Control Magic:car headlight

Goal

In this lesson, we will learn to control the headlights of the Magic_Car to make the headlights of the car flash.

Note: the positive and negative poles of the lamp should be clearly separated during the experiment. The positive pole should be connected to 3.3v, and the negative pole should be connected to IO pin. The IO pin actually connected corresponds to the pin selected in the program. It is not recommended to be attached to P0, P1 pins because these two pins are occupied through jumper caps.

Programming method

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

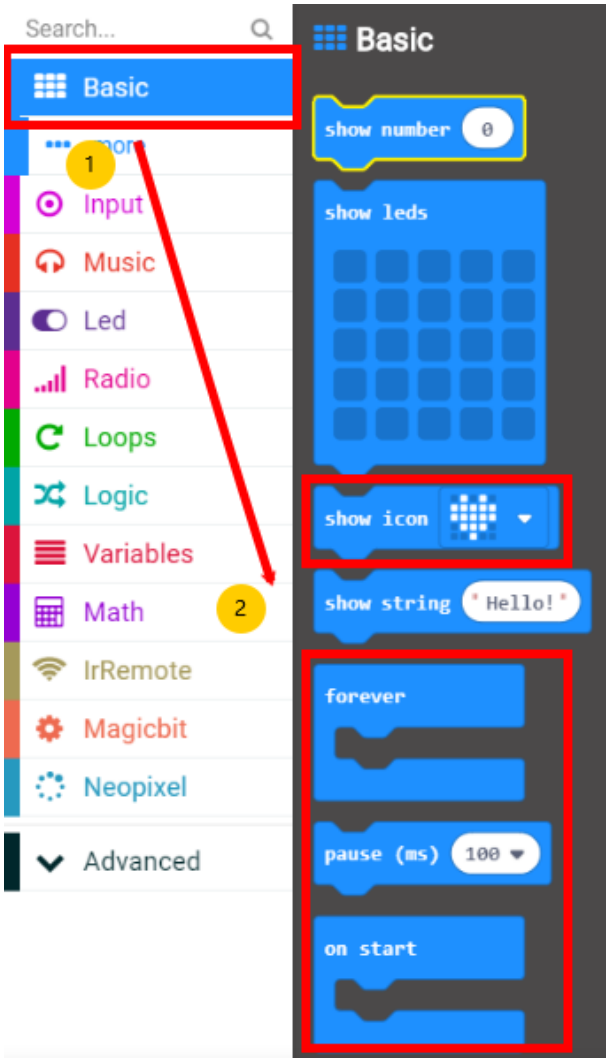
(2) offline programming: open the offline programming software, enter the programming interface, create a new project, click advanced, click expand, enter the address of https://github.com/emakefun/pxt-magicbit.git the extension package, and press enter or search, add the Microbit extension package,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

RGB light principle

Car headlight is by controlling the LED lamp negative line potential to control the lights on and off. Generally speaking, when the program set the negative line of the lamp to 0, "the lamp" is on, and when the program set the negative line of the lamp to 1, "the lamp" is off.

Block programming

1、 Location of building blocks required


Search...
Basic
1
Input
Music
Led
Radio
Loops
Logic
Variables
Math
2
IrRemote
Magicbit
Neopixel
Advanced
Basic
show number 0
show leds
show icon
show string "Hello!"
forever
pause (ms) 100
on start


Music
Led
Radio
Loops
2
Logic
Variables
Math
IrRemote
Magicbit
Neopixel
Advanced
Functions
Arrays
Text
Game
1
Images
Pins
more
Pins
digital read pin P0
digital write pin P0 to 0
analog read pin P0
analog write pin P0 to 1023
analog set period pin P0 to (µs) 20000
map 0
from low 0
from high 1023
to low 0
to high 4
servo write pin P0 to 180
servo set pulse pin P0 to (µs) 1500

2、 Final program building block combination

The experimental results

After downloading the program to the microbit motherboard of Magic_Car, open the main switch of the expansion board, microbit displays a smiley face, and Magic_Car's big lamp flashes at 500ms intervals.