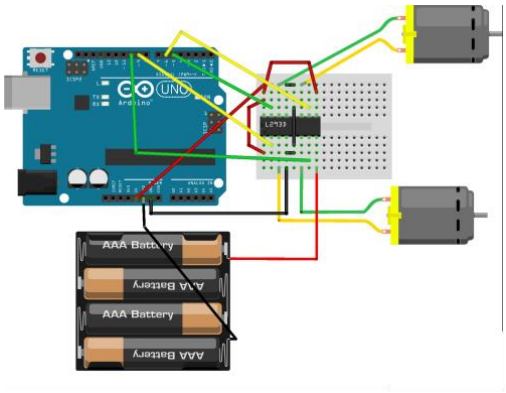
Control de motores 5v con L293D(Puente H)



- *Descripción del ejercicio:*

Obtendremos conocimiento sobre cómo controlar velocidad y sentido de giro de motores CC utilizando una placa Arduino y un puente H (L293D).

ARDUINO L293D(Puente H)

5 10

6 15

9 7

10 2

5V 1, 9, 16

GND 4, 5, 12, 13

El motor LEFT se conecta a los pines 3 y 6 del Puente H

El motor RIGHT se conecta a los pines 11 y 14 del Puente H

La fuente de alimentación de los Motores se conecta a tierra y

el positivo al pin 8 del puente H

- *Materiales*

  - 1 Arduino UNO
  - 2 Motores de 5v
  - 1 Placa de pruebas (Protoboard)
  - 1 Alambre para conexiones

- 1 Puente H(L293D)
- 4 baterias AA
- 1 conector de baterias AA

- *El código que usaremos será el siguiente*

```
*/ //LEFT MOTOR
int leftA = 9;
int leftB = 10;
//RIGHT MOTOR
int rightA = 5;
int rightB = 6;
int vel = 255; // Velocidad de los motores (0-255)
void setup() {
pinMode(rightA, OUTPUT);
pinMode(rightB, OUTPUT);
pinMode(leftA, OUTPUT);
pinMode(leftB, OUTPUT);
Serial.begin(9600);
analogWrite(rightA, 0);
analogWrite(rightB, 0);
analogWrite(leftA, 0);
analogWrite(leftB, 0);
}
void loop()
{ if (Serial.available()) {
char a = Serial.read();
// STOP
if (a =='X'||a =='x'){
Serial.println("STOP");
analogWrite(rightA, 0);
analogWrite(rightB, 0);
analogWrite(leftA, 0);
analogWrite(leftB, 0);
}
//MOTOR left FORWARDS
if (a =='W'||a =='w'){
Serial.println("MOTOR left FORWARDS");
analogWrite(rightA, 0);
analogWrite(rightB, 0);
analogWrite(leftA, vel);
analogWrite(leftB, 0);
}
//MOTOR left BACKWARDS
if (a =='A'||a =='a'){
Serial.println("MOTOR left BACKWARDS");
analogWrite(rightA, 0);
analogWrite(rightB, 0);
analogWrite(leftA, 0);
```

```
analogWrite(leftB, vel);
}
//MOTOR right FORWARDS
if (a =='E'||a =='e'){
Serial.println("MOTOR right FORWARDS");
analogWrite(rightA, vel);
analogWrite(rightB, 0);
analogWrite(leftA, 0);
analogWrite(leftB, 0);
}
//MOTOR right BACKWARDS
if (a =='S'||a =='s'){
Serial.println("MOTOR right BACKWARDS");
analogWrite(rightA, 0);
analogWrite(rightB, vel);
analogWrite(leftA, 0);
analogWrite(leftB, 0);
}
//MOTOR left & right FORWARDS
if (a =='T'||a =='t'){
Serial.println("MOTOR left & right FORWARDS");
analogWrite(rightA, vel);
analogWrite(rightB, 0);
analogWrite(leftA, vel);
analogWrite(leftB, 0);
}
//MOTOR left & right BACKWARDS
if (a =='F'||a =='f'){
Serial.println("MOTOR left & right BACKWARDS");
analogWrite(rightA, 0);
analogWrite(rightB, vel);
analogWrite(leftA, 0);
analogWrite(leftB, vel);
}
}
}
```