

## Omni:bit--Advanced control

### 1.Learning goals

This lesson mainly explains the use of the Omni:bit analog handle remote control building block. We can achieve the OmniBit car's four-wheel advanced control by obtaining the handle rocker X value, Y value and steering A value.

### 2.Programming method

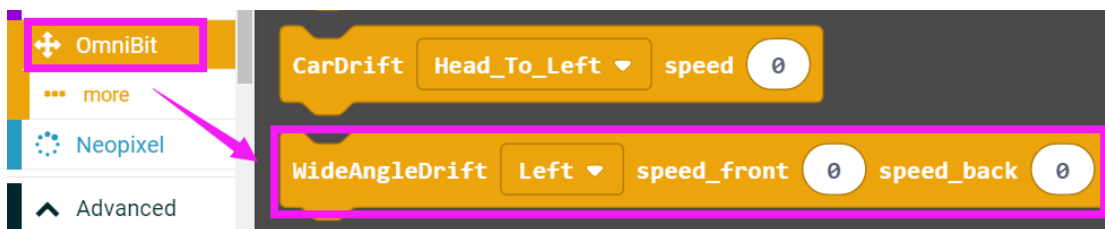
**Mode 1 online programming:** First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: <http://microbit.org/> to enter the programming interface. Add the Yahboom package <https://github.com/lzty634158/OmniBit>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

### 3.Looking for blocks

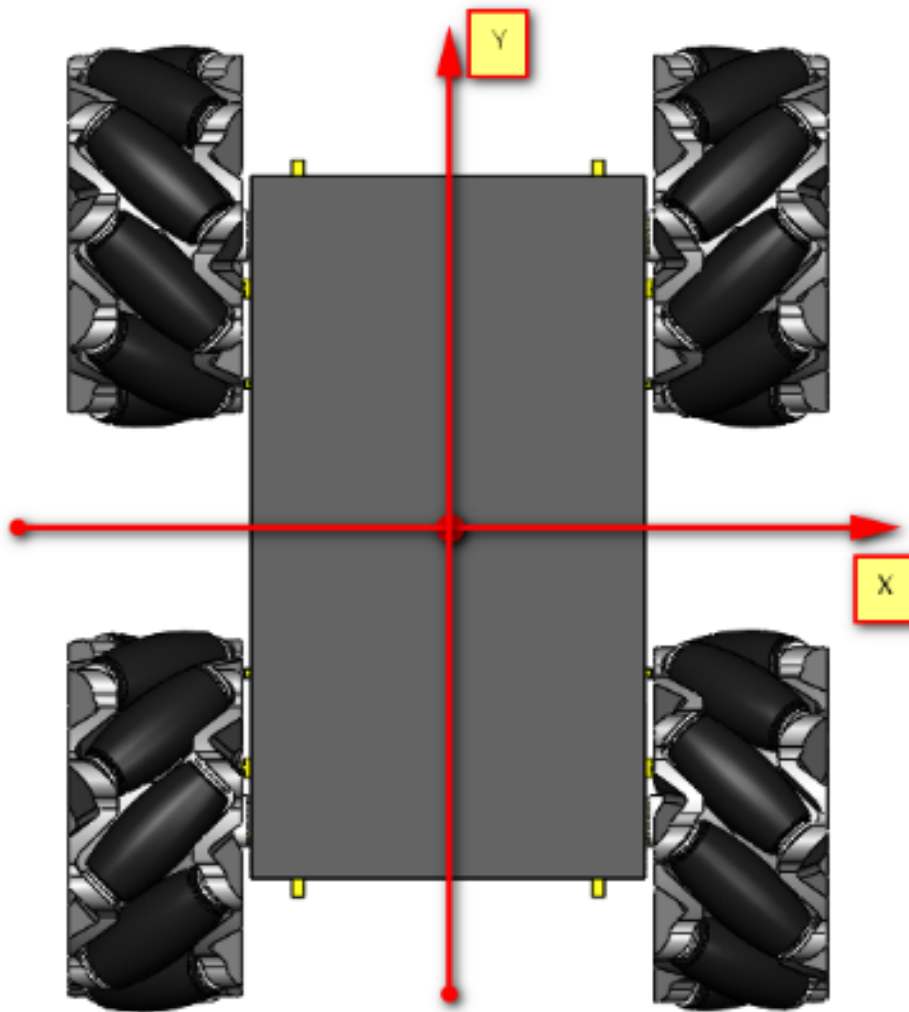
The following is the location of the building blocks required for this programming.



### 4.Building block analysis:

1) We can use the micro:bit to read the X and Y values of the rocker; Among them, the X value is the value of the lateral movement of the control car, the range is [-512, 512], and the right is positive and left negative; The Y value is the value of the longitudinal movement of the control car, the range is [-512, 512], the front positive and the rear negative (up positive and down negative);

The rotation direction value control the rotation of the car, the right rotation of the car is +1, the left rotation of the car is -1, and the not rotate is 0.



- 1) If the rotation direction value is 0, the front of the car remains unchanged, and the car body controls the four-wheel speed according to the X-axis and Y-axis simulation values of the handle rocker, so that the combined speed direction of the car body is consistent with the direction of the rocker.
  - 2) If the rotation direction value is 1, the car body will spin right; conversely, if the rotation direction value is -1, the car body will spin left.
  - 3) When the direction of the rocker is forward and the value of the rotation direction is 1, the movement mode of the car body is turn right;
- Other matching methods is the same way.
- For details that use this building block, see the Omni:bit Handle control course.