INSTITUTO FEDERAL
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Campus Quissamã

MINISTÉRIO DA EDUCAÇÃO

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Campus Quissamã
Curso Integrado Informática
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Turma: 2° ano informática
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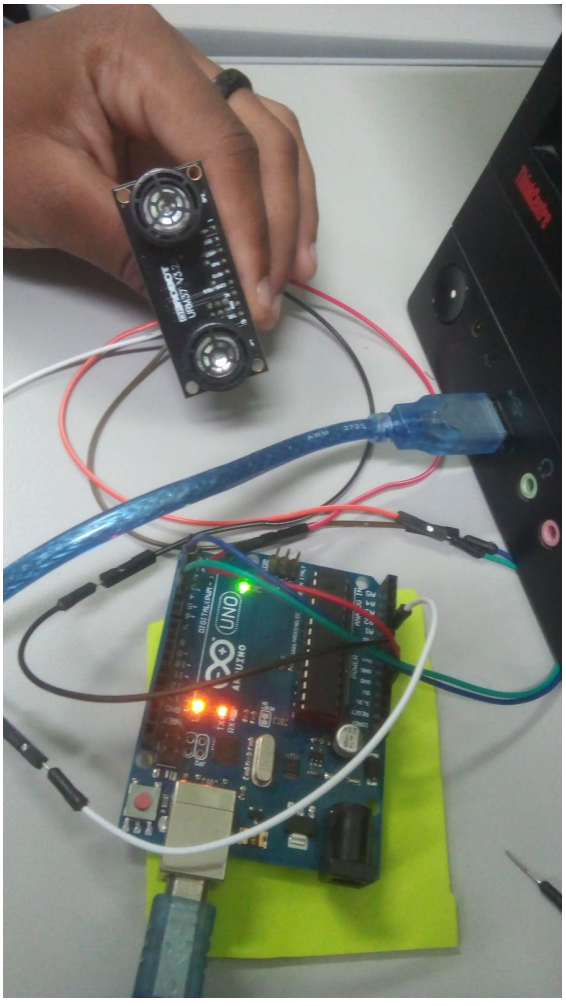
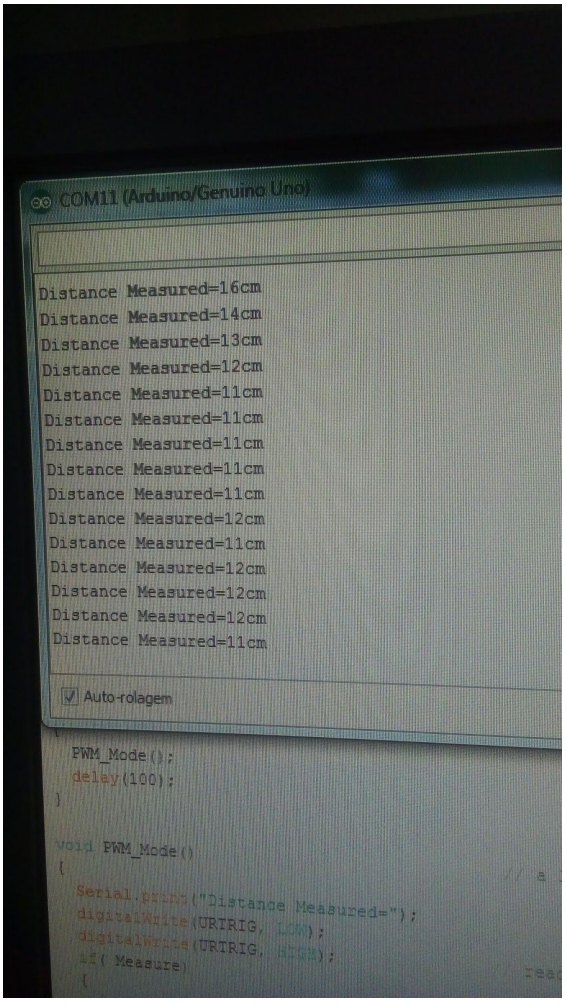
Dia 02/07/2019

6ª atividade: Sensor de distância





Componentes:

- **1 Arduino Uno 3**
- **1 Sensor de distância URM37**
- **5 fios**

Código utilizado:

```
#define  Measure  1     //Mode select
int URECHO = 3;         // PWM Output 0-25000US,Every 50US represent 1cm
int URTRIG = 5;         // PWM trigger pin
int sensorPin = A0;     // select the input pin for the potentiometer
int sensorValue = 0;    // variable to store the value coming from the sensor

unsigned int DistanceMeasured= 0;

void setup()
{
  //Serial initialization
  Serial.begin(9600);                          // Sets the baud rate to 9600
  pinMode(URTRIG,OUTPUT);                      // A low pull on pin COMP/TRIG
  digitalWrite(URTRIG,HIGH);                   // Set to HIGH
   pinMode(URECHO, INPUT);                           // Sending Enable PWM mode
command
  delay(500);
  Serial.println("Init the sensor");

 }
void loop()
{
  PWM_Mode();
  delay(100);
}

void PWM_Mode()                                 // a low pull on pin COMP/TRIG
triggering a sensor reading
{
  Serial.print("Distance Measured=");
  digitalWrite(URTRIG, LOW);
   digitalWrite(URTRIG, HIGH);                 // reading Pin PWM will output
pulses
  if( Measure)
  {
    unsigned long LowLevelTime = pulseIn(URECHO, LOW) ;
    if(LowLevelTime>=45000)                  // the reading is invalid.
    {
      Serial.print("Invalid");
    }
    else{
```

```
    DistanceMeasured = LowLevelTime /50;   // every 50us low level stands for
1cm
    Serial.print(DistanceMeasured);
    Serial.println("cm");
  }

  }
  else {
    sensorValue = analogRead(sensorPin);
    if(sensorValue<=10)                    // the reading is invalid.
    {
      Serial.print("Invalid");
    }
    else {
    sensorValue = sensorValue*0.718;
    Serial.print(sensorValue);
    Serial.println("cm");
    }
  }
}
```