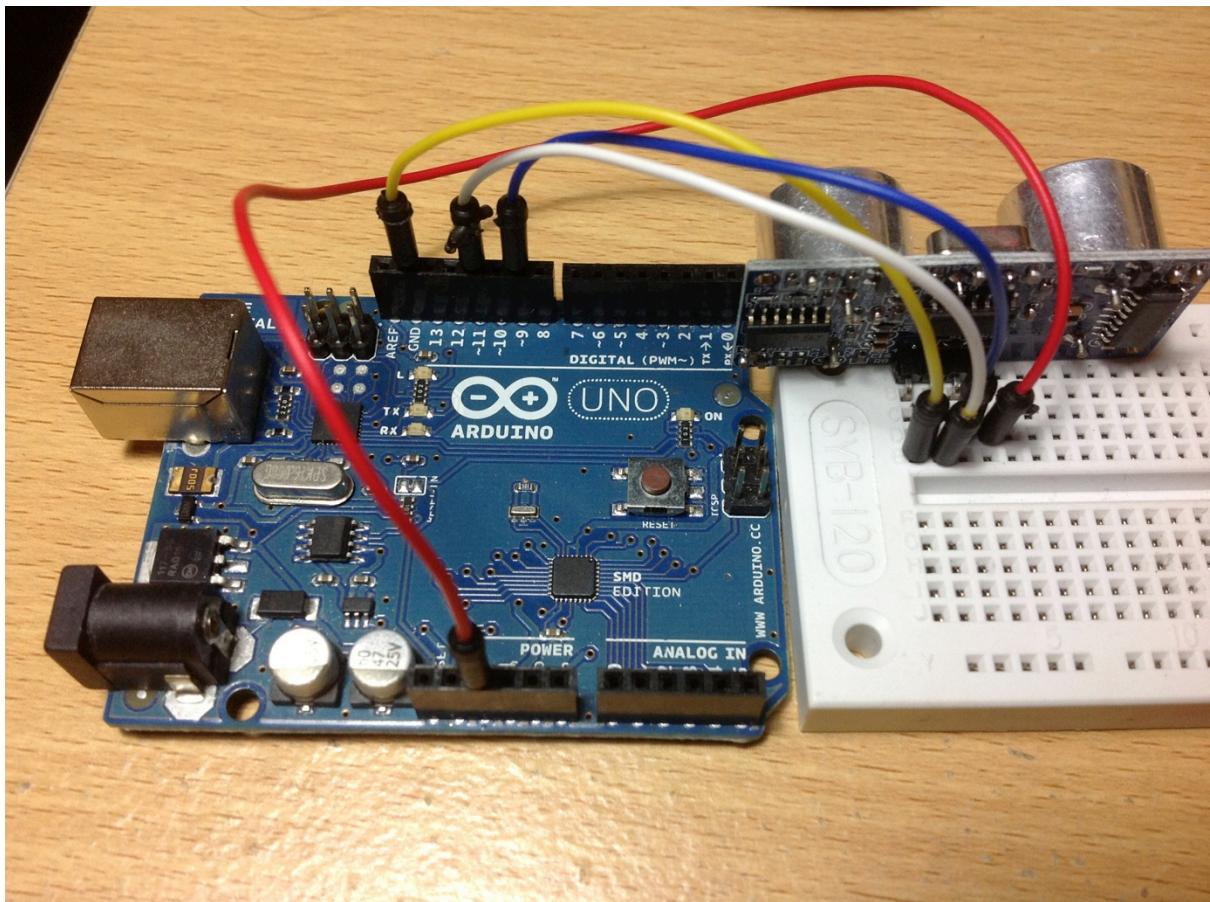


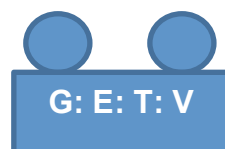
Using the HC-SR04 ultrasonic sensor

Not all ultrasonic sensors will use the same pin allocations. These instructions are for the HC-SR04 which has 4 pins that need to be connected.

2 are for the voltage and ground, the others are to measure the signal output and that returned or echoed back.



The pin order is as below (ground- yellow, echo – white , trig - blue and voltage - red).



The following code will calculate a distance in cm.

```
#define trigPin 9
#define echoPin 11

void setup() {
  Serial.begin (9600);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
}

void loop() {
  long duration, distance;
  digitalWrite(trigPin, LOW); // trig off
  delayMicroseconds(2); // wait
  digitalWrite(trigPin, HIGH); // trig on
  delayMicroseconds(10); // wait
  digitalWrite(trigPin, LOW); // trig off
  duration = pulseIn(echoPin, HIGH); //read echo
  distance = (duration/2) / 29.1; //convert to cm
  if (distance >= 200 || distance <= 0){
    Serial.println("Out of range");
  }
  else {
    Serial.print(distance);
    Serial.println(" cm");
  }
  delay(500); //wait
}
```