

# Spiders sense human body

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## Spiders sense human body

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## 1. Learning Objectives

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In this course, we mainly learn how to use MakeCode graphical programming to realize the function of the spider automatically sensing the human body behind and escaping.

## 2. Building Blocks

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For the building block steps, please refer to the installation drawings of [Assembly Course]-[Fleeing spider] in the materials or the building block installation album.

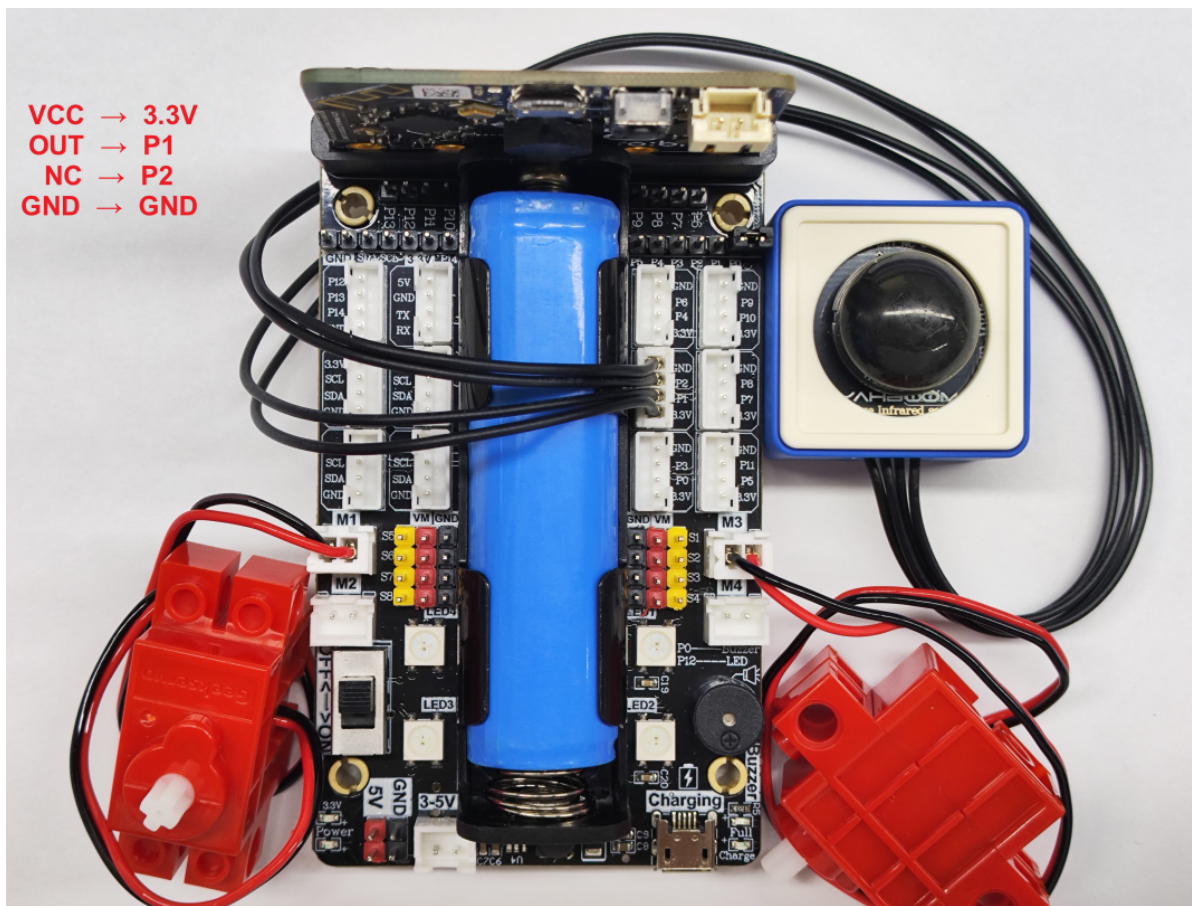
## 3. Sensor Wiring

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The motor wiring on the left side of the car is inserted into the M1 interface of the Super:bit expansion board, and the black line is close to the battery side;

The motor wiring on the right side of the car is inserted into the M3 interface of the Super:bit expansion board, and the black line is close to the battery side;

The human infrared sensor module is connected to the P1P2 interface.



## 4. Programming

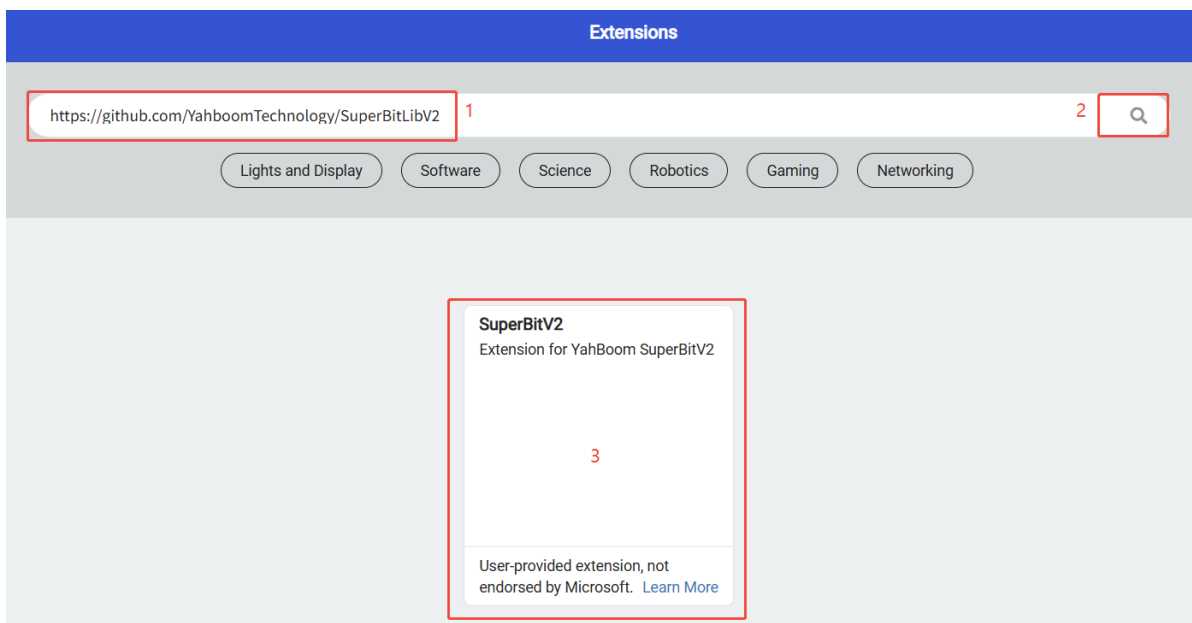
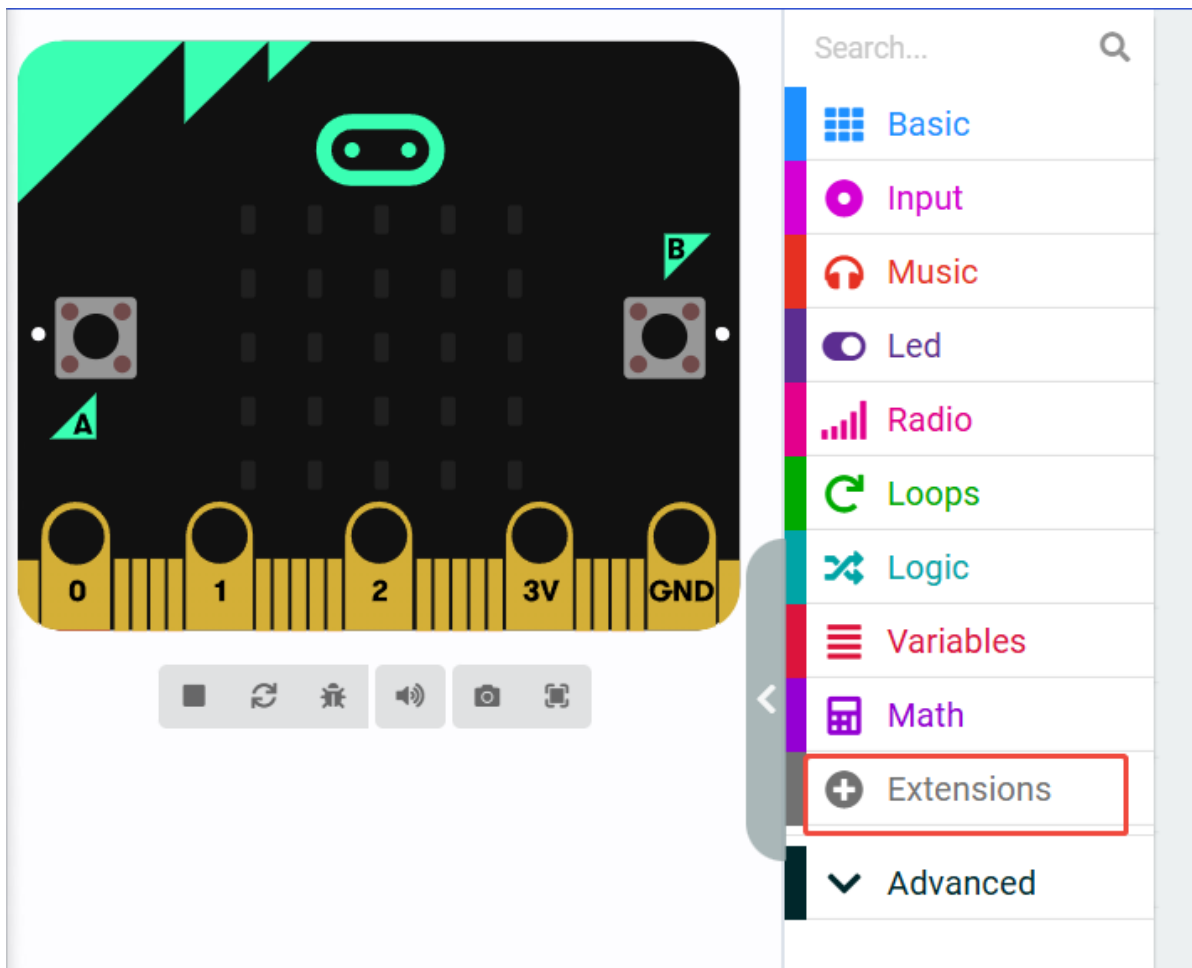
### Method 1 Online Programming:

First, connect micro:bit to the computer via a USB data cable. The computer will pop up a U disk. Click the URL in the U disk: <https://makecode.microbit.org/> to enter the programming interface. Then, add the Yahboom software package <https://github.com/YahboomTechnology/SuperBitLibV2> to start programming.

### Method 2 Offline Programming:

Open the offline programming software MakeCode and enter the programming interface. Click [New] and add the Yahboom software package <https://github.com/YahboomTechnology/SuperBitLibV2> to start programming.

### 4.1 Adding extension packs



## 4.2 Building blocks used

The locations of the building blocks required for this programming are shown in the figure below.

Search...

**Basic**

- Input
- Music
- Led
- Radio
- Loops
- Logic
- Variables
- Math
- SuperBitV2
- SuperBitV2\_Digital
- SuperBitV2\_Analog
- SuperBitV2\_PWM
- Neopixel
- Extensions
- Advanced

**Basic**

show number 0

show leds

show icon

show string "Hello!"

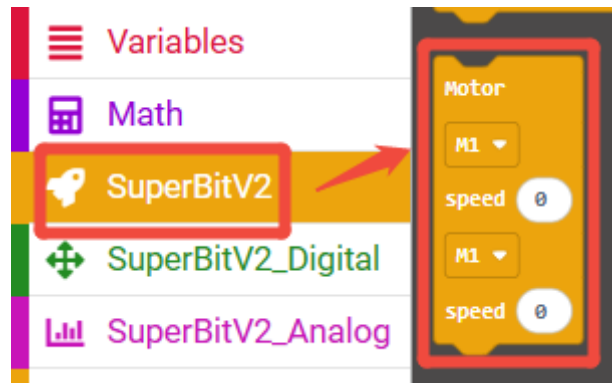
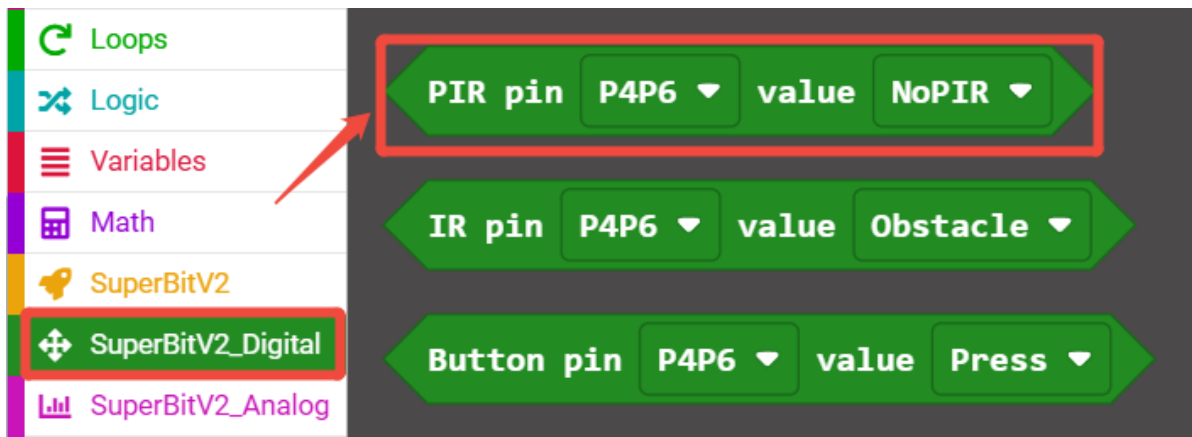
clear screen

forever

on start

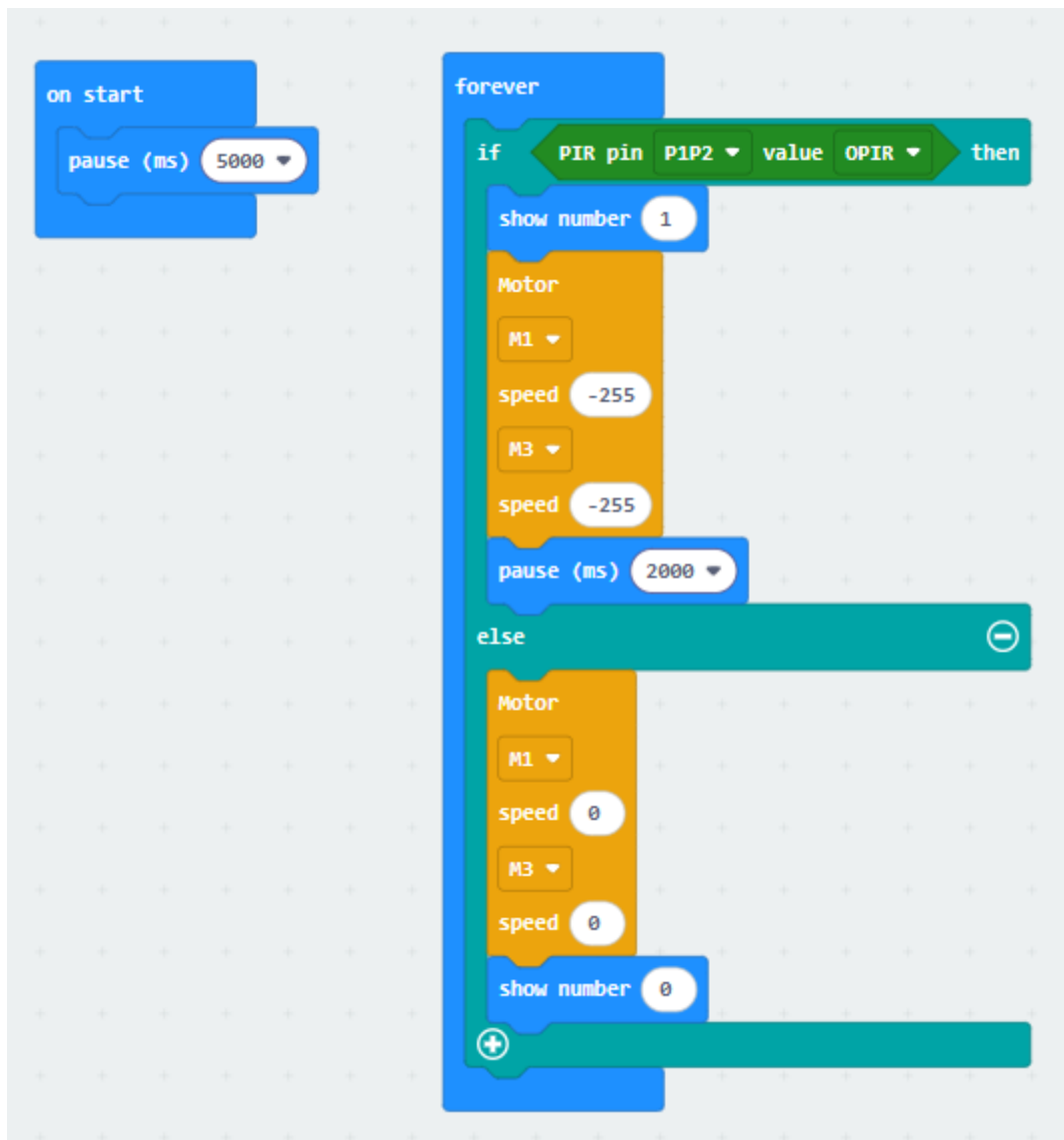
pause (ms) 100

show arrow North



## 4.3 Combining blocks

The summary program is shown in the figure below.



You can also directly open the **Spiders-sense-human-body.hex** file provided in this experiment and drag it into the browser that opens the URL, and the program diagram of this project source code will be automatically opened.

## 5. Experimental phenomenon

After the spider is powered on, the microbit mainboard will display 0 after initialization. When the human infrared module detects an obstacle behind it, the dot matrix displays 1 and the spider moves forward for 2 seconds. Otherwise, the spider is in a motionless state and the microbit mainboard displays 0.