

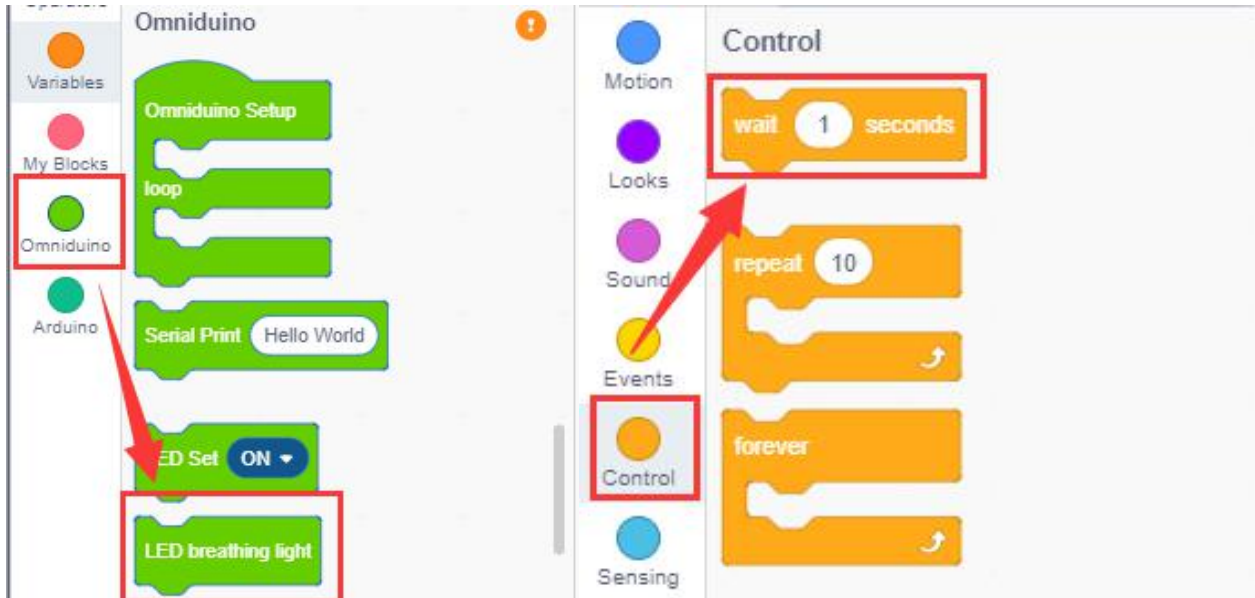
Breathing Light

1. Learning goal

In this lesson, we will learn how to realize LED breathing light by graphical programming.

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.

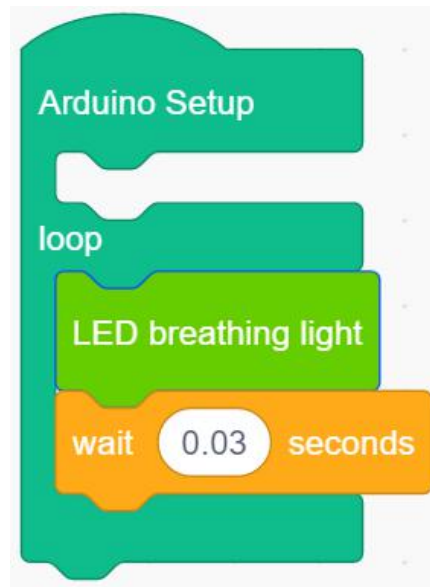
2) LED breathing light



3) 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



We set the waiting time to 0.03 seconds to achieve the breathing light effect.

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.

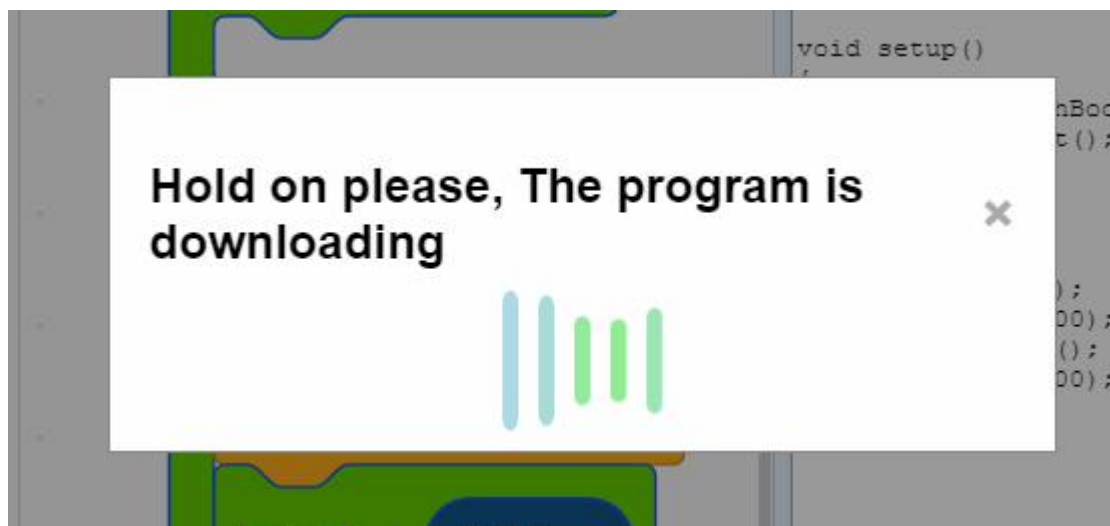
```
#include "Arduino.h"
#include "YahBoom_Omniduino.h"

YahBoom_Omniduino_LED cLED(5);

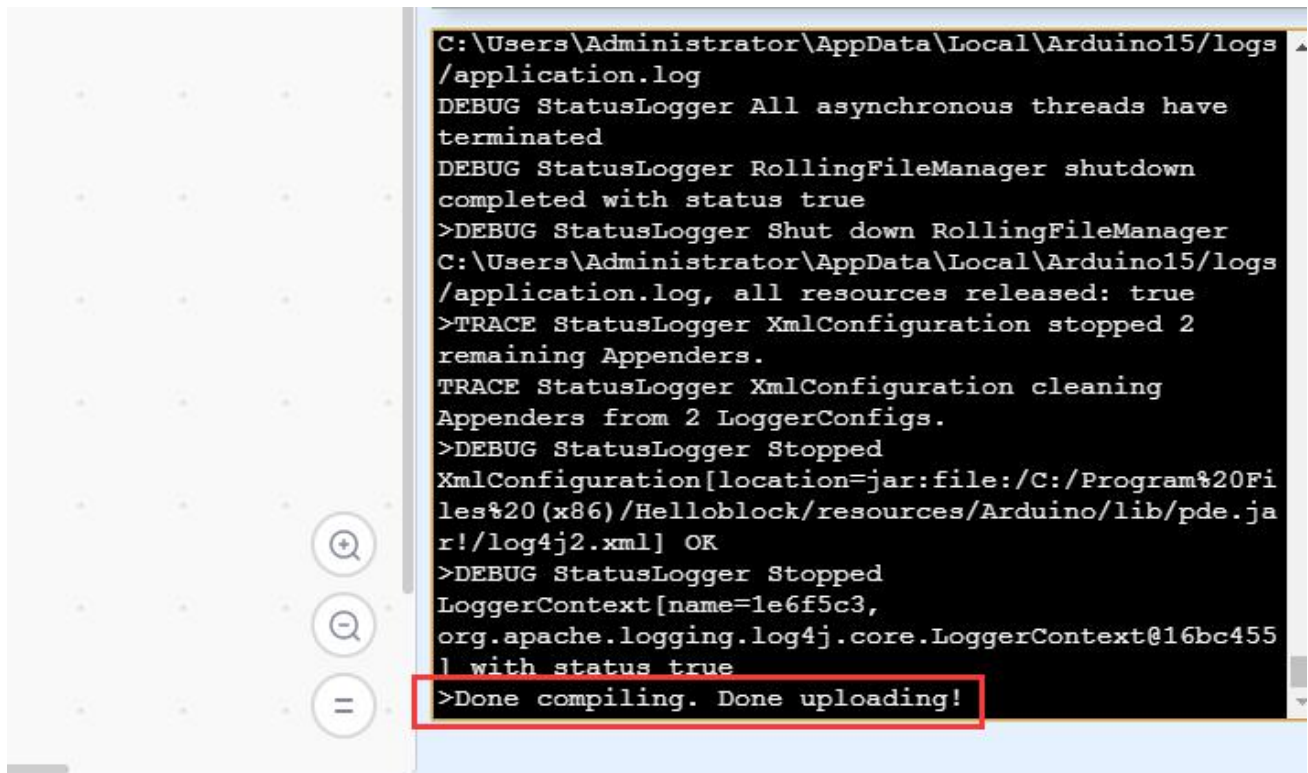
void setup()
{
    cLED.LED_Init();
}

void loop()
{
    cLED.BreathingLED();
    delay(0.03*1000);
}
```

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
l with status true
>Done compiling. Done uploading!
```

4. Experimental phenomenon

After the program is downloaded, D9 LED from on to off, from off to on, which will realize breathing light.