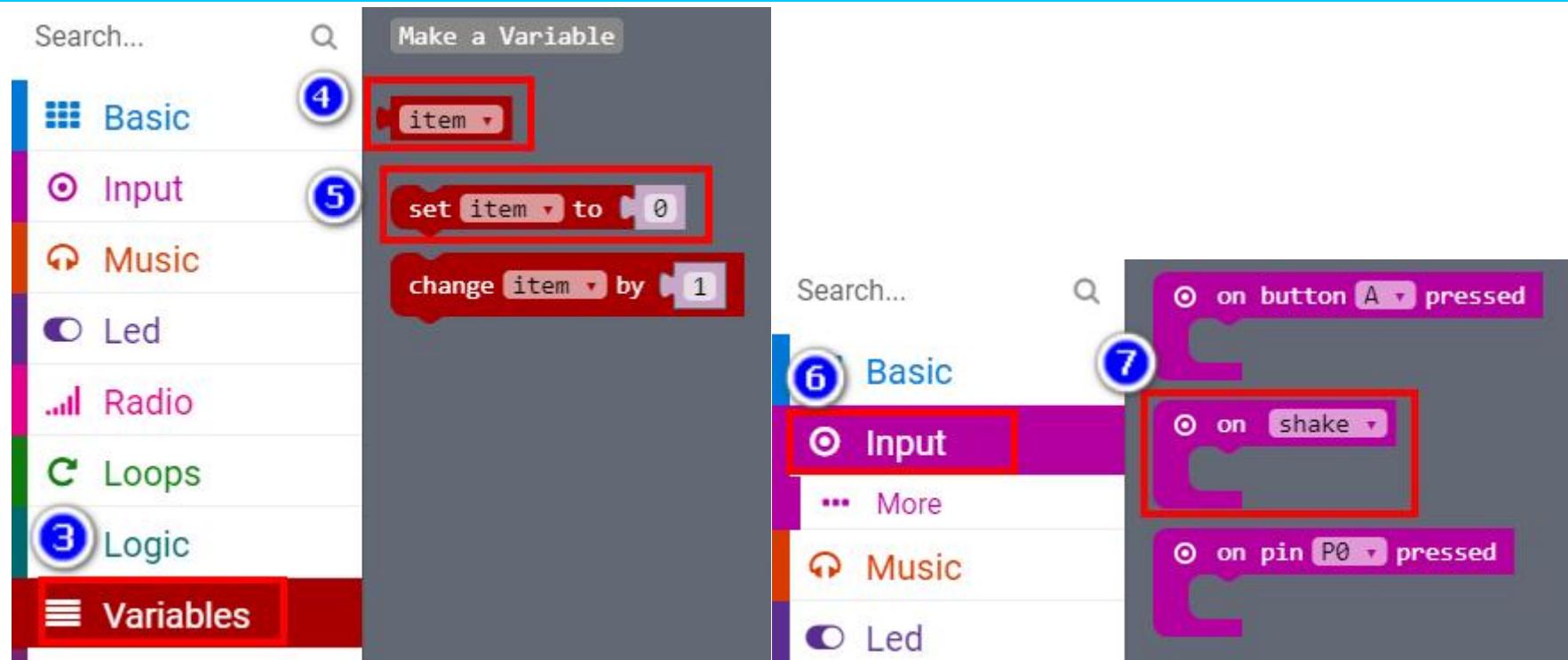
Then the micro:bit is connected to the computer through USB, and the computer will pop up a U disk and click the URL in the U disk to enter the programming interface. Input this URL https://github.com/lzty634158/yahboom_mbit_en to get the package.

Search for blocks

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Search... (9)

- Basic
- Input
- Music
- Led
- Radio
- Loops
- Logic
- Variables (8)
- Math (1)
- More

The screenshot shows the Scratch script editor interface. On the left, there's a sidebar with categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables (with a count of 8), Math (with a count of 1, highlighted with a red border), and More. On the right, the main workspace displays a vertical stack of Scratch blocks. The top block is a Math block: "0 + 0", which is also highlighted with a red border. Below it are other Math blocks: "0 - 0", "0 × 0", "0 ÷ 0", a "0" block, a "pick random 0 to 4" block, and a "pick random true or false" block.

LROBRUYA

Combine blocks

