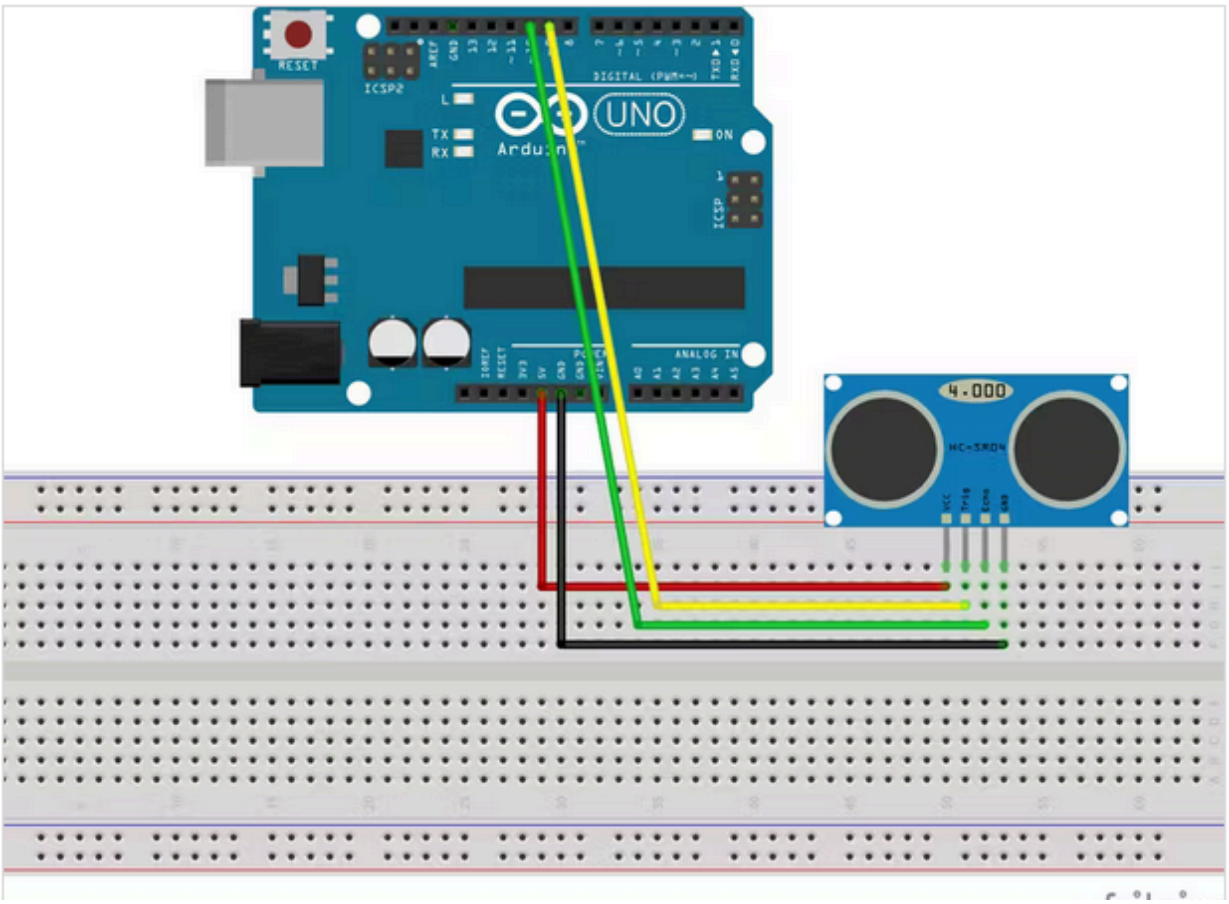
4) Distance Measurement using Ultrasonic Sensor in Proteus.

Components:

- ArduinoUno(orsimilar microcontroller model available in Proteus library)
- Ultrasonic sensor (HC-SR04 model or similar available in Proteus library)
- LED(optional, for visual indication)
- Resistor (optional, for LED current limitation)
- Jumperwires(simulated connections in Proteus)



Code :

```
const int trigPin = 9;
const int echoPin = 10;

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

void loop()
```

```
{
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  duration = pulseIn(echoPin, HIGH);
  distance= duration*0.034/2;
  Serial.print("Distance: ");
  Serial.println(distance);
}
```