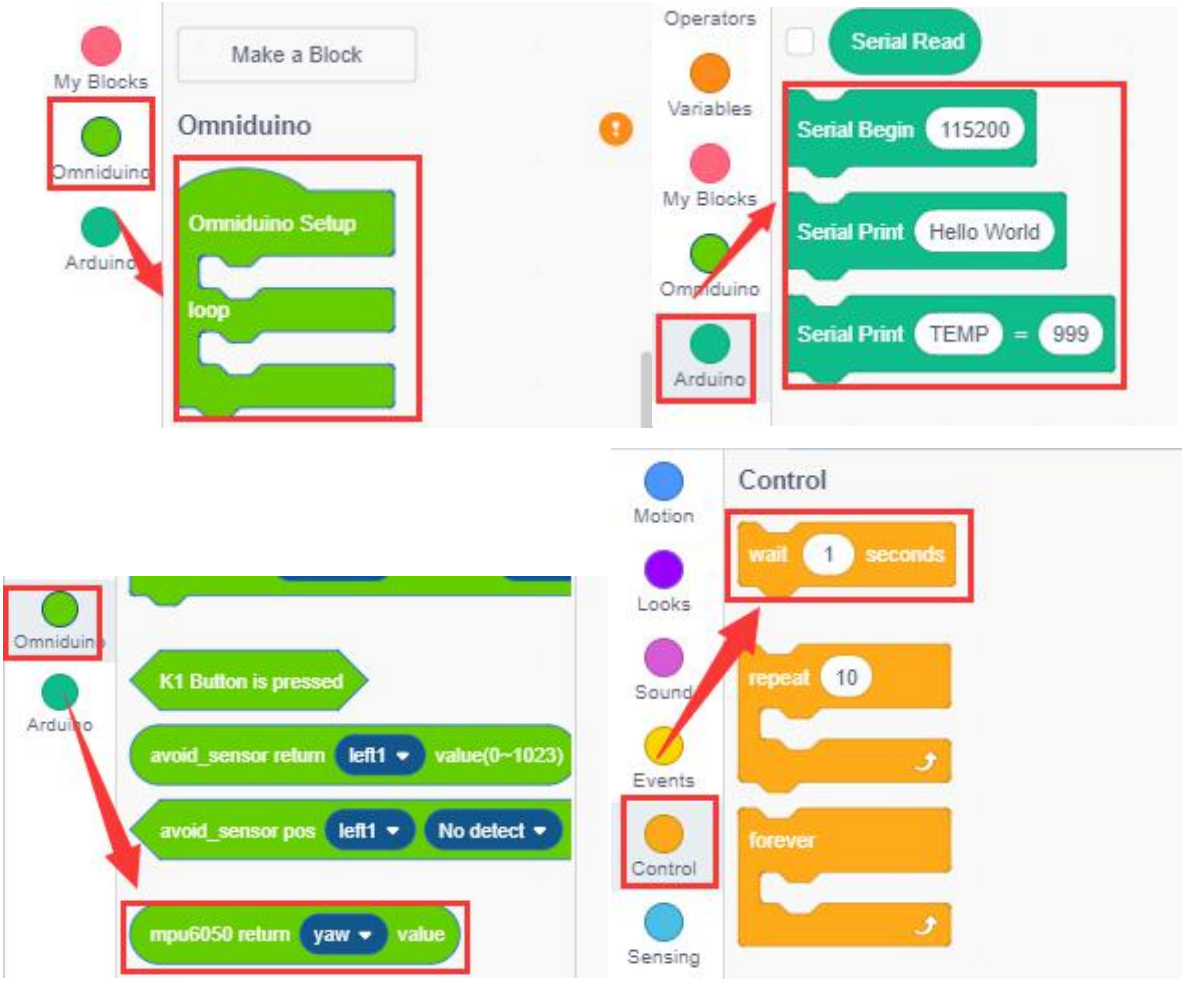
MPU6050 test

1. Learning goal

In this lesson, we will learn how to read MPU6050 data value(yaw,pitch,roll) and print them by serial port.

3. Looking for building blocks

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



1) The content in the Omniduino setup block will only run once when the Omniduino is turned on or the reset button is pressed.

We can write into the initialization and other content in this block.

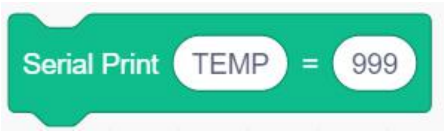
The content in the loop is the main loop function of the Omniduino car, most of the data processing and logic processing are completed in this function.

2) Select the serial port block in the Arduino category.

Serial Begin: select the baud rate

Serial Print: input what you want to print

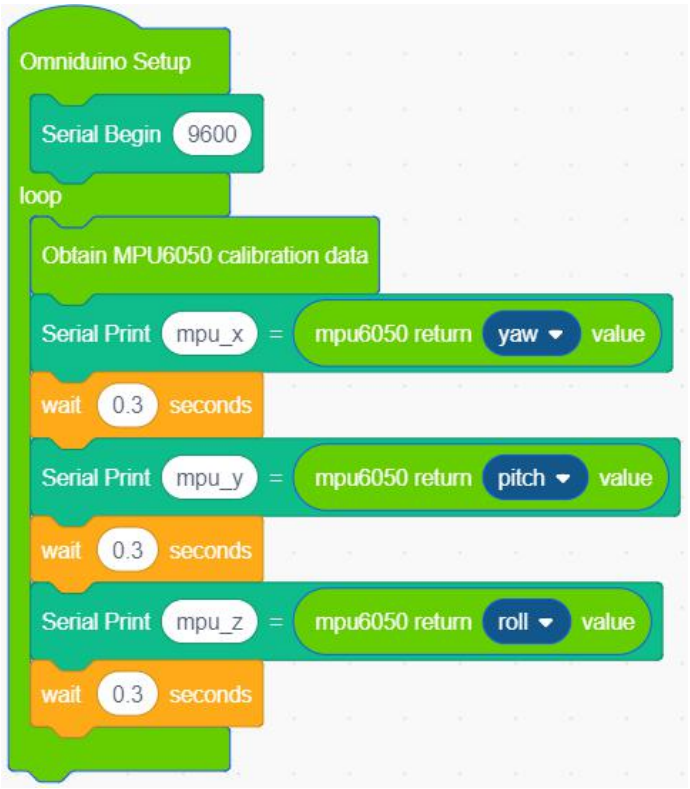
Serial Print:



3) Get the value returned by MPU6050, you can choose different directions.

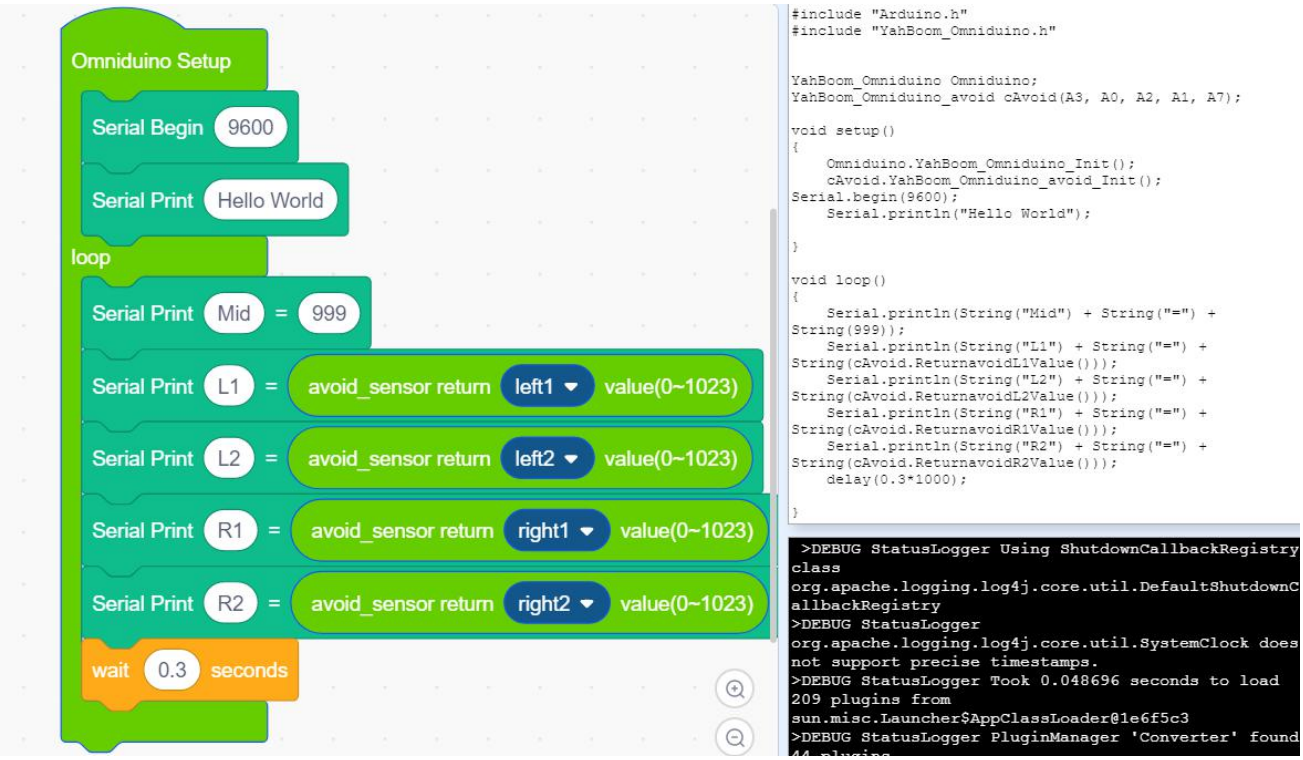
4) The function of waiting for the blocks is equivalent to the delay function in the program. We can enter different values according to our needs. (Unit: second)

Combine blocks

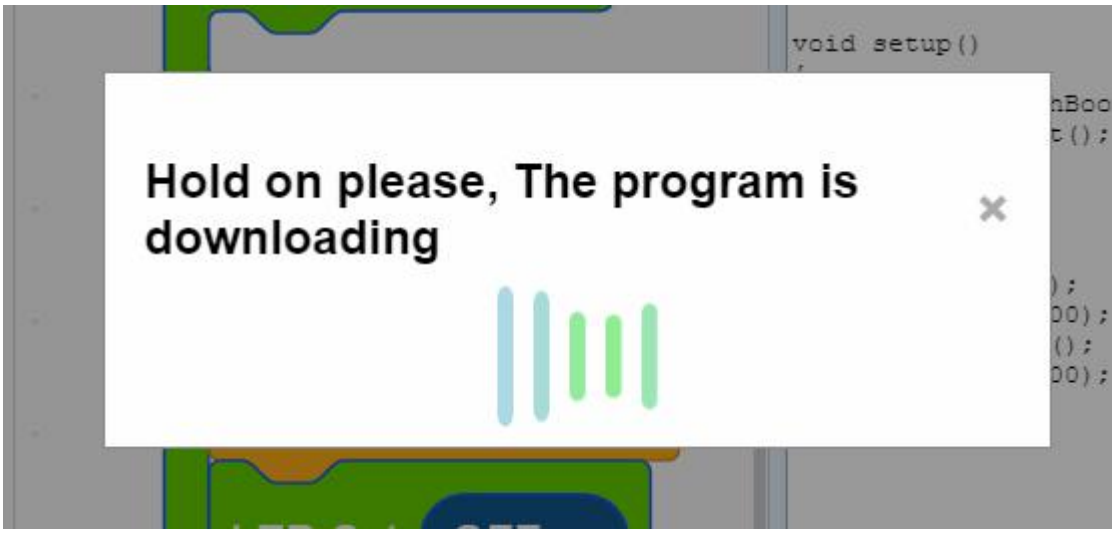


3. Compiling and uploading the program

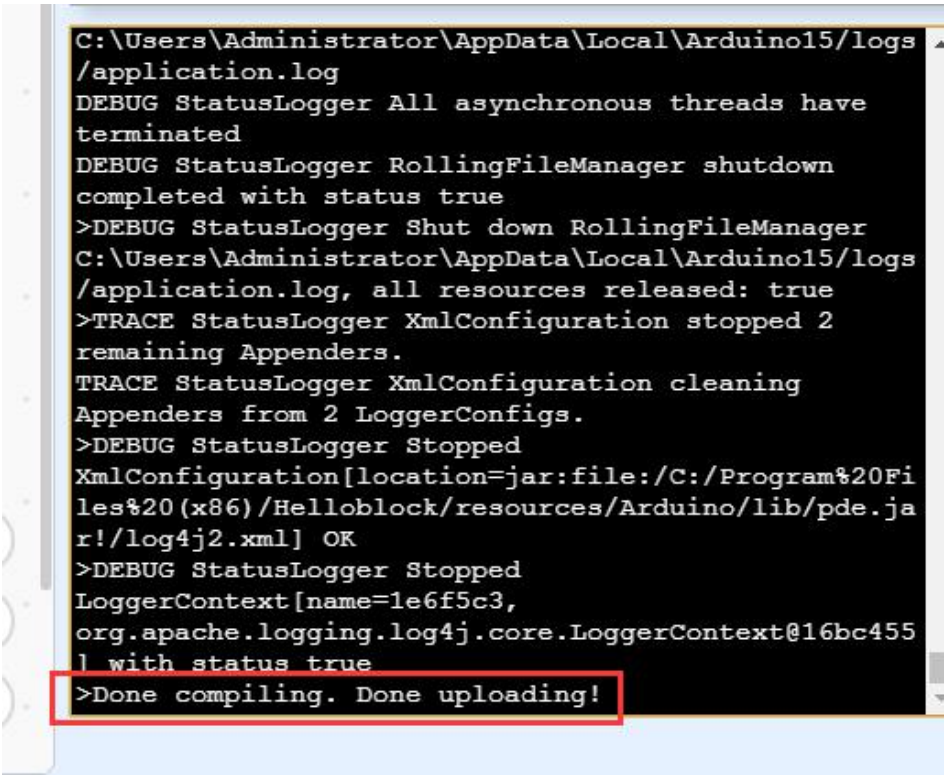
3.1 After building the blocks, click the **[code mode]** in the upper right corner of the Helloblock programming interface. We can see the corresponding Arduino code.



3.2 Then, you need to connect Omniduino car to your computer. Select the CH340 port number identified in the previous step in the upper right corner. Then, click the up arrow to start compiling and uploading the program.



3.3 When the words **"Done compiling Done uploading"** appear in the lower right corner of the programming interface, which means the program has been uploaded.

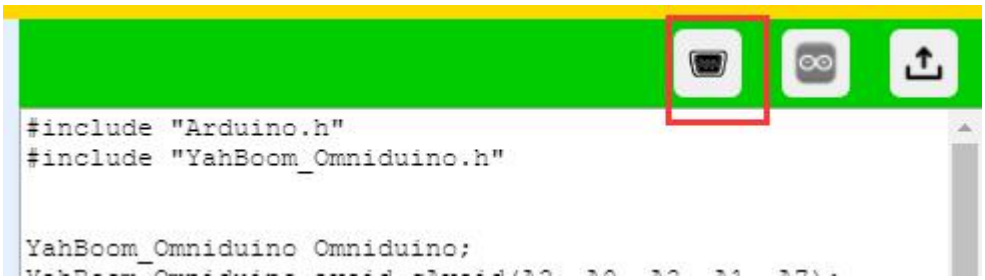


4. Experimental phenomenon

After the program is downloaded. **It takes about 5~6 seconds to initialize the gyroscope.**

Wait for 5~6 seconds after powering on.

The gyroscope started to work normally, then we open the serial port to view the data value.



The serial port number selects the corresponding CH340 serial port, which is the same as the program download serial port.

Select 9600 for the baud rate, and then click “Open”.

We can see that the value of the gyroscope will be printed out through the serial port.

```
【2020-08-14 11:23:49:442】mpu_x=-0.17
【2020-08-14 11:23:49:746】mpu_y=0.22
【2020-08-14 11:23:50:049】mpu_z=-0.01
【2020-08-14 11:23:50:358】mpu_x=0.02
【2020-08-14 11:23:50:662】mpu_y=0.16
【2020-08-14 11:23:50:968】mpu_z=-0.05
【2020-08-14 11:23:51:272】mpu_x=0.52
【2020-08-14 11:23:51:578】mpu_y=-0.07
【2020-08-14 11:23:51:885】mpu_z=-0.34
【2020-08-14 11:23:52:184】mpu_x=0.47
【2020-08-14 11:23:52:492】mpu_y=-0.07
【2020-08-14 11:23:52:793】mpu_z=-0.02
```