

Connecting 2 Arduinos

- Why?
 - Some parts can only work in “Upload” mode
 - In “Upload” mode, the Arduino cannot talk to the computer (eg. to control games)
 - Affected parts:
 - Ultrasonic distance sensor
 - LCD display

Connecting 2 Arduinos

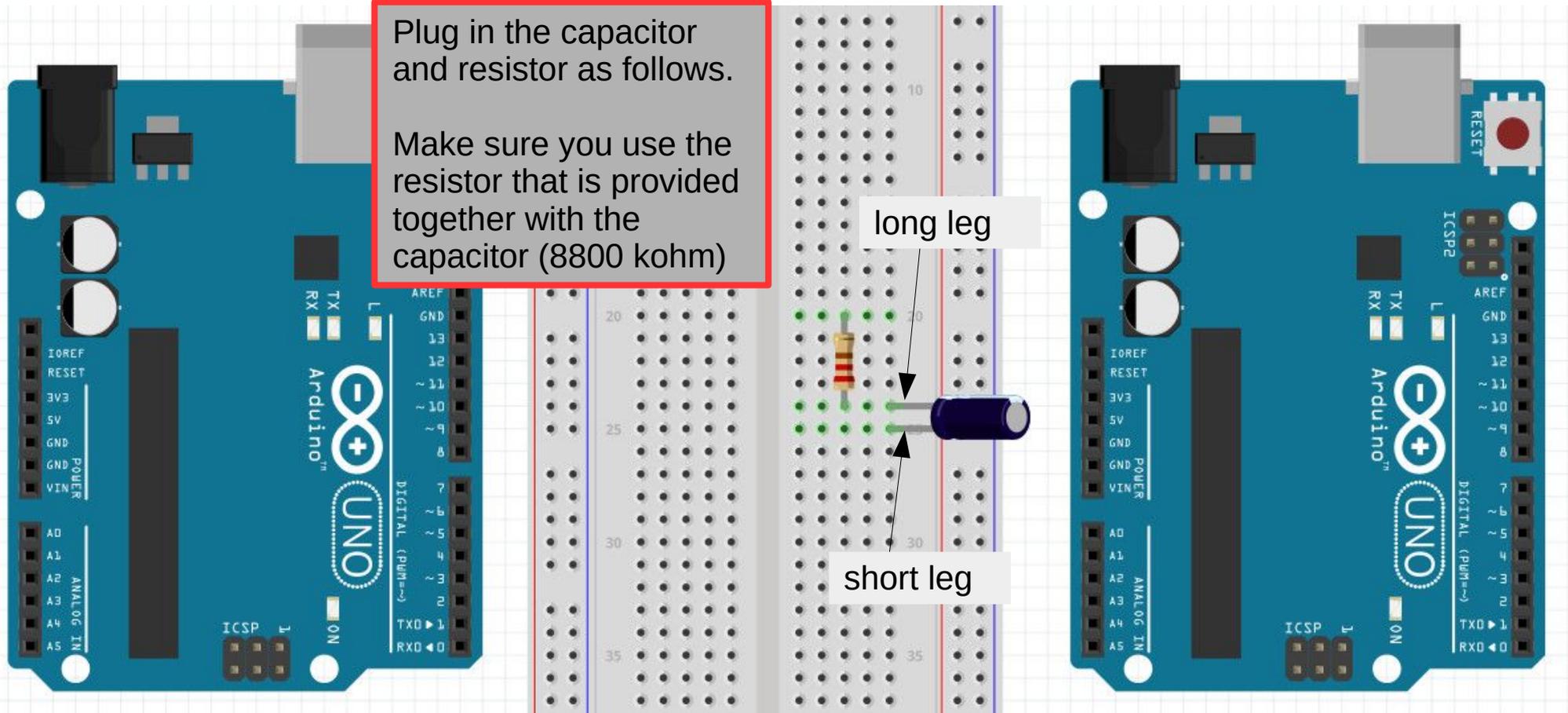
- Solution
 - Use 2 Arduinos
 - First Arduino
 - “Live” mode: Can communicate with computer
 - Read analog signal from second Arduino
 - Second Arduino
 - “Upload” mode: Can read from ultrasonic sensor
 - Write analog signal to second Arduino

Connecting 2 Arduinos

Step 1

Plug in the capacitor and resistor as follows.

Make sure you use the resistor that is provided together with the capacitor (8800 kohm)

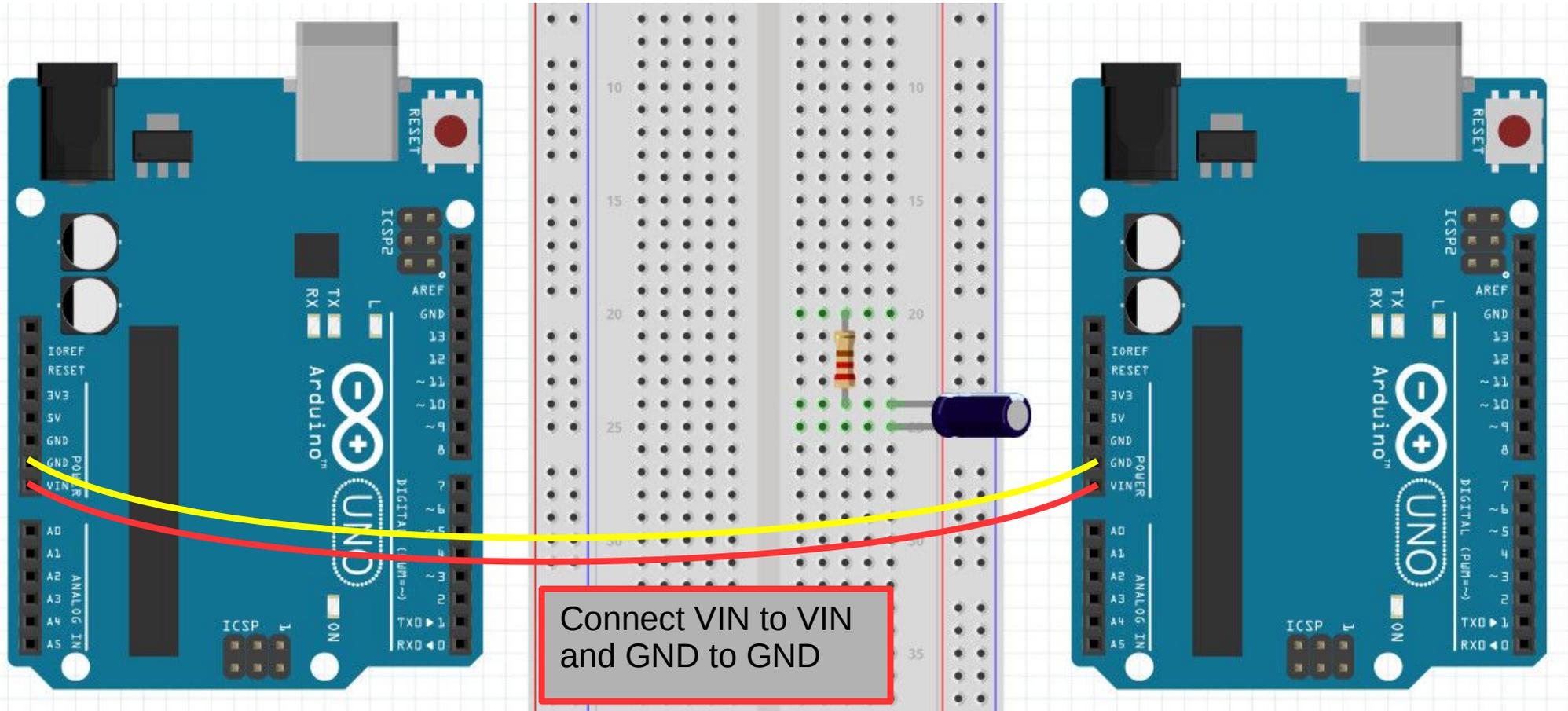


First Arduino (Live)

Second Arduino (Upload)

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Step 2



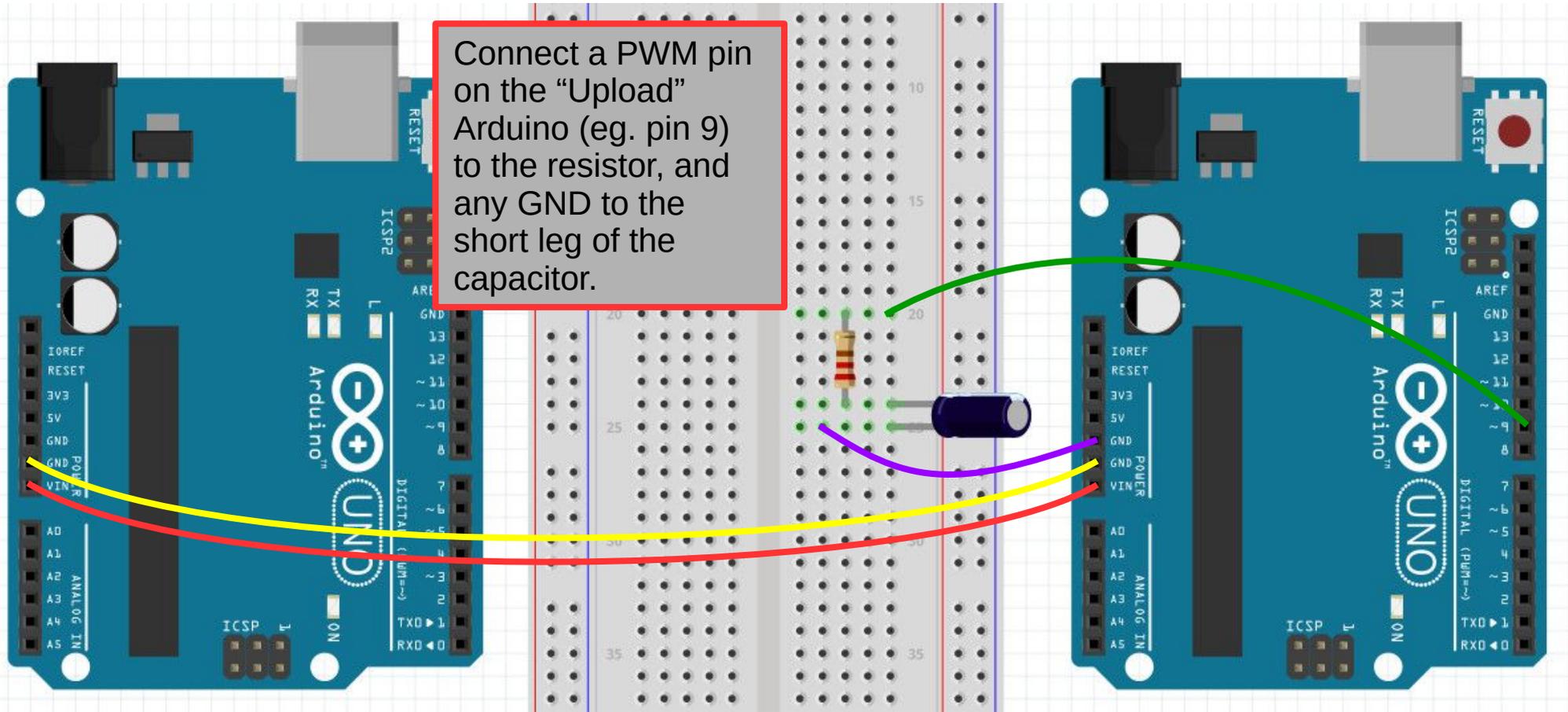
First Arduino (Live)

Second Arduino (Upload)

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Step 3

Connect a PWM pin on the "Upload" Arduino (eg. pin 9) to the resistor, and any GND to the short leg of the capacitor.



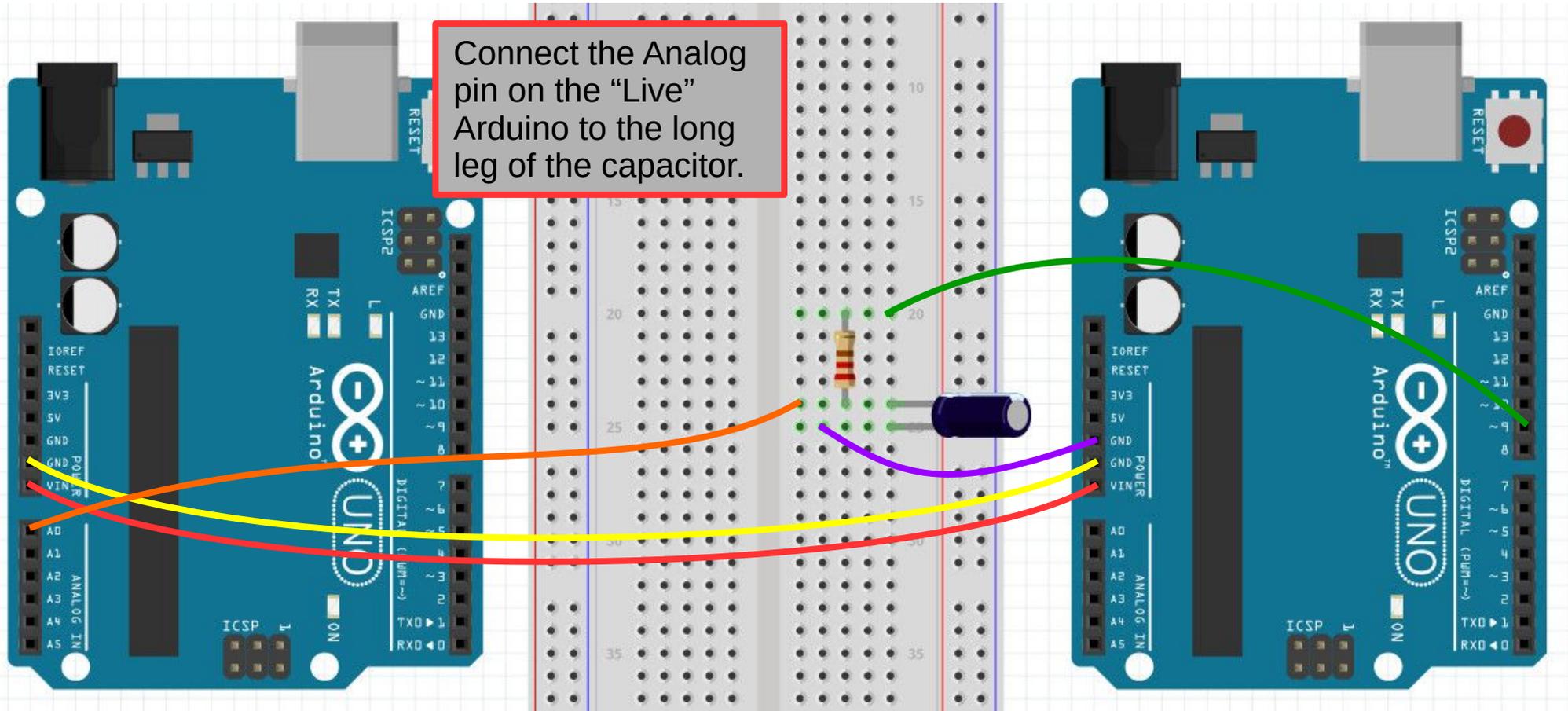
First Arduino (Live)

Second Arduino (Upload)

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Step 4 (Last)

Connect the Analog pin on the "Live" Arduino to the long leg of the capacitor.

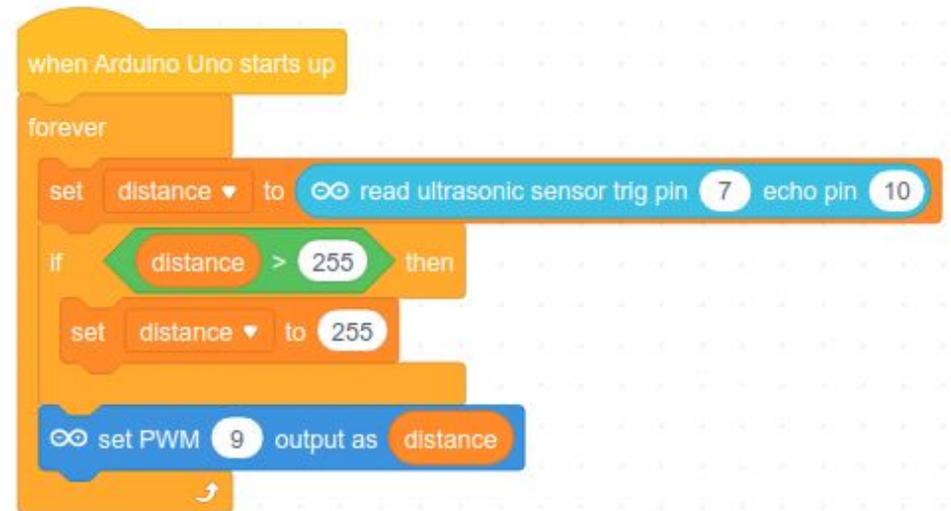


First Arduino (Live)

Second Arduino (Upload)

Programming

- Connect the ultrasonic sensor to the “Upload” Arduino (see lesson 6)
- Upload the program on the right to the “Upload” Arduino
- This program will continuously write the distance to pin 9



Programming



- Connect the “Live” Arduino to the computer and run the program on the left
- This program will read analog pin 0 and place its value in the variable “planeY”
- Try it out with the game in lesson 5