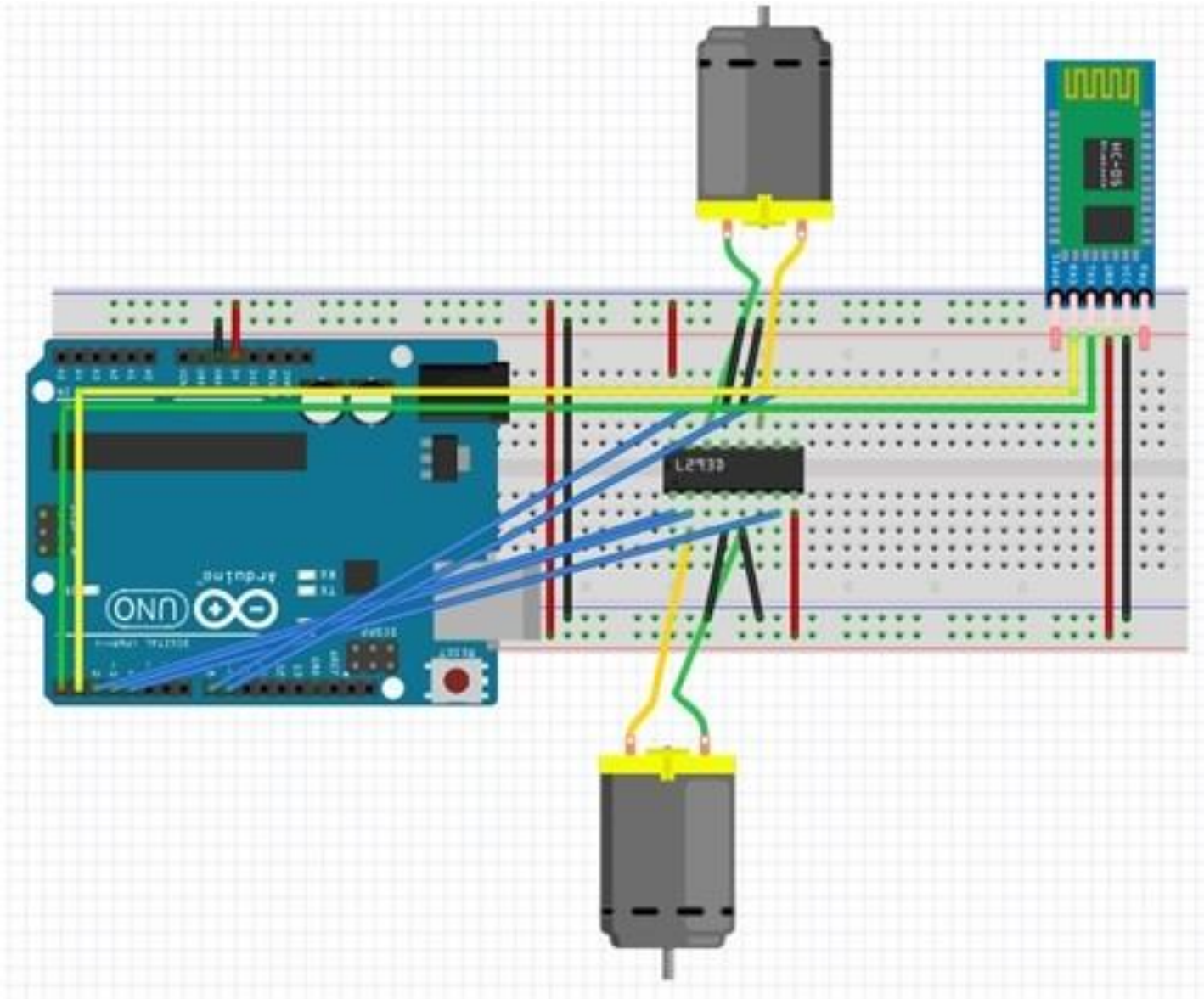


Projecte-7: BlueTooth-3



Required Equipment

1. *Arduino*
2. *L283D Motor driver IC*
3. *2 DC Motors*
4. *HC-05 Bluetooth Module*
5. *Breadboard*
6. *Connecting Wires*

```

int motor1Pin1 = 3; // pin 2 on IC
int motor1Pin2 = 4; // pin 7 on IC
int enable1Pin = 2; // pin 1 on IC
int motor2Pin1 = 8; // pin 10 on IC
int motor2Pin2 = 9; // pin 15 on IC
int enable2Pin = 11; // pin 9 on IC

int state;
int flag = 0;
int stateStop = 0;

void setup() {
  // sets the pins as outputs:
  pinMode(motor1Pin1, OUTPUT);
  pinMode(motor1Pin2, OUTPUT);
  pinMode(enable1Pin, OUTPUT);
  pinMode(motor2Pin1, OUTPUT);
  pinMode(motor2Pin2, OUTPUT);
  pinMode(enable2Pin, OUTPUT);

  // sets enable1Pin and enable2Pin high so that motor can turn on:
  digitalWrite(enable1Pin, HIGH);
  digitalWrite(enable2Pin, HIGH);

  // initialize serial communication at 9600 bits per second:
  Serial.begin(9600);
}

void loop() {
  //Start Serial Communication
  if (Serial.available() > 0) {
    state = Serial.read();
    flag = 0;
  }

  // if the state is '1' the DC motor will go forward
  if (state == '1') {
    digitalWrite(motor1Pin1, HIGH);
    digitalWrite(motor1Pin2, HIGH);
    digitalWrite(motor2Pin1, LOW);
    digitalWrite(motor2Pin2, HIGH);

    if (flag == 0) {
      Serial.println("Go Forward!");
      flag = 1;
    }
    delay(3000);
    state = 3;
    stateStop = 1;
  }

  // if the state is '2' the motor will turn left
  else if (state == '2') {
    digitalWrite(motor1Pin1, HIGH);
    digitalWrite(motor1Pin2, LOW);
    digitalWrite(motor2Pin1, LOW);
    digitalWrite(motor2Pin2, LOW);
  }
}

```

```
if (flag == 0) {
  Serial.println("Turn LEFT");
  flag = 1;
}
delay(3000);
state = 3;
stateStop = 1;
}

// if the state is '3' the motor will Stop
else if (state == '3' || stateStop == 1) {
  digitalWrite(motor1Pin1, LOW);
  digitalWrite(motor1Pin2, LOW);
  digitalWrite(motor2Pin1, LOW);
  digitalWrite(motor2Pin2, LOW);

  if (flag == 0) {
    Serial.println("STOP!");
    flag = 1;
  }
  stateStop = 0;
}

// if the state is '4' the motor will turn right
else if (state == '4') {
  digitalWrite(motor1Pin1, LOW);
  digitalWrite(motor1Pin2, LOW);
  digitalWrite(motor2Pin1, LOW);
  digitalWrite(motor2Pin2, HIGH);

  if (flag == 0) {
    Serial.println("Turn RIGHT");
    flag = 1;
  }

  delay(3000);
  state = 3;
  stateStop = 1;
}

// if the state is '5' the motor will Reverse
else if (state == '5') {
  digitalWrite(motor1Pin1, LOW);
  digitalWrite(motor1Pin2, HIGH);
  digitalWrite(motor2Pin1, HIGH);
  digitalWrite(motor2Pin2, LOW);

  if (flag == 0) {
    Serial.println("Reverse!");
    flag = 1;
  }

  delay(3000);
  state = 3;
  stateStop = 1;
}
}
```

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