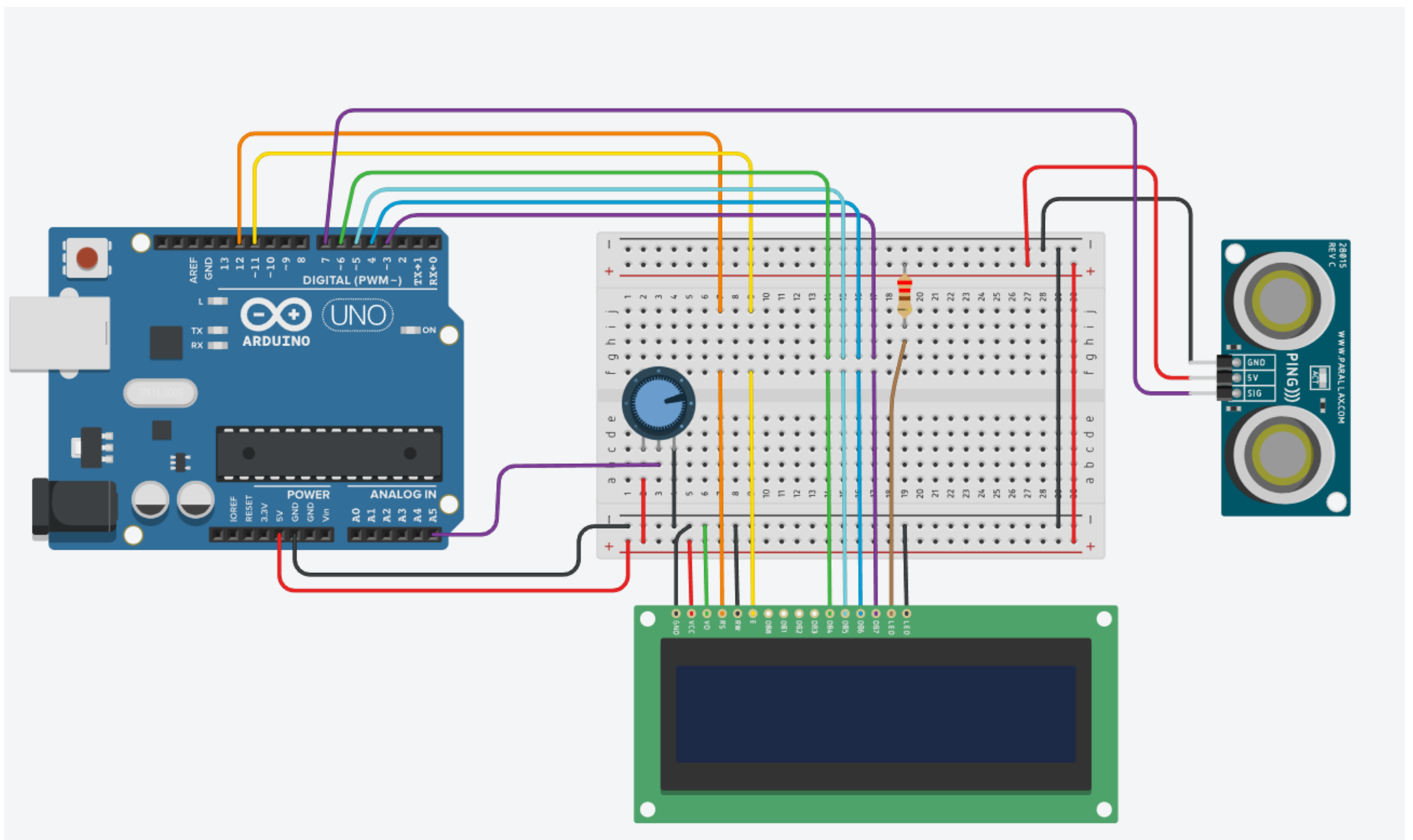# CONTATORE PEZZI CON SENSORE ULTRASUONI

// include libraries:

#include <LiquidCrystal.h>

// initialize the library with the numbers of the interface pins

LiquidCrystal lcd(12, 11, 6, 5, 4, 3);

int state= 0;   // pezzo non presente

int laststate=0; // pezzo non presente

int counter= 0;

//int cm = 0;

void setup()

{

  Serial.begin(9600);

  // set up the LCD's number of columns and rows:

  lcd.begin(16, 2);

  lcd.print("READY");

}

```
void loop() {
  // rilevo fronte di discesa segnale sensore
  if (state==1 &&  laststate==0) {
    counter++;
    Serial.print(counter); Serial.println(" pezzi");

    lcd.clear();
    lcd.setCursor(0, 0); lcd.print("Pezzi");
    lcd.setCursor(0, 1); lcd.print(counter);
  }
  laststate = state;  // aggiorno ultimo stato

  state= readUltrasonicState(7, 7);
  delay(100); // Wait for 100 millisecond(s)
}

int readUltrasonicState(int triggerPin, int echoPin)
{
  int stato_sensore;
  pinMode(triggerPin, OUTPUT);  // Clear the trigger
  digitalWrite(triggerPin, LOW);
  delayMicroseconds(2);
  // Sets the trigger pin to HIGH state for 10 microseconds
  digitalWrite(triggerPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(triggerPin, LOW);
  pinMode(echoPin, INPUT);
  // measure the ping time in cm
  int cm = 0.01723 * pulseIn(echoPin, HIGH);
  if (cm <=100) { stato_sensore= 1; } else { stato_sensore= 0; }
  return stato_sensore;
}
```