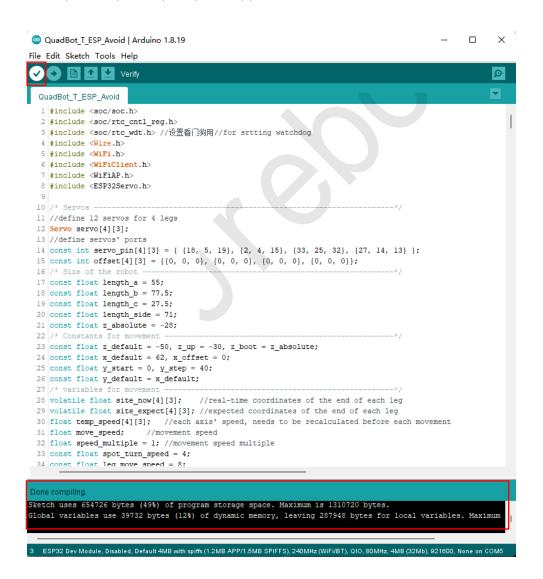# 1. Ultrasonic obstacle avoidance

1.1.Open source code

Open the tutorial provided by us, locate the folder of "03_Tutorial_&_Code → Lesson5 Automatic obstacle avoidance → QuadBot_T_ESP_Avoid", and double-click QuadBot_ T_ Avoid.ino, open the source code.
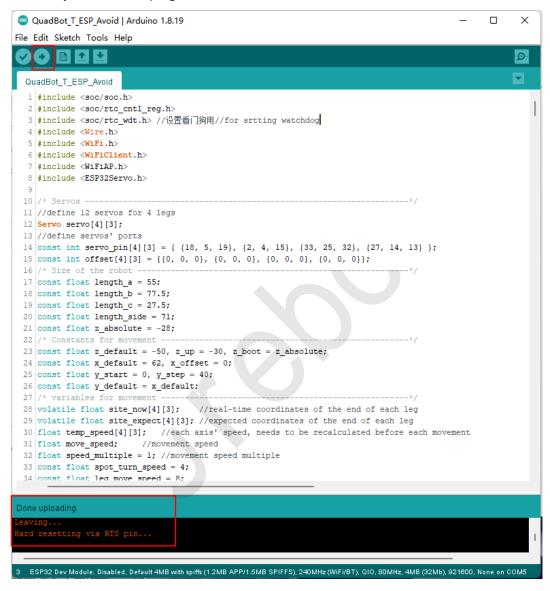
1.2. Compile source code

Click the 1 compile button as shown in the figure below, and if there is no problem, the 2 compile completion prompt will appear。
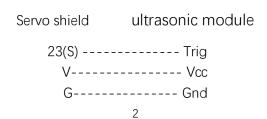
1.3. Upload code to ESP32

Connect the ESP32 and the computer with a USB cable, select the correct COM port, and then click the 1 "Download" button as shown in the figure below. If everything goes well, the 2 "Upload succeeded" prompt will appear. At this point, the program is downloaded successfully, and then unplug the USB cable。

1.4 Connect the ultrasonic module and servo shield

```
Servo shield          ultrasonic module

23(S) -------------- Trig
V---------------- Vcc
G--------------- Gnd
```

After power-on, the robot moves forward and turns when encountering obstacles