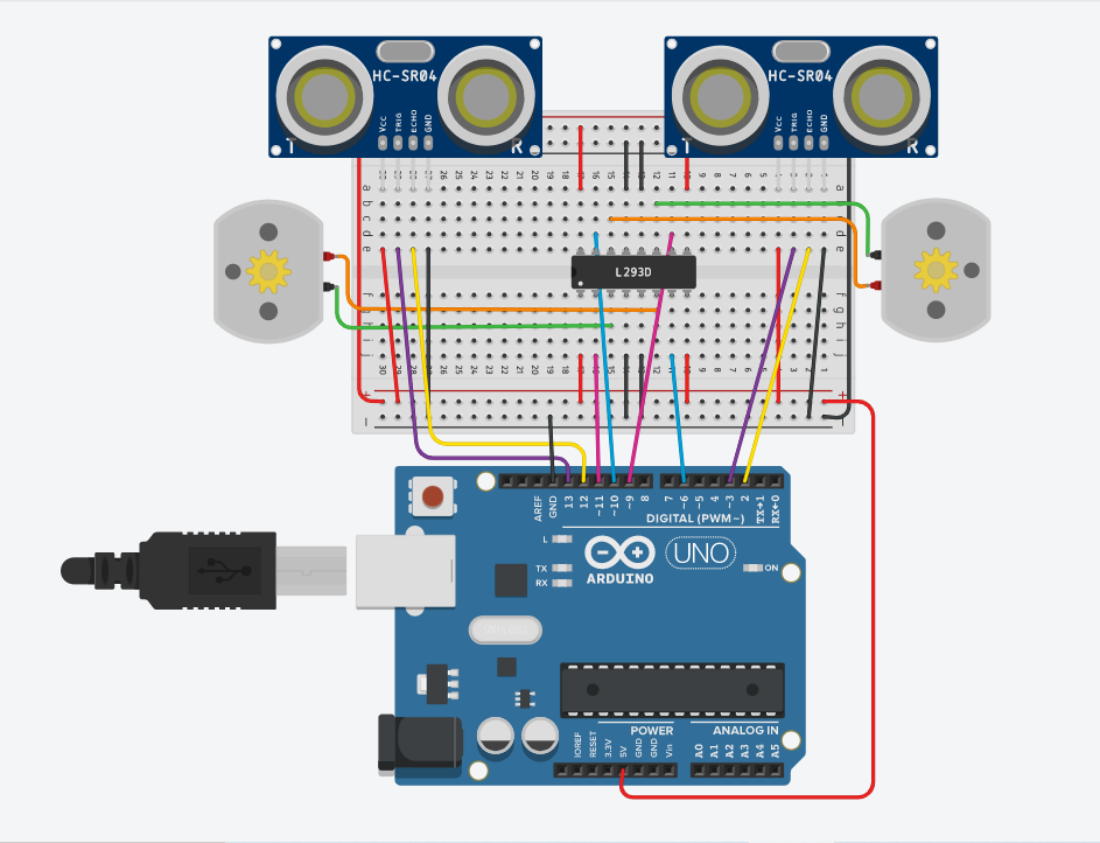
TinkerCad Circuit



Code

```
int TrigPin1 = 13;//Left Sensor

int EchoPin1 = 12;

int TrigPin2 = 3;//Right Sensor

int EchoPin2 = 2;

int Motor1_Pin1 = 11; //Left Motor

int Motor1_Pin2 =6;

int Motor2_Pin1 = 9; //Right Motor

int Motor2_Pin2 = 10;

int val;
```

```
int d1;
int d2;
double duration;

void setup()
{
  pinMode(TrigPin1, OUTPUT);
  pinMode(EchoPin1, INPUT);
  pinMode(TrigPin2, OUTPUT);
  pinMode(EchoPin2, INPUT);

  pinMode(Motor1_Pin1, OUTPUT);
  pinMode(Motor1_Pin2, OUTPUT);
  pinMode(Motor2_Pin1, OUTPUT);
  pinMode(Motor2_Pin2, OUTPUT);

  Serial.begin(9600);
}

int CalculateDistance(int TrigPin, int EchoPin)
{
  digitalWrite(TrigPin, LOW);
  digitalWrite(TrigPin, HIGH);
  delayMicroseconds(10);
```

```
  digitalWrite(TrigPin, LOW);

  duration = pulseIn(EchoPin, HIGH);
  int distance = duration*0.0343/2;
  return distance;
}

void AlignBot()
{
  do
  {
     d1 = CalculateDistance(TrigPin1, EchoPin1);
     d2 = CalculateDistance(TrigPin2, EchoPin2);

    while(d1<d2)
    {
     d1 = CalculateDistance(TrigPin1, EchoPin1);
     d2 = CalculateDistance(TrigPin2, EchoPin2);
     //val = map(abs(d2-d1) ,0 , 400, 0, 255);

     digitalWrite(Motor1_Pin1, HIGH);
     digitalWrite(Motor1_Pin2, LOW);
     digitalWrite(Motor2_Pin1, LOW);
     digitalWrite(Motor2_Pin2, LOW);
```

```
    }

    while(d1>d2)
    {
      d1 = CalculateDistance(TrigPin1, EchoPin1);
      d2 = CalculateDistance(TrigPin2, EchoPin2);
      //val = map(abs(d2-d1) ,0 , 400, 0, 255);

      digitalWrite(Motor1_Pin1, LOW);
      digitalWrite(Motor1_Pin2, LOW);
      digitalWrite(Motor2_Pin1, LOW);
      digitalWrite(Motor2_Pin2, HIGH);
    }
  }
  while(d1!=d2);

  digitalWrite(Motor1_Pin1, LOW);
  digitalWrite(Motor1_Pin2, LOW);
  digitalWrite(Motor2_Pin1, LOW);
  digitalWrite(Motor2_Pin2, LOW);
}

void StopBot()
{
```

```
do
{
 d1 = CalculateDistance(TrigPin1, EchoPin1);
 d2 = CalculateDistance(TrigPin2, EchoPin2);
 //val = map(abs(d2-d1),0 , 400, 0, 255);

 if(d1!=d2)
 {
  AlignBot();
 }

 while(d1<20 && d2<20)
 {
  d1 = CalculateDistance(TrigPin1, EchoPin1);
  d2 = CalculateDistance(TrigPin2, EchoPin2);

  digitalWrite(Motor1_Pin1, LOW);
  digitalWrite(Motor1_Pin2, HIGH);
  digitalWrite(Motor2_Pin1, HIGH);
  digitalWrite(Motor2_Pin2, LOW);
 }

 while(d1>20 && d2>20)
 {
```

```
    d1 = CalculateDistance(TrigPin1, EchoPin1);
    d2 = CalculateDistance(TrigPin2, EchoPin2);

    digitalWrite(Motor1_Pin1, HIGH);
    digitalWrite(Motor1_Pin2, LOW);
    digitalWrite(Motor2_Pin1, LOW);
    digitalWrite(Motor2_Pin2, HIGH);
   }
  }
  while(d1!=20 && d2!=20);

  digitalWrite(Motor1_Pin1, LOW);
  digitalWrite(Motor1_Pin2, LOW);
  digitalWrite(Motor2_Pin1, LOW);
  digitalWrite(Motor2_Pin2, LOW);
}

void loop()
{
  AlignBot();
  StopBot();
}
```