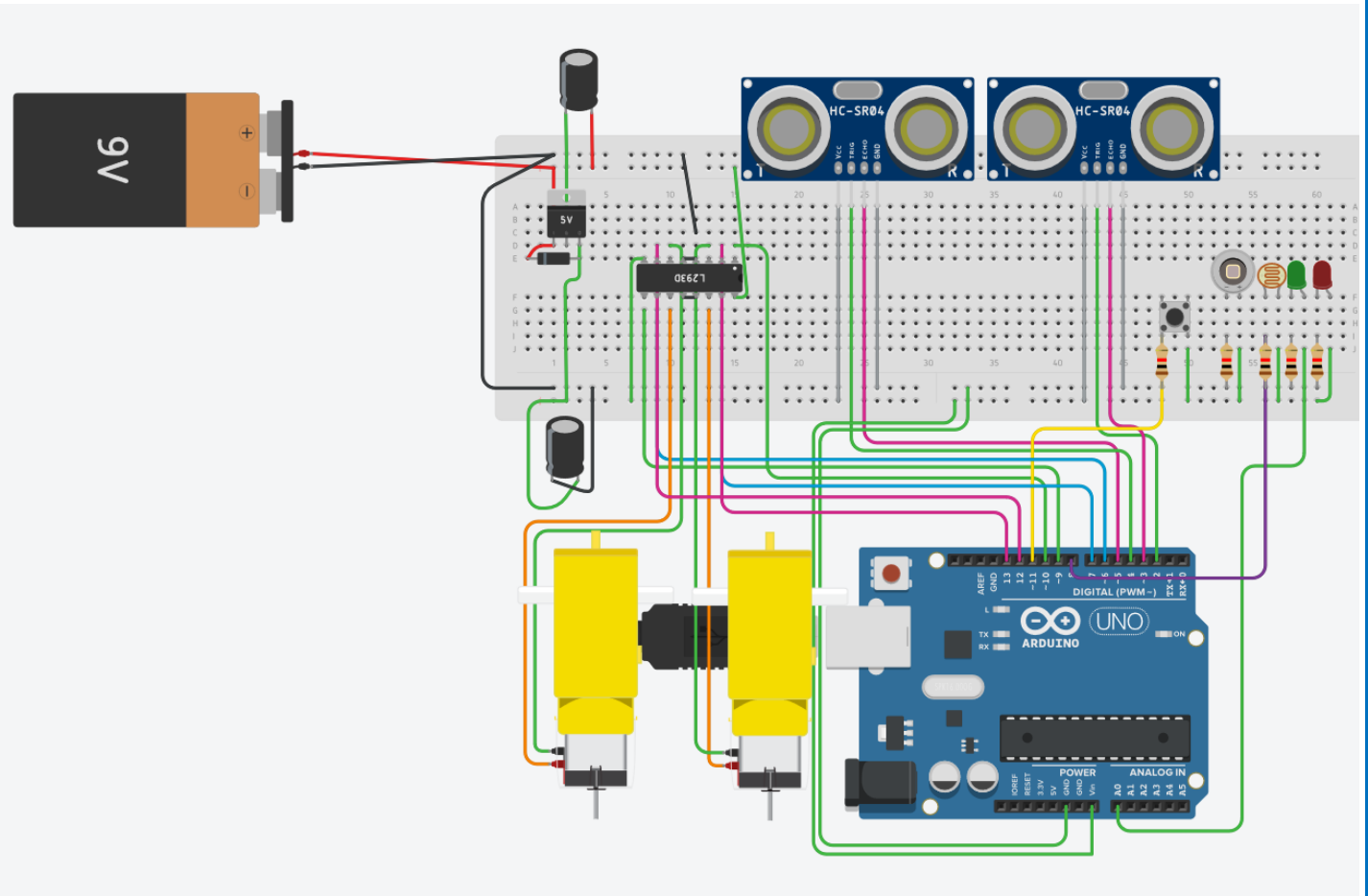


# Projecte-5: Passa-Laberint

Controla un cotxe Passa-Laberint



Codi:

```
#define mda 12
#define mdr 13
#define mia 6
#define mir 7
#define pwmd 10
#define pwmi 9
#define trigad 2
#define echoad 3
#define trigiz 4
#define echoiz 5
#define sl 8
#define pulsador 11
#define led A0

int encendido=0;

int ultraad()
{
    long tiempoad;
    int cmad;

    digitalWrite(trigad,LOW);
    delayMicroseconds(10);
    digitalWrite(trigad,HIGH);
    delayMicroseconds(10);
    digitalWrite(trigad,LOW);

    tiempoad=pulseIn(echoad,HIGH);

    cmad=tiempoad*0.017;
    return cmad;
}

int ultraiz()
{
    long tiempoiz;
    int cmiz;

    digitalWrite(trigiz,LOW);
    delayMicroseconds(10);
    digitalWrite(trigiz,HIGH);
    delayMicroseconds(10);
    digitalWrite(trigiz,LOW);

    tiempoiz=pulseIn(echoiz,HIGH);

    cmiz=tiempoiz*0.017;
    return cmiz;
}
```

**void adelante()**

```
{  
  digitalWrite(led, HIGH);  
  digitalWrite(mda, HIGH);  
  digitalWrite(mdr, LOW);  
  digitalWrite(mia, HIGH);  
  digitalWrite(mir, LOW);  
  analogWrite(pwmd, 255);  
  analogWrite(pwmi, 255);  
}
```

**void atras()**

```
{  
  digitalWrite(led, HIGH);  
  digitalWrite(mda, LOW);  
  digitalWrite(mdr, HIGH);  
  digitalWrite(mia, LOW);  
  digitalWrite(mir, HIGH);  
  analogWrite(pwmd, 255);  
  analogWrite(pwmi, 255);  
}
```

**void derecha()**

```
{  
  digitalWrite(led, HIGH);  
  digitalWrite(mda, LOW);  
  digitalWrite(mdr, HIGH);  
  digitalWrite(mia, HIGH);  
  digitalWrite(mir, LOW);  
  analogWrite(pwmd, 255);  
  analogWrite(pwmi, 255);  
}
```

**void izquierda()**

```
{  
  digitalWrite(led, HIGH);  
  digitalWrite(mda, HIGH);  
  digitalWrite(mdr, LOW);  
  digitalWrite(mia, LOW);  
  digitalWrite(mir, HIGH);  
  analogWrite(pwmd, 255);  
  analogWrite(pwmi, 255);  
}
```

**void para()**

```
{  
  digitalWrite(led, LOW);  
  digitalWrite(mda, LOW);  
  digitalWrite(mdr, LOW);  
  digitalWrite(mia, LOW);  
  digitalWrite(mir, LOW);  
  analogWrite(pwmd, 255);  
  analogWrite(pwmi, 255);  
}
```

**void setup()**

```
{  
  pinMode(mda, OUTPUT);  
  pinMode(mdr, OUTPUT);  
  pinMode(mia, OUTPUT);  
  pinMode(mir, OUTPUT);  
  pinMode(trigad, OUTPUT);  
  pinMode(echoad, INPUT);  
  pinMode(trigiz, OUTPUT);  
  pinMode(echoiz, INPUT);  
  pinMode(sl, INPUT);  
  encendido=0;  
}
```

**void loop()**

```
{  
  if (digitalRead (pulsador) == HIGH && encendido == 0){  
    while (digitalRead (pulsador) == HIGH && encendido == 0);  
    encendido=1;  
  }  
  
  if (digitalRead (pulsador) == HIGH && encendido == 1){  
    while (digitalRead (pulsador) == HIGH && encendido == 1);  
    encendido=0;  
    para();  
  }  
  
  if (encendido==1)  
  {  
    if (ultraad())>10  
    {  
      adelante();  
    }  
  
    else  
    {  
      derecha();  
      delay(100);  
    }  
  
    if (ultraiz() > 10)  
    {  
      adelante();  
      delay(100);  
      izquierda();  
      delay(100);  
    }  
    if (digitalRead (sl) == HIGH)  
    {  
      para();  
      encendido=0;  
    }  
  }  
}
```

- 1. Introducció/Objectius**
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- 3. Anàlisi-funcionament:**
- 4. Anàlisi-Codi:**
- 5. Canvis-realitzats:**
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- 7. Simulació-Tinkercad**
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