Clumsy reptile

1.Learning goals

In this course, we mainly learn how to use MakeCode graphical programming to make the unicycle movement.

The principle of unicycle walking:

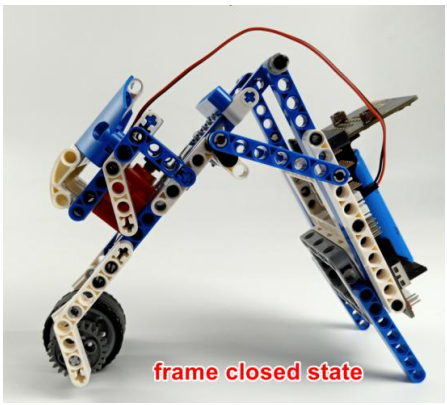
We can change the friction of the front wheels by adjusting the 1# bolt connection snap ratchet to control the direction of the unicycle.

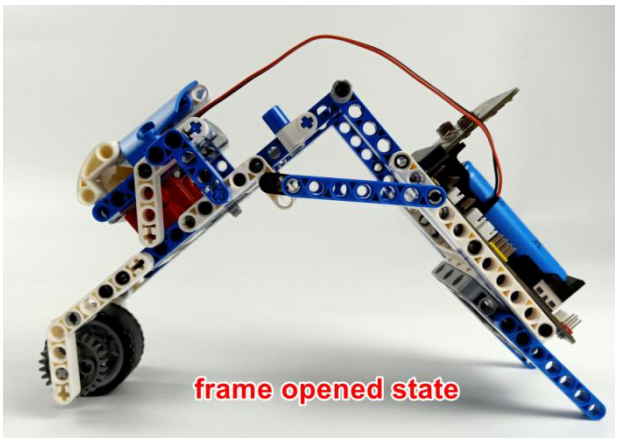
When the 1# bolt connector is located on the front side of the 24-tooth gear, the front wheel can only move forward, so the unicycle forward;
When the 1# bolt connector is located on the rear side of the 24-tooth gear, the front wheels can only move backwards, and the unicycle backwards.

2.Building block assembly steps

For the building block construction steps, please refer to the installation manual or building block installation picture of [Assembly course]-[Unicycle].

After the assembly is completed, the frame of the unicycle needs to be adjusted to a closed state.

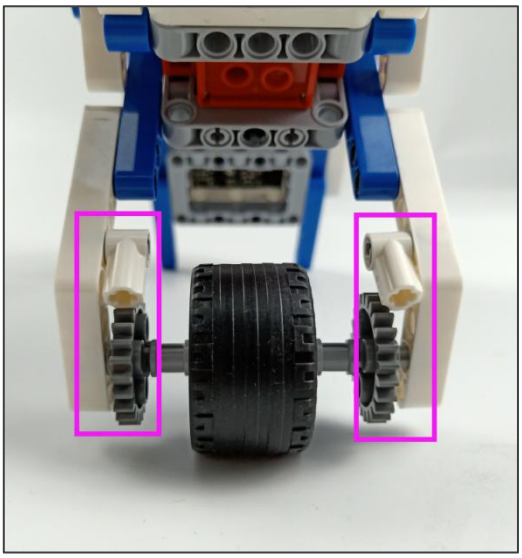




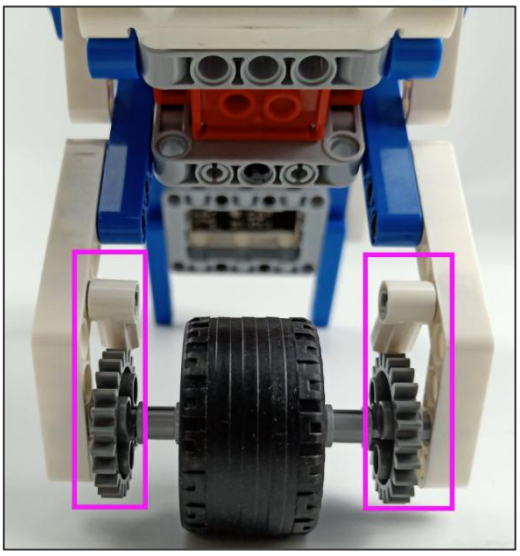
! Note

When 1# bolt connector are placed in front of the 24-tooth gear, the unicycle can move forward.

When 1# bolt connector are placed behind the 24-tooth gear, the unicycle can move backwards.



【1# bolt connector are placed in front of the 24-tooth gear】

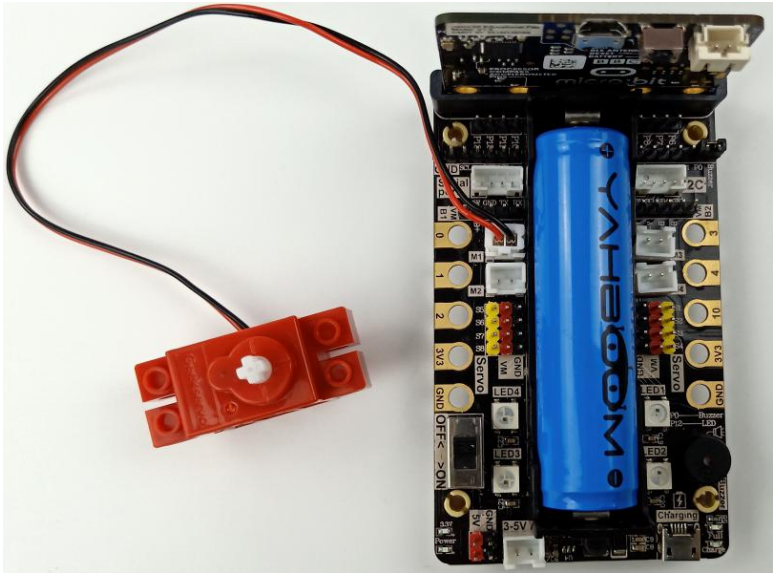


【1# bolt connector are placed behind the 24-tooth gear】

3.Wiring of motor

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

As shown below.



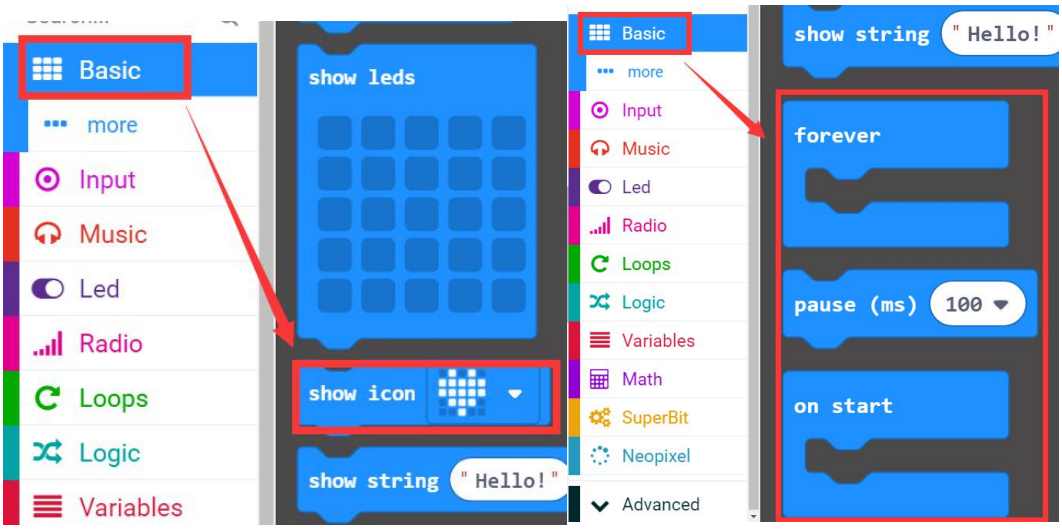
4.Programming method

Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface. Add the Yahboom package **https://github.com/lzty634158/SuperBit** to program.

Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, add Yahboom package: **https://github.com/lzty634158/SuperBit**, you can program.

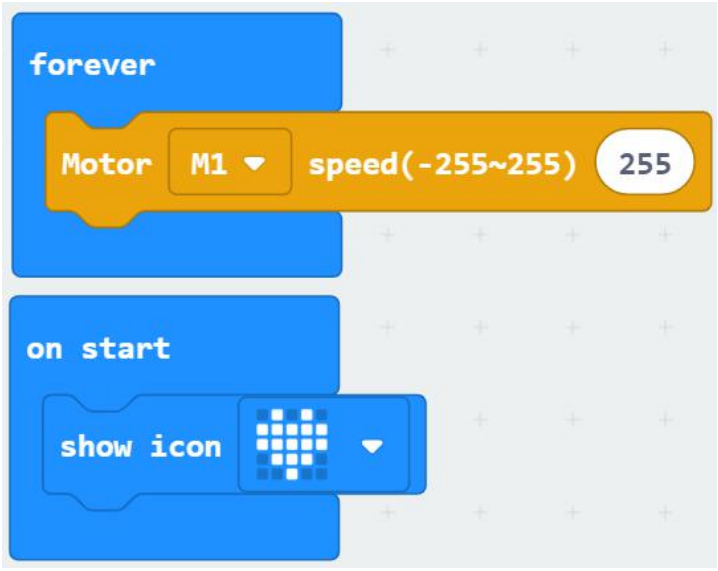
5.Looking for blocks

The following is the location of the building blocks required for this programming.



6.Combine block

The summary program is shown below.



7.Experimental phenomena

After the program is successfully downloaded, the micro:bit dot matrix will display the heart pattern.

Case 1: If we put two 1# bolt connector in front of the 24-tooth gear, the car will move forward.

Case 2: If we put two 1# bolt connections behind the 24-tooth gear, the car will retreat.