3.6P - Servo Motor Control with Arduino

Summary

- This way, I learned how to use an Arduino board to drive a servo motor during the performance of SIT111's Task 3.6P. The assignment needed papers read, a circuit to build, Arduino setting, and tests to conduct to see how good the motor was. It required some pins of the Arduino board to be connected to the power, ground and control terminal of the servo motor. With the Arduino IDE, I introduced movement to the motor; I commanded the motor to rotate to degrees like 45, 90 and 180; I was able to advance to more complex actions like commanding the motor to sweep from 0 to 180 degrees. I typed the control IC code with the help of Servo library and then uploaded the code and checked its behavior of the motor.

Reflection

- This is useful skills I learned in building circuits, creating and uploading code, and the use of certain commands to control movements of servo motor. This is useful outcomes that was learned on building circuits, creating and uploading code, and control of movements of servo motor using certain commands.

- The analysis indicated that PWM is significant in controlling servo motors in robotic systems and that hardware and software applications are interrelated.

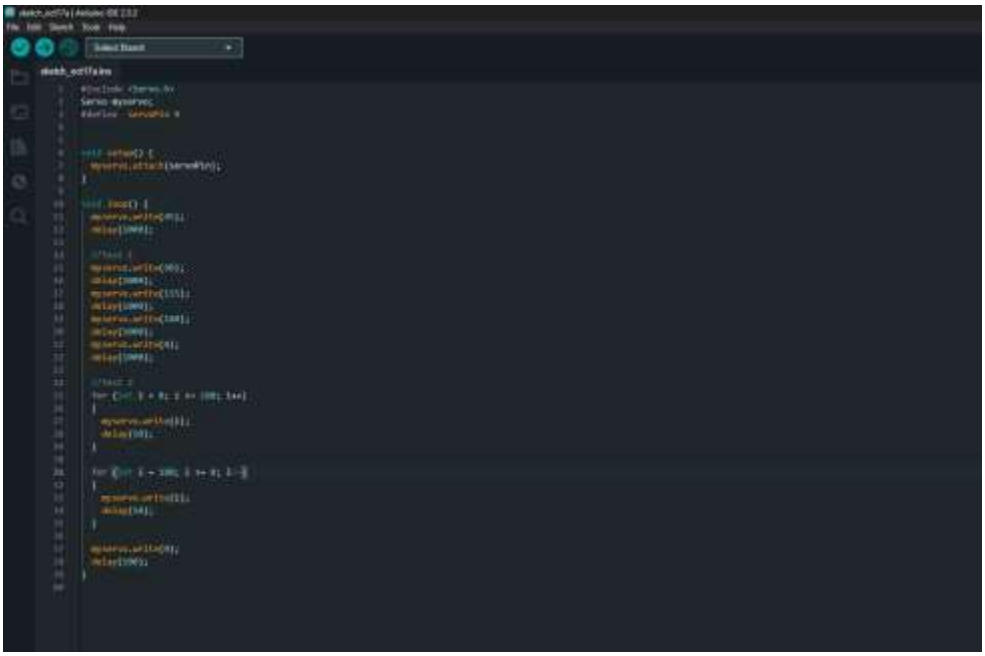
- The study clarified my knowledge on microcontrollers and programming in enhancing my application where it included the combination of automation concepts with the past electronics and programming courses.

- In a heavy motors and servos practical session, this exercise is to equip the students with some skills for the next line up of Robotics, Automation and Internet of Things projects. It will also prepare them for difficult tasks such as aerial surveillance by drone and controlling robotic arm.

Arduino Code

```
#include <Servo.h>
Servo myservo;
#define  servoPin 9

void setup() {
  myservo.attach(servoPin);
}

void loop() {
  myservo.write(45);
  delay(1000);

  //Test 1
  myservo.write(90);
  delay(1000);
  myservo.write(135);
  delay(1000);
  myservo.write(180);
  delay(1000);
  myservo.write(0);
  delay(1000);

  //Test 2
  for (int i = 0; i <= 180; i++)
  {
    myservo.write(i);
    delay(50);
```

```
  }
  for (int i = 180; i >= 0; i--)
  {
    myservo.write(i);
    delay(50);
  }

  myservo.write(0);
  delay(100);
}
```



Drive Link

https://drive.google.com/file/d/1BtPZmgxTJ0DNYVayn3GBi-ktGtTaJf-x/view?usp=sharing

You Tube Link

https://youtu.be/jRAxjCEIrZ4