

DESCRIPTION OF DAY3

This project demonstrates real-world hardware control by replacing the traditional RV₁ knob with a **potentiometer** to digitally vary the angle of an **SG92R micro servo** using an **Arduino Uno**.

The Arduino reads the analog voltage from the potentiometer using the `analogRead()` function, which returns a value between **0 and 1023**. This value is then **mapped to the servo's angle range (0° to 180°)** using the `map()` function and sent to the servo using `servo.write()`.

This setup allows for **smooth, continuous, and precise control** of the servo motor based on the rotation of the potentiometer, effectively simulating a real-time angle selector. The project helps in understanding how analog input is processed and translated into PWM signals to control actuators in embedded systems.

CODE:

```
#include <Servo.h>

Servo myServo;      // Create Servo object

int potPin = A0;     // Potentiometer connected to analog pin A0

void setup() {
    myServo.attach(9); // Servo PWM signal on pin D9
}

void loop() {
    int sensorValue = analogRead(potPin); // Read potentiometer (0–1023)
    int angle = map(sensorValue, 0, 1023, 0, 180); // Map to 0–180 degrees
    myServo.write(angle); // Set servo position
    delay(10); // Small delay for stability
}
```