

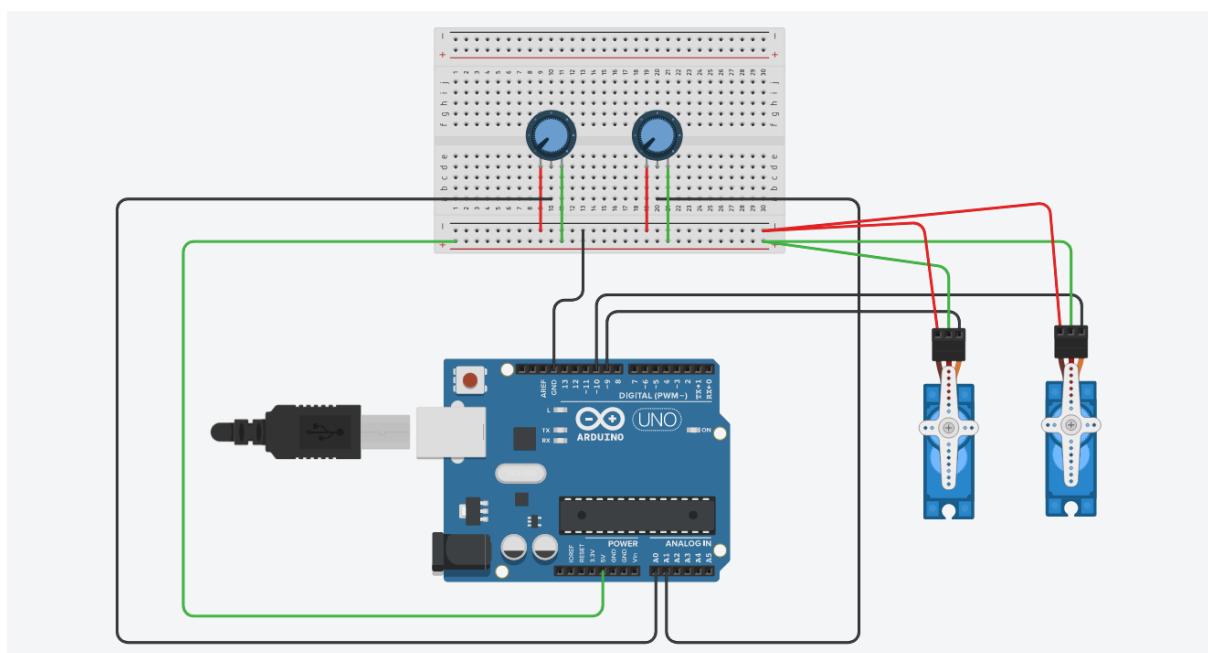
## Practical 5

Aim: - Write Python code to test motors.

### Components

- Arduino Uno R3
- Breadboard
- Micro Servo
- Potentiometer

Step 1: Create the following circuit in [tinkercard](#)



Step 2: Write the following code

```
#include <Servo.h>

int sensorValue = 0;
int outputValue = 0;
int sensorValue1 = 0;
int outputValue1 = 0;

Servo servo_9;
Servo servo_10;
```

```

void setup() {
    pinMode(A0, INPUT);
    servo_9.attach(9, 500, 2500);
    pinMode(A1, INPUT);
    servo_10.attach(10, 500, 2500);
}

void loop() {
    sensorValue = analogRead(A0);
    outputValue = map(sensorValue, 0, 1023, 0, 180);
    servo_9.write(outputValue);
    delay(10);

    sensorValue1 = analogRead(A1);
    outputValue1 = map(sensorValue1, 0, 1023, 0, 180);
    servo_10.write(outputValue1);;;
    delay(10);
}

```

The screenshot shows the Arduino IDE interface with the following details:

- Top Bar:** Buttons for "Code" (highlighted in blue), "Start Simulation", and "Send To".
- Toolbox:** Buttons for "Text" (selected), download, file, and font size.
- Port Selection:** Set to "1 (Arduino Uno R3)".
- Code Editor:** Displays the C++ code for the Arduino sketch. The code includes #include <Servo.h>, variable declarations for sensor and output values, and setup and loop functions for two servos connected to pins 9 and 10 via analog inputs A0 and A1.

```

1 #include <Servo.h>
2
3 int sensorValue = 0;
4 int outputValue = 0;
5 int sensorValue1 = 0;
6 int outputValue1 = 0;
7
8 Servo servo_9;
9 Servo servo_10;
10
11 void setup() {
12     pinMode(A0, INPUT);
13     servo_9.attach(9, 500, 2500);
14     pinMode(A1, INPUT);
15     servo_10.attach(10, 500, 2500);
16 }
17
18 void loop() {
19     sensorValue = analogRead(A0);
20     outputValue = map(sensorValue, 0, 1023, 0, 180);
21     servo_9.write(outputValue);
22     delay(10);
23
24     sensorValue1 = analogRead(A1);
25     outputValue1 = map(sensorValue1, 0, 1023, 0, 180);
26     servo_10.write(outputValue1);;;
27     delay(10);
28 }

```

## Step 3: Run the Simulation

By adjusting the potentiometer the servo also rotates

