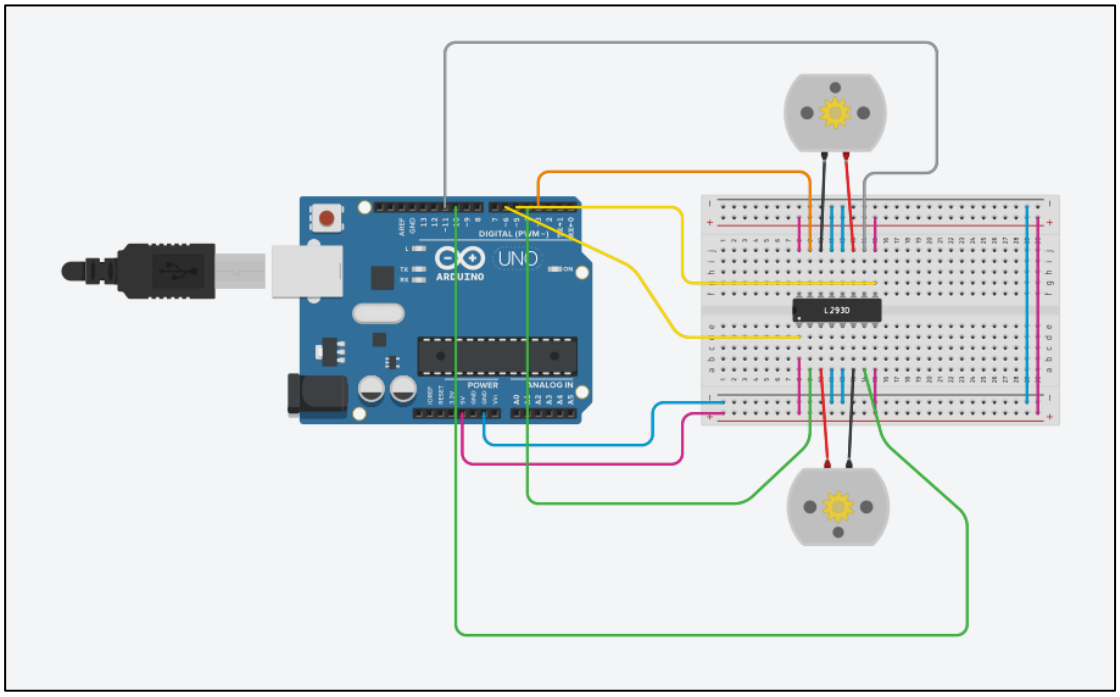
Brushless Motor Control System in Tinkercad

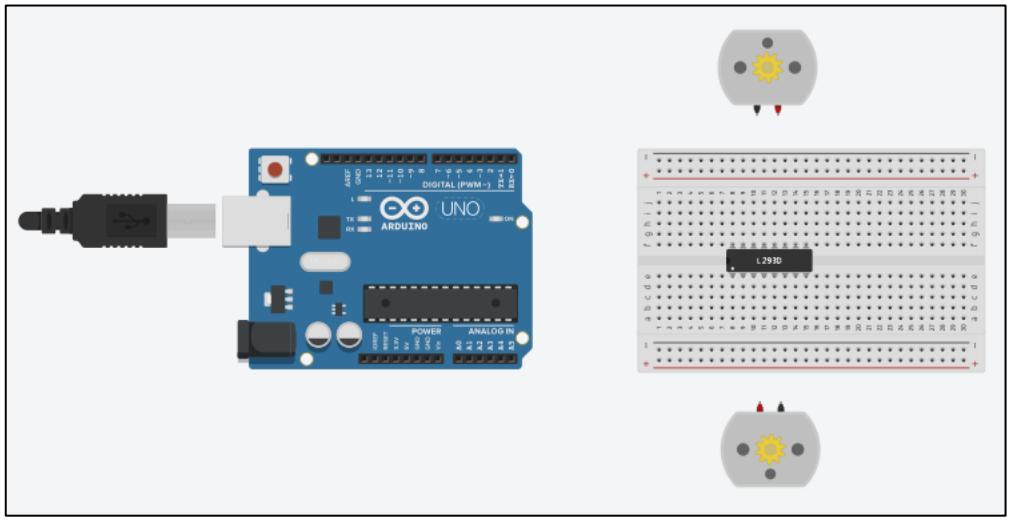
To view and test the full project, click Here

Design :



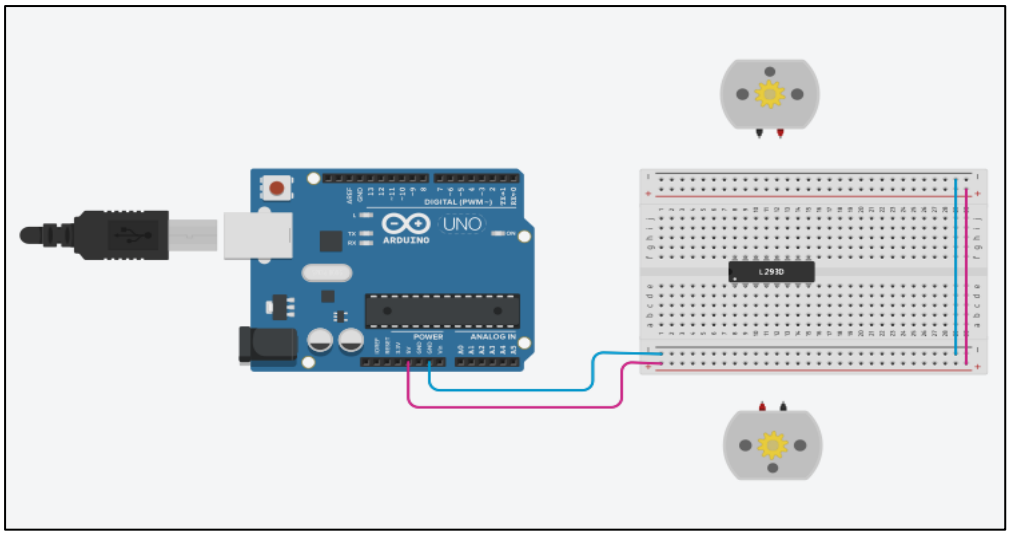
Build the circuit:

- Breadboard Small
- Arduino Uno R3
- H-bridge Motor Driver (L293D)
- Tow DC Motor

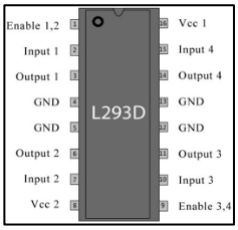


Wire the project:

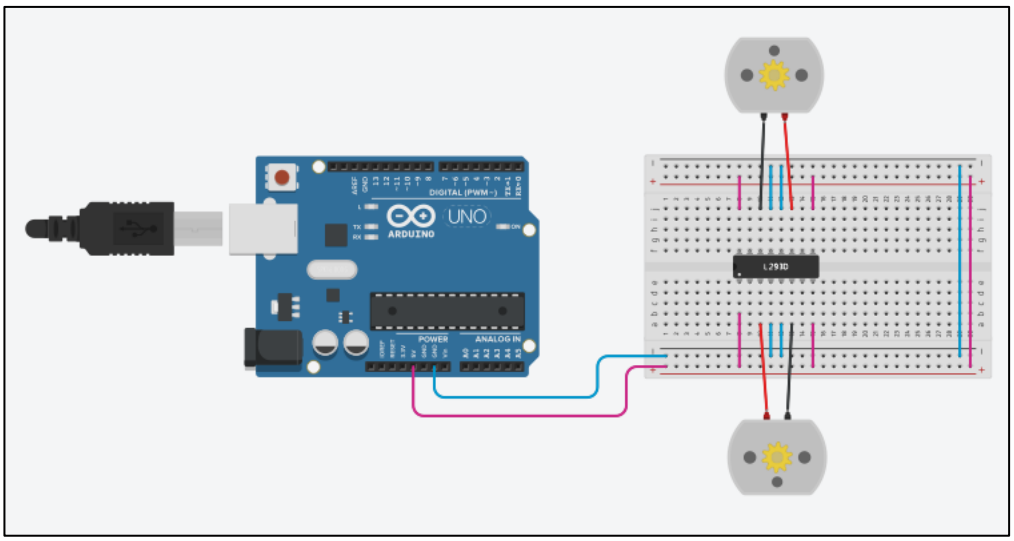
- + to + with pink wire
- - to – with blue wire
- Connect Arduino GND to the - rail on the breadboard. (any of the GND's will work).
- Connect Arduino 5V to the + rail on the breadboard. (if using a separate voltage for the motors connect it here instead, but also connect ground to the - rail on the breadboard along with the Arduino ground.



- **Wiring up L293D:**

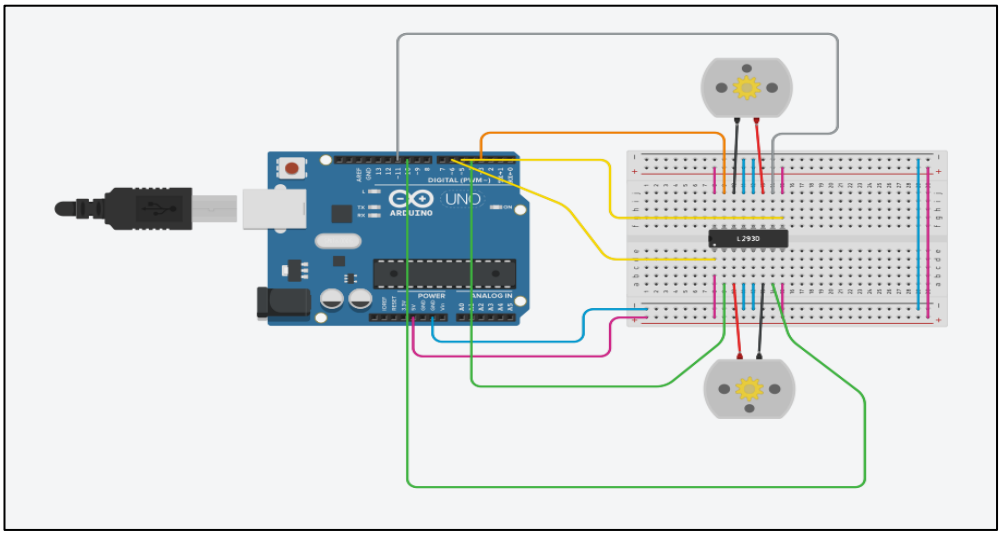


- Connect the first pin to the + rail with a pink wire. The first pin is labeled "Enable 1 & 2"
- Connect the last pin to the + rail with a pink wire. The pin is labeled "Enable 3&4"
- With a blue wire connect the four ground pins to the - rail on the board.
- Connect "Power 1" pin to the + rail using a pink wire.
- Connect "Power 2" pin to the + rail using a pink wire.
- On the Right motor:
- Connect the Red DC motor pin to the "Output 1" pin on the L293D
- Connect the Black DC motor pin to the "Output 2" pin on the L293D
- On the Left motor:
- Connect the Red DC motor pin to the "Output 3" pin on the L293D
- Connect the Black DC motor pin to the "Output 4" pin on the L293D



- **Connect Arduino to the L293D Dual H-Bridge Driver:**

  We use 4 pins on the Arduino. Pins are 3,4,5,6,10,11.
  - Arduino pin 3 connects to L293D pin "Input 4"
  - Arduino pin 4 connects to L293D pin "Input 1"
  - Arduino pin 10 connects to L293D pin "Input 2"
  - Arduino pin 11 connects to L293d pin "Input 3"
  - Arduino pin 5 connects to L293d pin "Enable 3 & 4"
  - Arduino pin 6 connects to L293d pin "Enable 1 & 2"



Program the Arduino