



FACULTAD DE INGENIERÍA

CARRERA DE INGENIERÍA DE SISTEMAS
COMPUTACIONALES

MOVER SERVO CON EL ROSTRO

Integrantes:

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Curso:

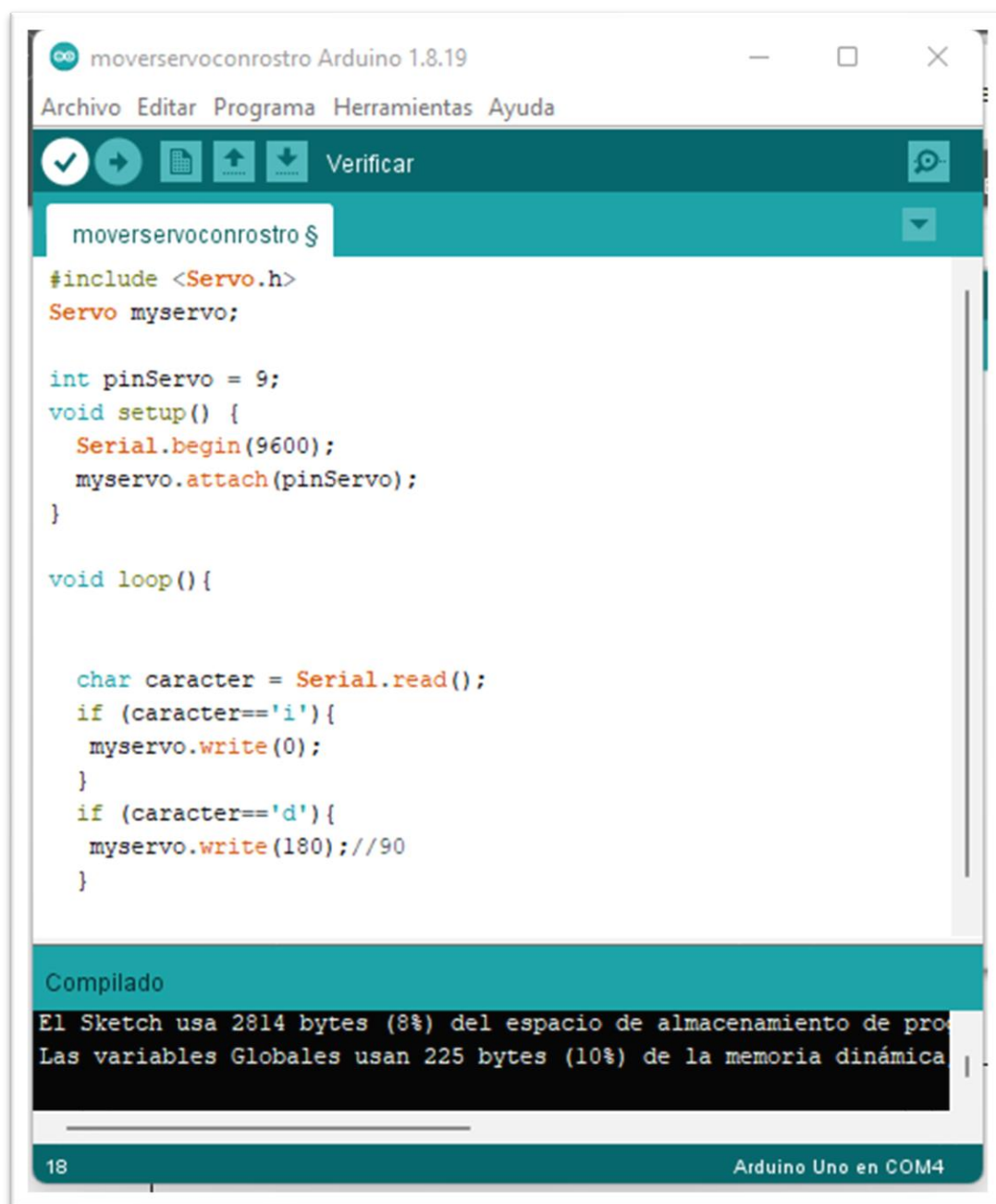
SISTEMAS INTELIGENTES

Docente del Curso:

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Código Arduino



The screenshot shows the Arduino IDE window titled "moverservoconrostro Arduino 1.8.19". The menu bar includes "Archivo", "Editar", "Programa", "Herramientas", and "Ayuda". The toolbar contains icons for opening files, saving, and a "Verificar" (Verify) button. The code editor displays the following C++ code:

```
moverservoconrostro $  
#include <Servo.h>  
Servo myservo;  
  
int pinServo = 9;  
void setup() {  
  Serial.begin(9600);  
  myservo.attach(pinServo);  
}  
  
void loop() {  
  
  char caracter = Serial.read();  
  if (caracter=='i'){  
    myservo.write(0);  
  }  
  if (caracter=='d'){  
    myservo.write(180); //90  
  }  
}
```

Below the code editor, the "Compilado" (Compiled) section shows the following output:

```
El Sketch usa 2814 bytes (8%) del espacio de almacenamiento de pro  
Las variables Globales usan 225 bytes (10%) de la memoria dinámica
```

The status bar at the bottom indicates line 18 and the target board "Arduino Uno en COM4".

Código Python

```

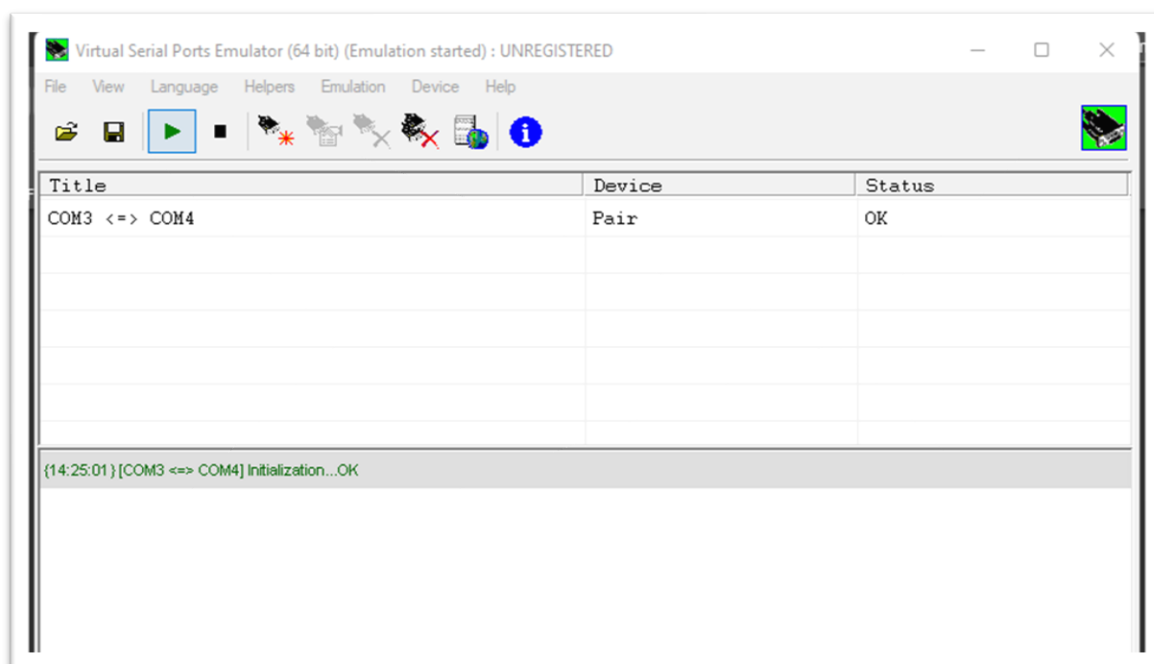
moverservoconrostro.py - C:\Users\erick\Documents\agentes\moverservoconrostro.py (3.10.7)
File Edit Format Run Options Window Help

import cv2
import serial
import time
face_cascade = cv2.CascadeClassifier('haarcascade_frontalface_default.xml')
eye_cascade = cv2.CascadeClassifier('haarcascade_eye.xml')
video = cv2.VideoCapture(0)
arduino = serial.Serial('COM3', 9600)
time.sleep(2)
while video.isOpened():
    ret, frame = video.read()
    if frame is not None:
        gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
        faces = face_cascade.detectMultiScale(gray, 1.3, 5)
        hh,ww = gray.shape #obtener la dimension de la escena
        cv2.line(frame,(int (ww/2),0),(int (ww/2),hh),(255,0,255),2)
        for (x, y, w, h) in faces:
            if x<ww/2:
                arduino.write(b'i')
            else:
                arduino.write(b'd')
                cv2.rectangle(frame, (x, y), (x + w, y + h), (255, 0, 0), 2)
                roi_gray = gray[y:y + h, x:x + w]
                roi_color = frame[y:y + h, x:x + w]
                eyes = eye_cascade.detectMultiScale(roi_gray)
                for (ex, ey, ew, eh) in eyes:
                    cv2.rectangle(roi_color, (ex, ey), (ex + ew, ey + eh), (0, 255,
                    cv2.imshow('Video', frame)
            if cv2.waitKey(1) & 0xFF == ord('q'):
                break
        video.release()
        cv2.destroyAllWindows()
        arduino.close()

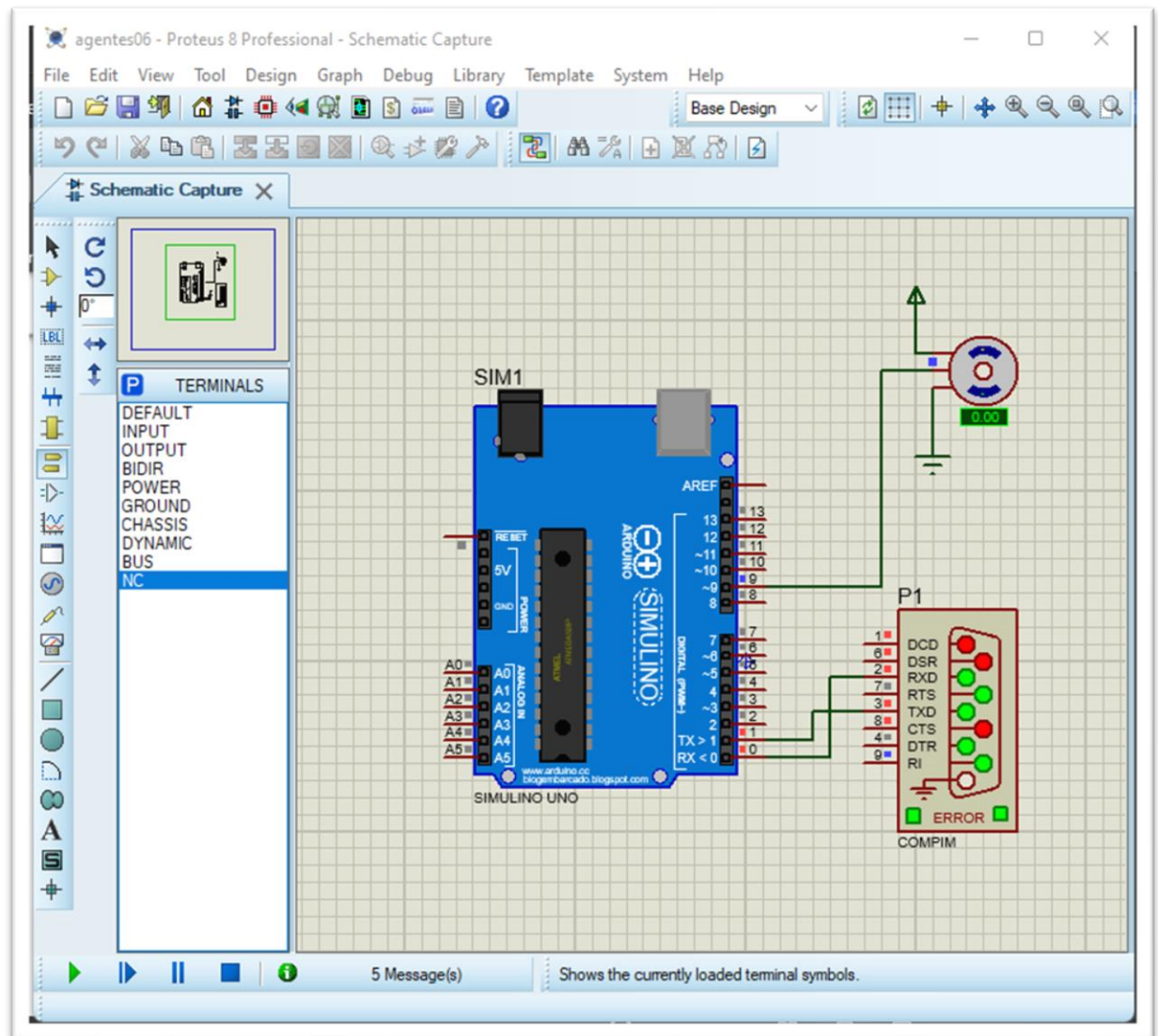
```

Ln: 18 Col: 34

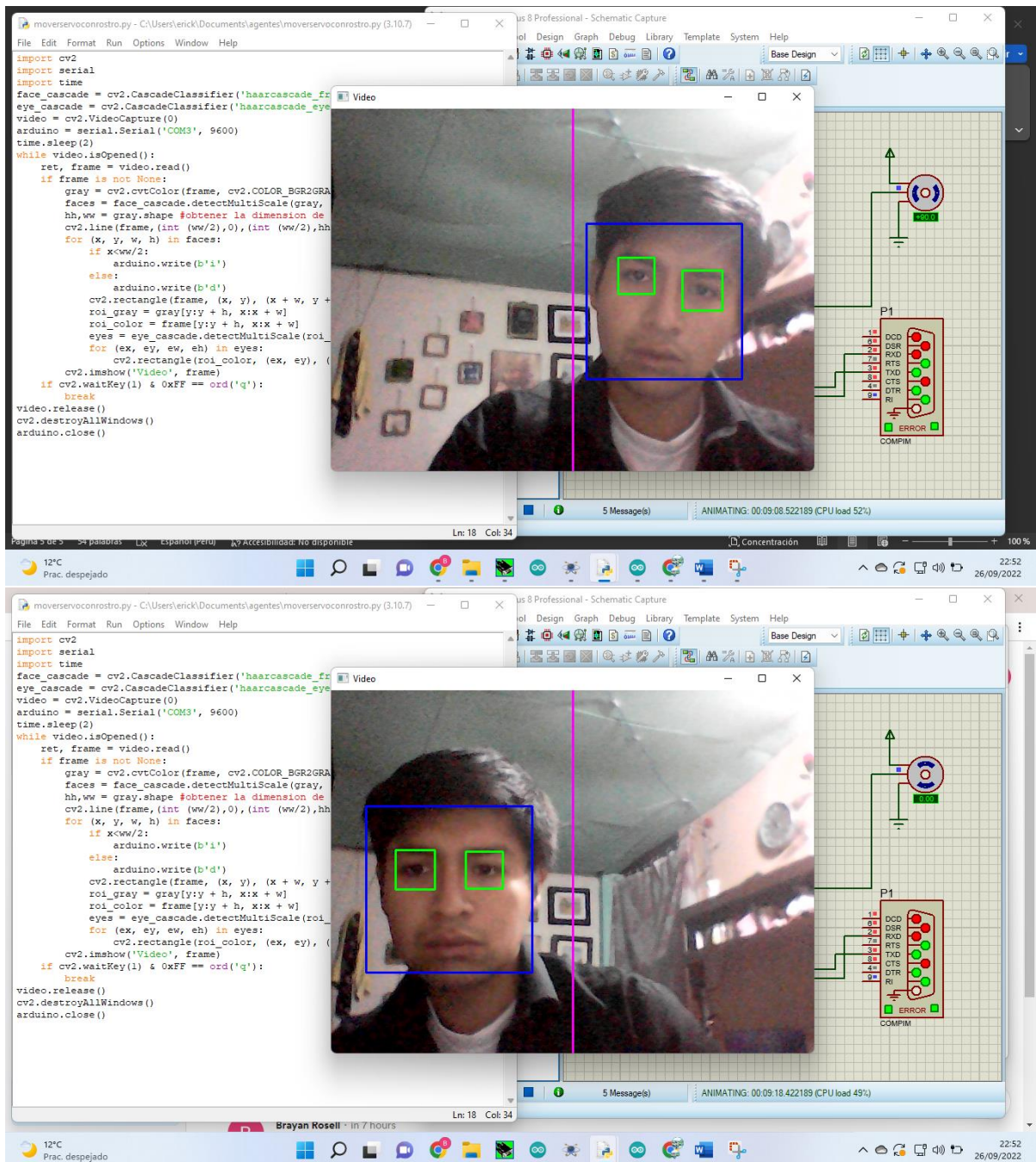
PAIR



Proteus



Evidencias:



Link de video:

<https://www.loom.com/share/b22481af9c7e4ba5b9210eb6dbf75902>

Link de git:

<https://github.com/BrayanRosell/MoverServoConRostro>