Push-up shovel truck

Goal

In this lesson, we will learn to control the steering gear of the Magic_Car shovel truck and realize the push-ups of the shovel truck.

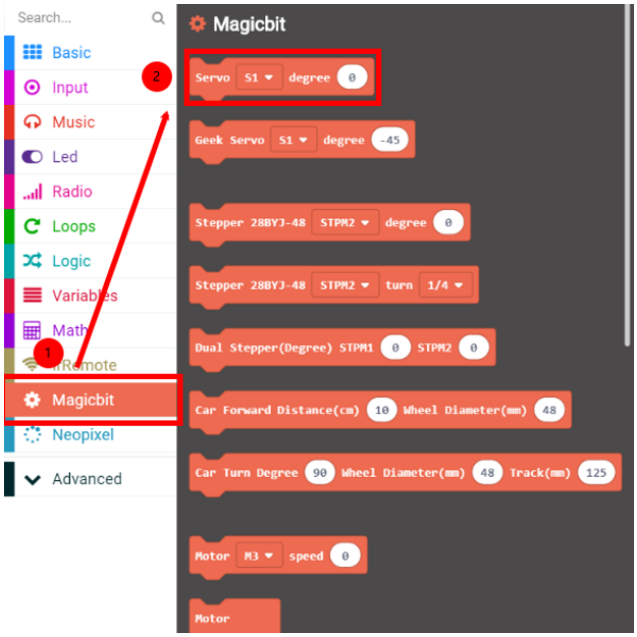
Programming method

(1) online programming: connect micro:bi with the computer through the USB cable, open my computer, find the MICROBIT memory disk and open it, double-clickMICROBIT.HTM, and open the browser programming page. After creating a new project, click advanced, click expand, enter the extension package addresshttps://github.com/emakefun/pxt-magicbit.git, enter enter or search, add the Microbit extension package, and you can start programming the car.

(2) offline programming: open the offline programming software, enter the programming interface, create a new project, click advanced, click expand, enter the address of the extension package https://github.com/emakefun/pxt-magicbit.git and press enter or search, add the Microbit extension package, and then you can start programming and control the car.

Block programming

1. Location of building blocks required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Magicbit
Servo S1 degree 0
Geek Servo S1 degree -45
Stepper 28BYJ-48 STPM2 degree 0
Stepper 28BYJ-48 STPM2 turn 1/4
Dual Stepper(Degree) STPM1 0 STPM2 0
Car Forward Distance(cm) 10 Wheel Diameter(mm) 48
Car Turn Degree 90 Wheel Diameter(mm) 48 Track(mm) 125
Motor M3 speed 0
Motor
1
2

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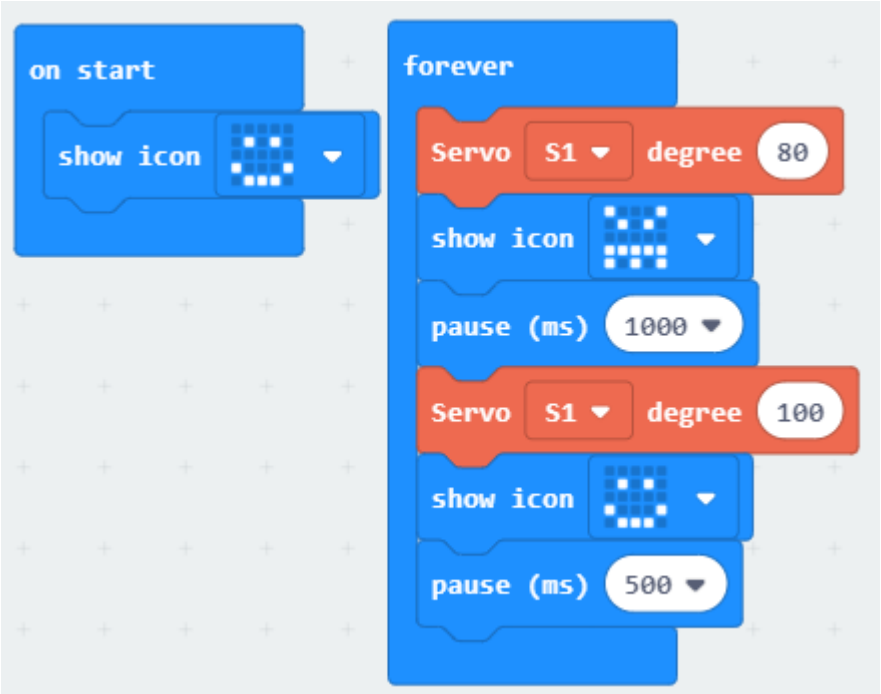
数组
文本
基本
显示数字 0
显示 LED
显示图标
显示字符串 "Hello!"
无限循环
暂停 (ms) 100
当开机时

2、Final program building block combination



Wiring

1. Connection of steering gear;

The car steering gear is connected to the S1 pin of the PWM steering gear of the expansion board, in which the yellow line of the steering gear is connected to the blue pin of the expansion board, the red line of the steering gear is connected to the red pin of the control board, and the brown line of the steering gear is connected to the black GND pin of the control board.

The experimental results

After downloading the program to the microbit motherboard of Magic_Car car, open the main switch of the expansion board, microbit displays the smiling face, the shovel of the shovel truck will lift the front end of the shovel truck, and display a difficult expression; After holding on for 1 second, the shovel of the shovel truck will put down the front of the shovel truck again, showing a happy expression, and so on. (note: during the actual operation, the Angle of the steering gear can be adjusted according to the actual situation to achieve the best effect)