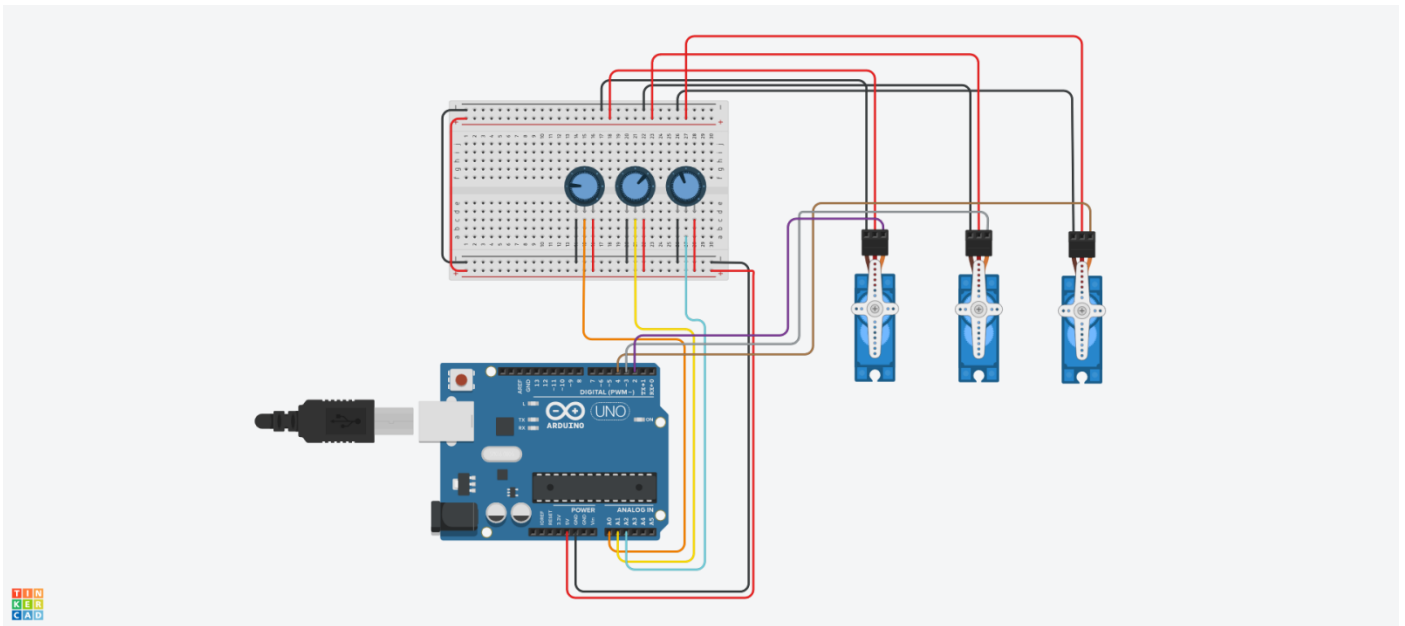


Projecte-3: Servos-3

Apartir de 3 servos, dissenya un braç motor



Components:

<i>Name</i>	<i>Quantity</i>	<i>Component</i>
<i>U1</i>	<i>1</i>	<i>Arduino Uno R3</i>
<i>SERVO1</i>		
<i>SERVO2</i>	<i>3</i>	<i>Positional Micro Servo</i>
<i>SERVO3</i>		
<i>Rpot1</i>		
<i>Rpot2</i>	<i>3</i>	<i>250 kΩ Potentiometer</i>
<i>Rpot3</i>		

Opció-1: Pins sortida 2, 3 i 4

```
//Adiciona a biblioteca dos servos motores
#include<Servo.h>

//definem as portas digitais dos servos motores
#define pinServ1 2
#define pinServ2 3
#define pinServ3 4

//definem as portas analògiques dos potenciòmetros
#define pot1 A0
#define pot2 A1
#define pot3 A2

//variàveis para atribuir a posició do motor
Servo serv1, serv2, serv3;
int motor1, motor2, motor3;

void setup() {

//variàveis atribuidas a cada motor
serv1.attach(pinServ1);
serv2.attach(pinServ2);
serv3.attach(pinServ3);
}

void loop() {
motor1= map(analogRead(pot1), 0, 1023, 0, 75);
motor2= map(analogRead(pot2), 0, 1023, 0, 45);
motor3= map(analogRead(pot3), 0, 1023, 0, 180);

serv1.write(motor1);
serv2.write(motor2);
serv3.write(motor3);
delay(5);
}
```

Opció-2: Pins sortida 9, 10 i 11

```
#include <Servo.h>

Servo myservo1;
Servo myservo2;
Servo myservo3;

int potpin1 = 0;
int potpin2 = 1;
int potpin3 = 2;
int val1;
int val2;
int val3;
int val4;

void setup()
{
  myservo1.attach(9);
  myservo2.attach(10);
  myservo3.attach(11);

  Serial.begin(9600);
}

void loop() {
  {
    val1 = analogRead(potpin1);
    val1 = map(val1, 0, 512, 0, 180);
    myservo1.write(val1);
    Serial.println(val1);

    val2 = analogRead(potpin2);
    val2 = map(val2, 0, 512, 0, 180);
    myservo2.write(val2);

    val3 = analogRead(potpin3);
    val3 = map(val3, 0, 512, 0, 180);
    myservo3.write(val3);

    delay(5);
  }
}
```

Opció-3: Pins sortida 8, 9 i 10

```
#include <Servo.h>

//entradas
int pot1;
int pot2;
int pot3;

//salidas
Servo servo1;
Servo servo2;
Servo servo3;

void setup()
{
  servo1.attach(8);
  servo2.attach(9);
  servo3.attach(10);
}

void loop()
{
  pot1 = map (analogRead(A0),0, 1023, 0, 180);
  servo1.write(pot1);
  delay(15);

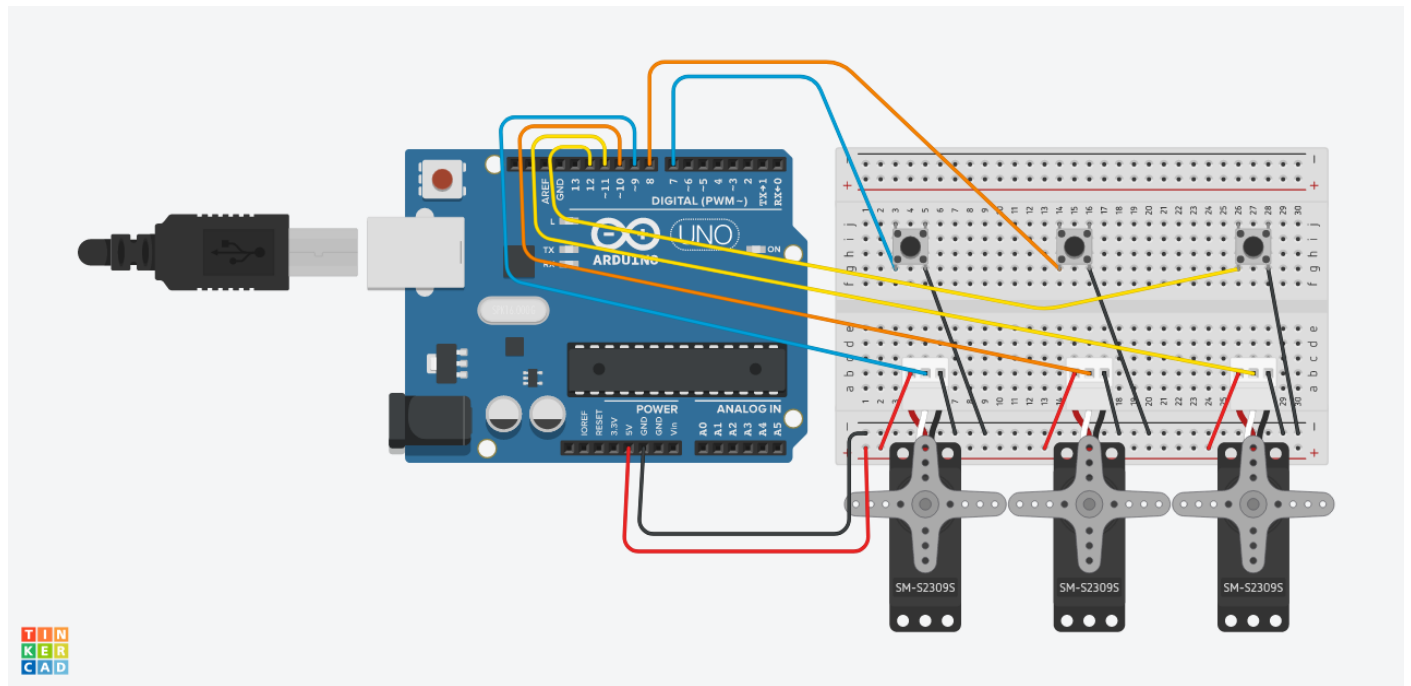
  pot2 = map (analogRead(A1),0, 1023, 0, 180);
  servo2.write(pot2);
  delay(15);

  pot3 = map (analogRead(A2),0, 1023, 0, 180);
  servo3.write(pot3);
  delay(15);
}
```

Opció-4:

Pins sortida 10, 11 i 12

Pins entrada 7, 8 i 9



```
#include <Servo.h>

// constants won't change
const int BUTTON_PIN = 7; // Arduino pin connected to button's pin
const int SERVO_PIN = 9; // Arduino pin connected to servo motor's pin

Servo servo; // create servo object to control a servo

// variables will change:
int angle = 0; // the current angle of servo motor
int lastButtonState; // the previous state of button
int currentButtonState; // the current state of button

void setup() {
  Serial.begin(9600); // initialize serial
  pinMode(BUTTON_PIN, INPUT_PULLUP); // set arduino pin to input pull-up mode
  servo.attach(SERVO_PIN); // attaches the servo on pin 9 to the servo
  object

  servo.write(angle);
  currentButtonState = digitalRead(BUTTON_PIN);
}

void loop() {
  lastButtonState = currentButtonState; // save the last state
  currentButtonState = digitalRead(BUTTON_PIN); // read new state

  if(lastButtonState == HIGH && currentButtonState == LOW) {
    Serial.println("The button is pressed");

    // change angle of servo motor
    if(angle == 0)
      angle = 90;
    else
      if(angle == 90)
        angle = 0;

    // control servo motor arccoding to the angle
    servo.write(angle);
  }
}
```

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