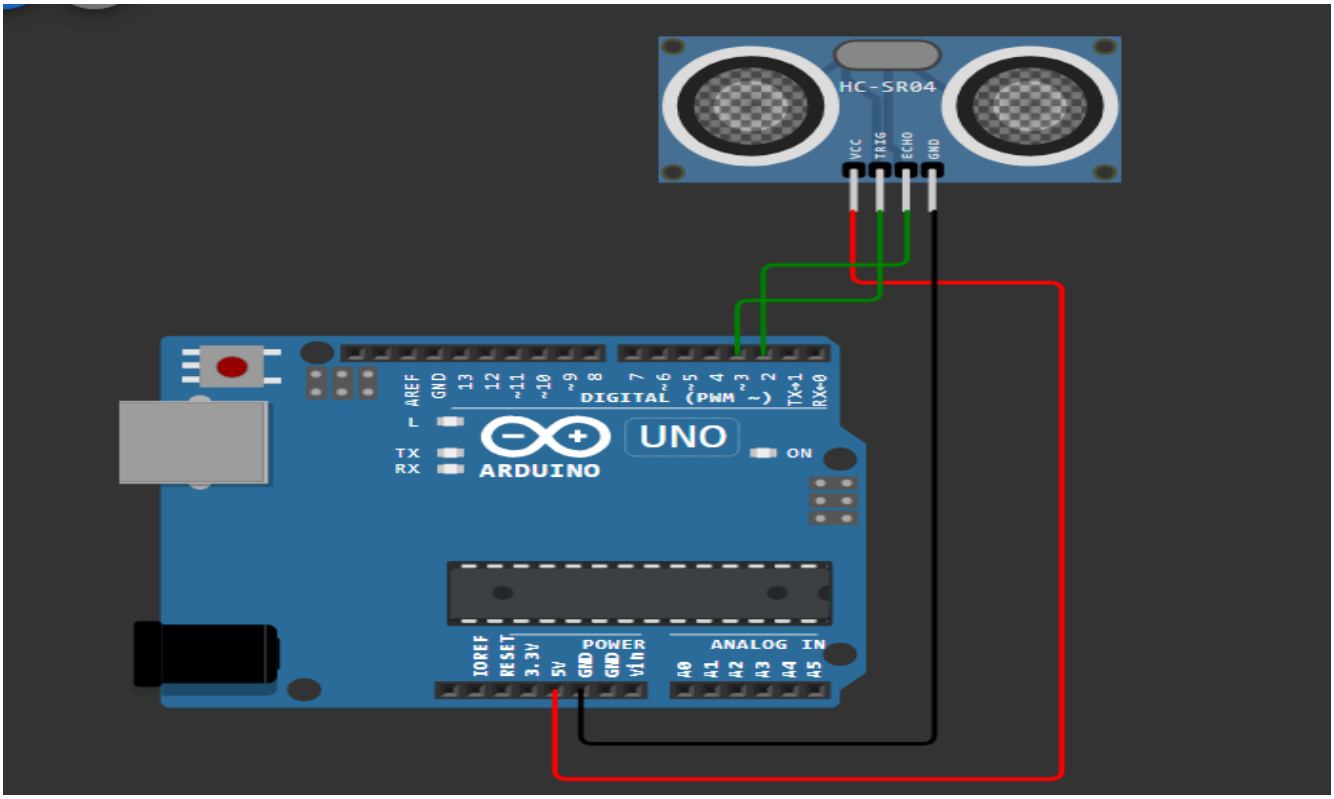
PRACTICAL 6

Simulation based Arduino Interfacing with An Ultrasonic Sensor to measure distance of an object.

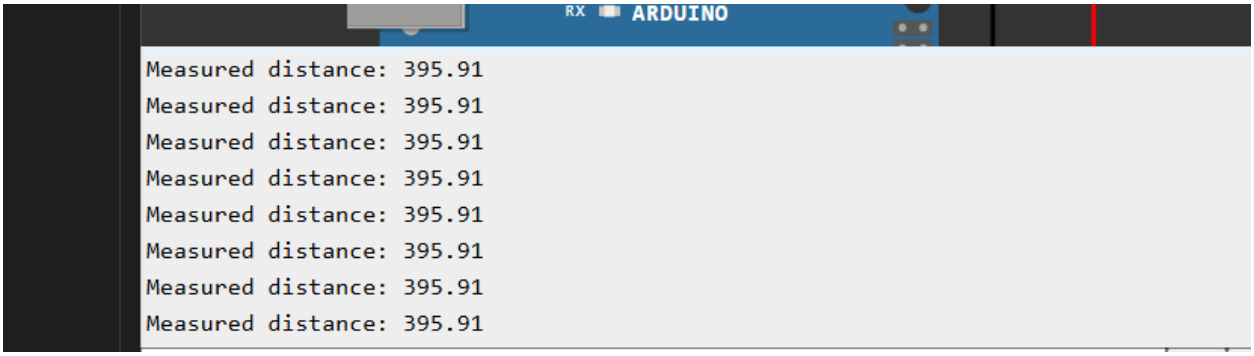


PROGRAM:

```
#define ECHO_PIN 2

#define TRIG_PIN 3


void setup() {
  Serial.begin(115200);
  pinMode(LED_BUILTIN, OUTPUT);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
```

```
}

float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
}

void loop() {
  float distance = readDistanceCM();

  bool isNearby = distance < 100;
  digitalWrite(LED_BUILTIN, isNearby);

  Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());

  delay(100);
}
```

OUTPUT:


RX
ARDUINO
Measured distance: 395.91
Measured distance: 395.91
Measured distance: 395.91
Measured distance: 395.91
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