

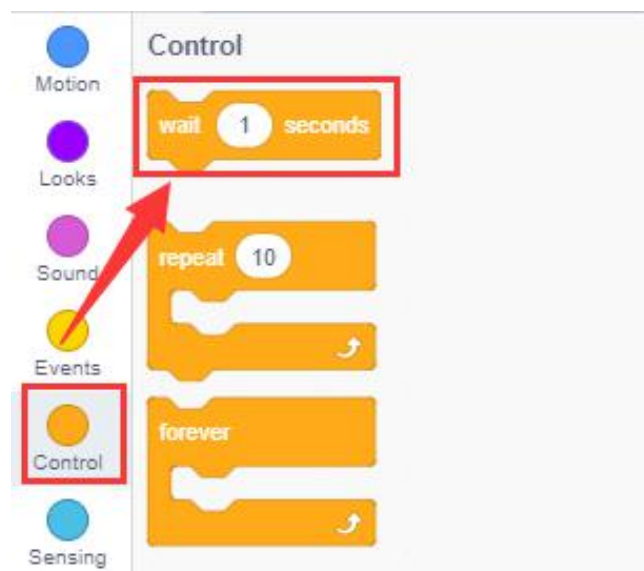
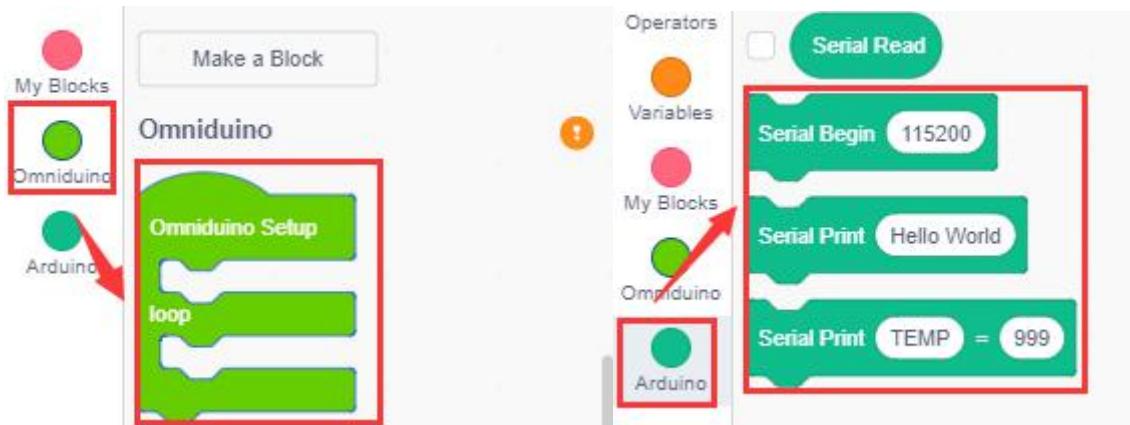
## Serial port print LED brightness value

### 1. Learning goal

In this lesson, we will learn how to read the analog value of the sensor and print it out through the serial port.

### 2. 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:



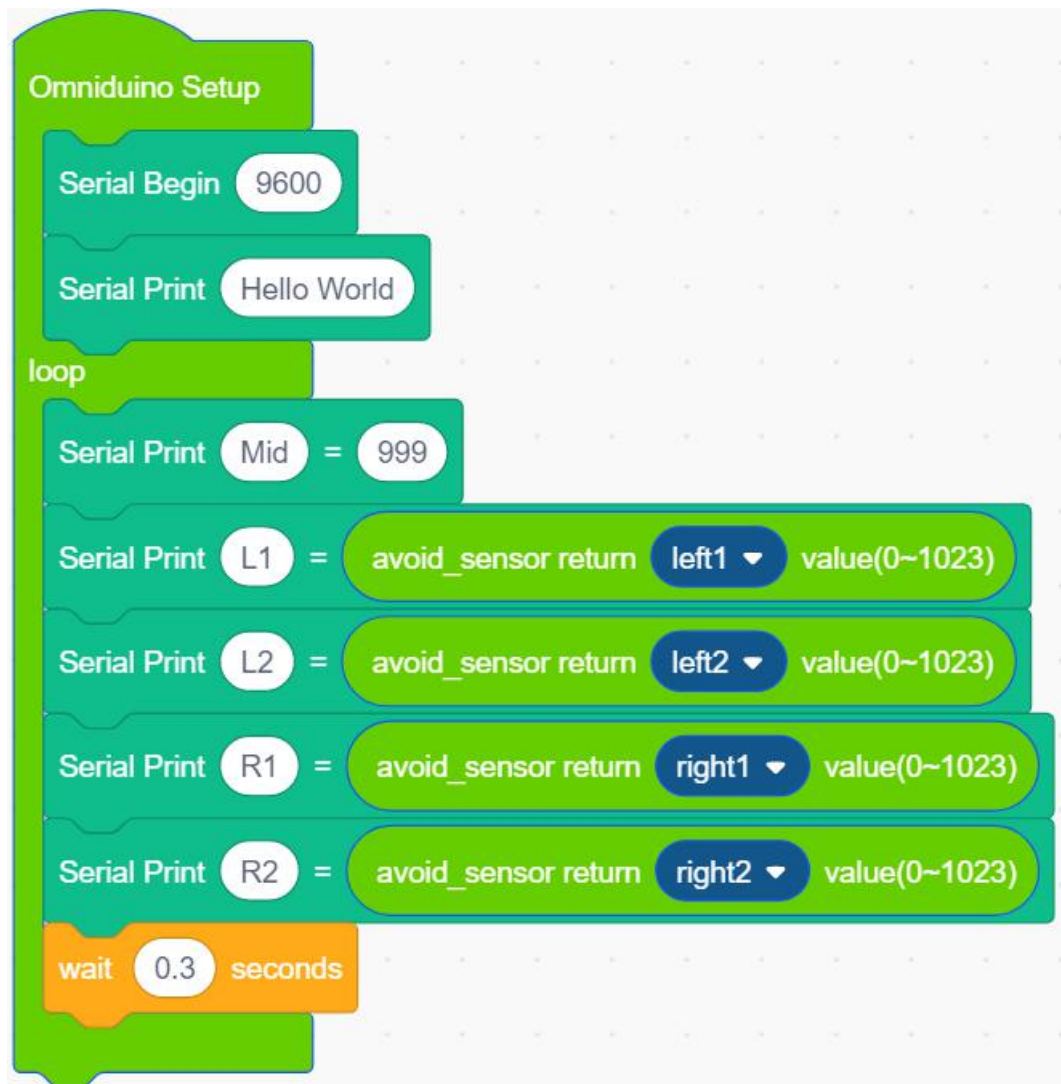
3) For the value returned by infrared obstacle avoidance, you can select the analog value corresponding to the infrared sensor in different directions on the trolley.



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)

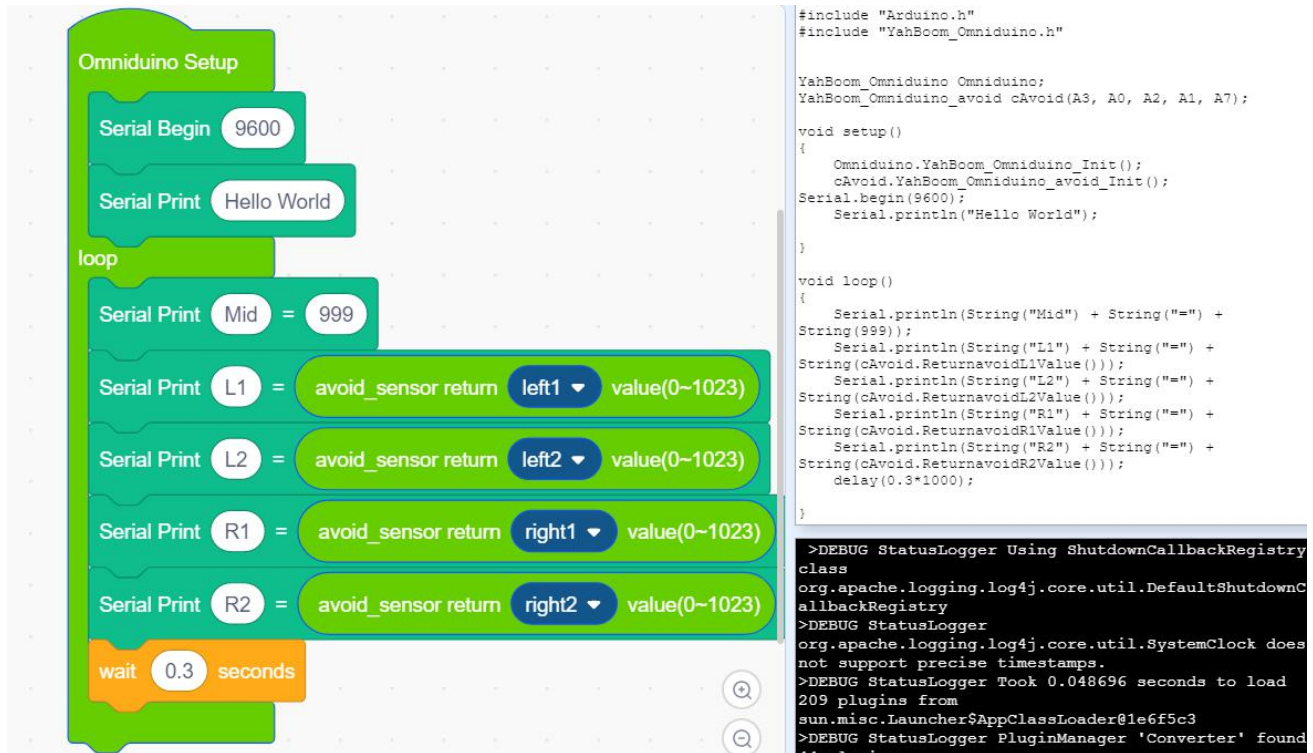


### Combine blocks



### 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.



```

#include "Arduino.h"
#include "YahBoom_Omniduino.h"

YahBoom_Omniduino Omniduino;
YahBoom_Omniduino_avoid cAvoid(A3, A0, A2, A1, A7);

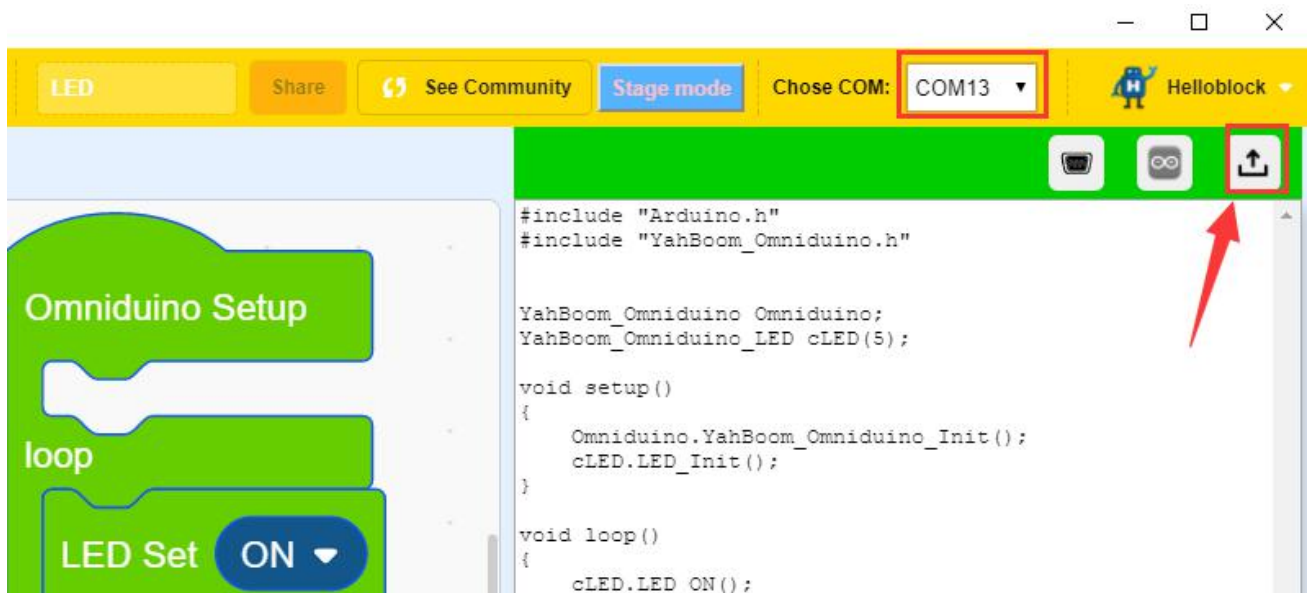
void setup()
{
  Omniduino.YahBoom_Omniduino_Init();
  cAvoid.YahBoom_Omniduino_avoid_Init();
  Serial.begin(9600);
  Serial.println("Hello World");
}

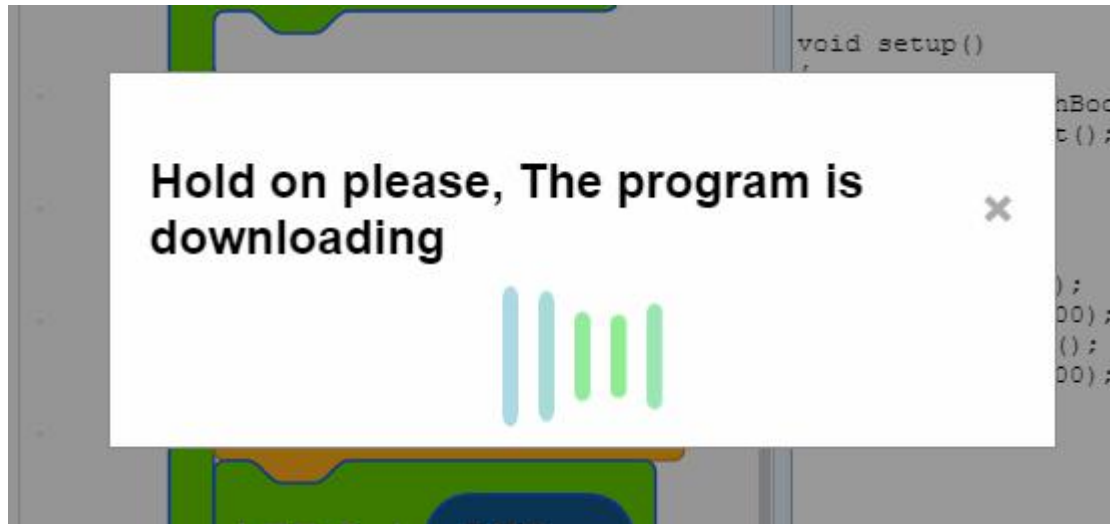
void loop()
{
  Serial.println(String("Mid") + String("=") +
String(999));
  Serial.println(String("L1") + String("=") +
String(cAvoid.ReturnavoidL1Value()));
  Serial.println(String("L2") + String("=") +
String(cAvoid.ReturnavoidL2Value()));
  Serial.println(String("R1") + String("=") +
String(cAvoid.ReturnavoidR1Value()));
  Serial.println(String("R2") + String("=") +
String(cAvoid.ReturnavoidR2Value()));
  delay(0.3*1000);
}
  
```

```

>DEBUG StatusLogger Using ShutdownCallbackRegistry
class
org.apache.logging.log4j.core.util.DefaultShutdownC
allbackRegistry
>DEBUG StatusLogger
org.apache.logging.log4j.core.util.SystemClock does
not support precise timestamps.
>DEBUG StatusLogger Took 0.048696 seconds to load
209 plugins from
sun.misc.Launcher$AppClassLoader@1e6f5c3
>DEBUG StatusLogger PluginManager 'Converter' found
44 plugins
  
```

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.



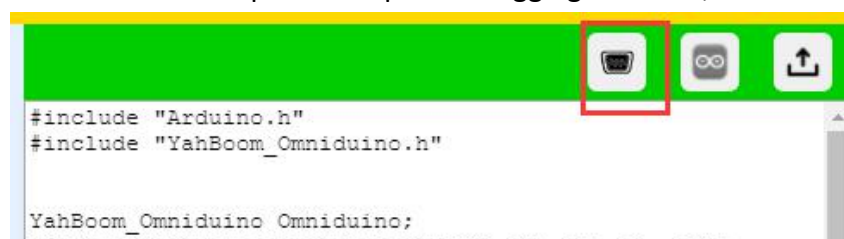


3.3 When the words "**Done compiling Done uploading**" appear in the lower right corner of the programming interface, which means the program has been uploaded.

```
C:\Users\Administrator\AppData\Local\Arduino15\logs
/application.log
DEBUG StatusLogger All asynchronous threads have
terminated
DEBUG StatusLogger RollingFileManager shutdown
completed with status true
>DEBUG StatusLogger Shut down RollingFileManager
C:\Users\Administrator\AppData\Local\Arduino15\logs
/application.log, all resources released: true
>TRACE StatusLogger XmlConfiguration stopped 2
remaining Appenders.
TRACE StatusLogger XmlConfiguration cleaning
Appenders from 2 LoggerConfigs.
>DEBUG StatusLogger Stopped
XmlConfiguration[location=jar:file:/C:/Program%20Fi
les%20(x86)/HelloBlock/resources/Arduino/lib/pde.ja
r!/log4j2.xml] OK
>DEBUG StatusLogger Stopped
LoggerContext[name=1e6f5c3,
org.apache.logging.log4j.core.LoggerContext@16bc455
] with status true
>Done compiling. Done uploading!
```

#### 4. Experimental phenomenon

After the program is downloaded. Open serial port debugging assistant, as shown below.





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 analog value of the sensor will be printed out through the serial port.

