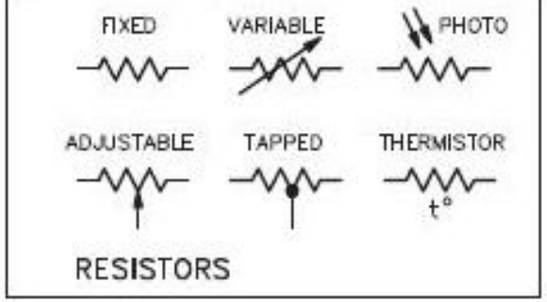

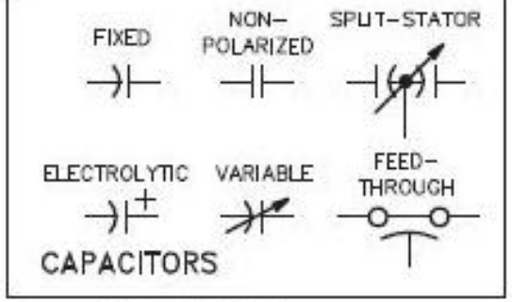

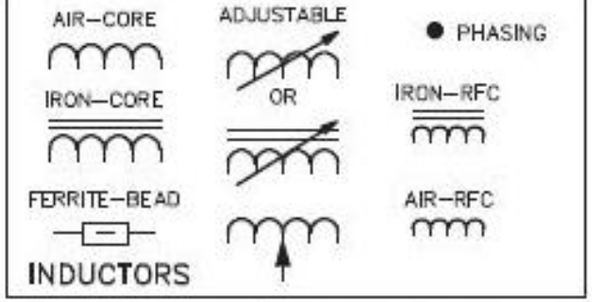

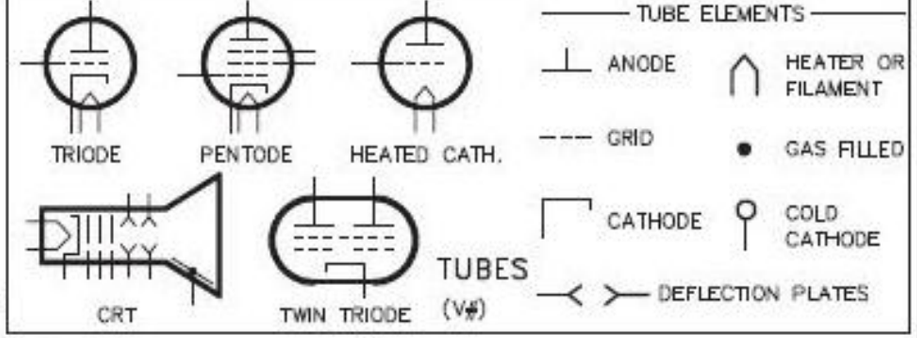

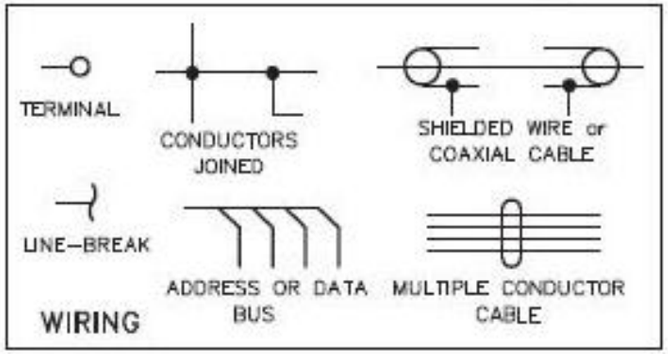

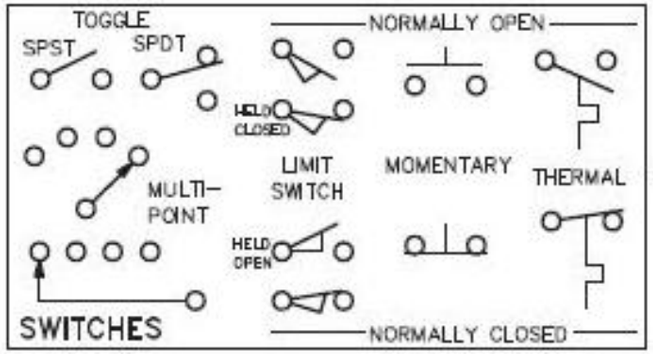

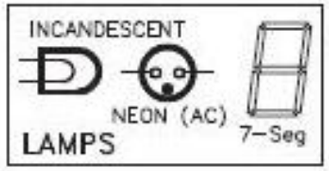

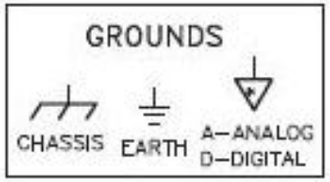

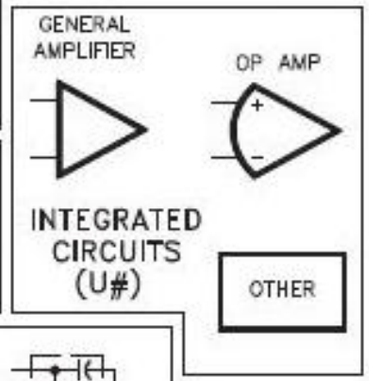

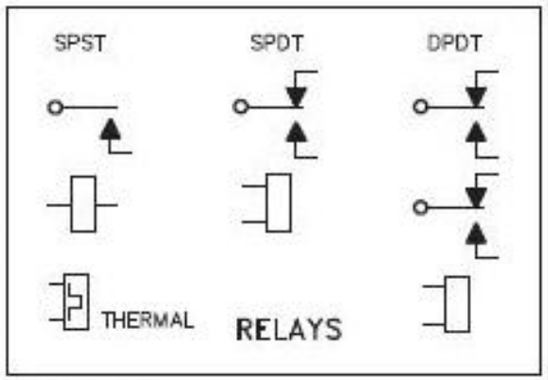

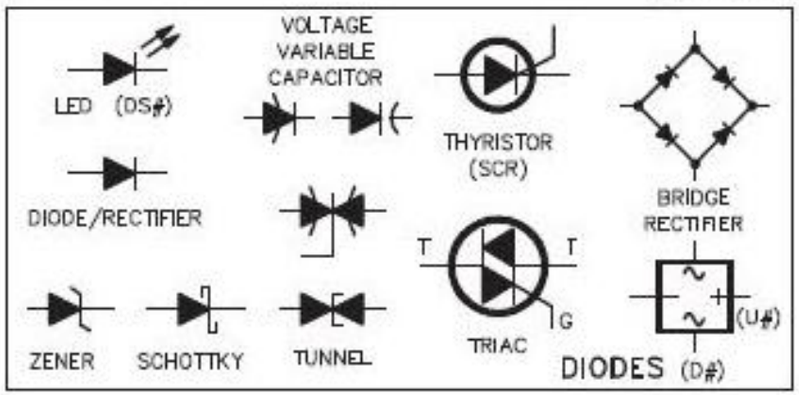

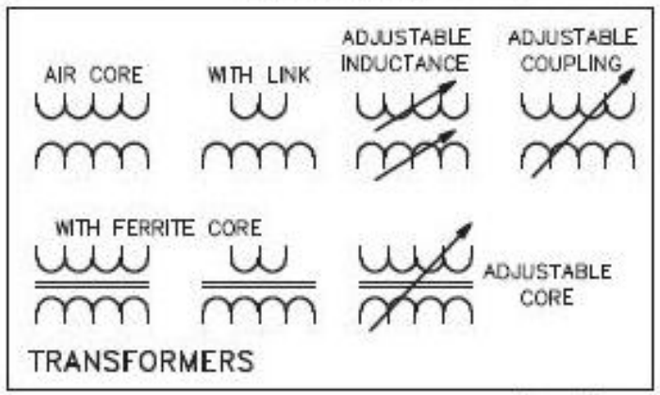

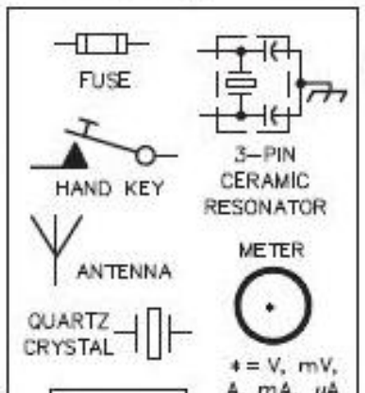

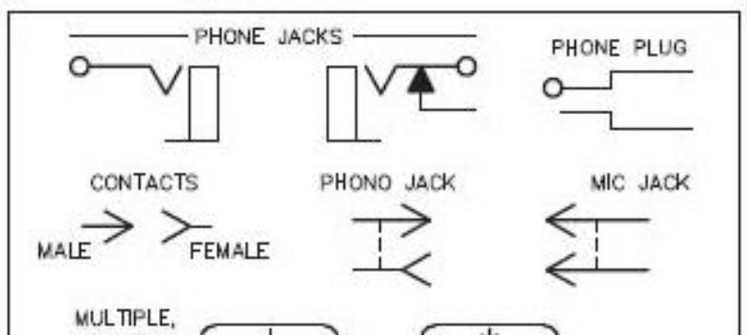

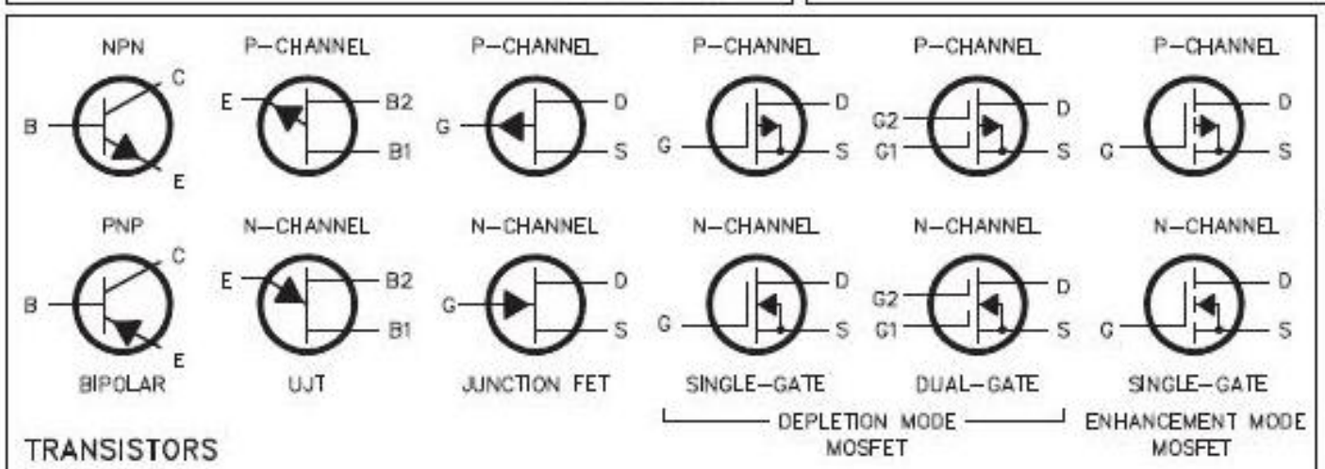

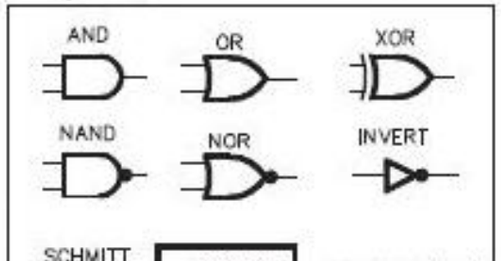

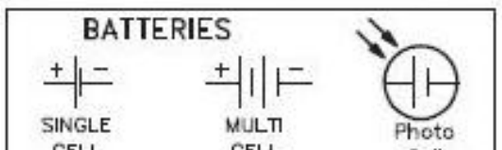

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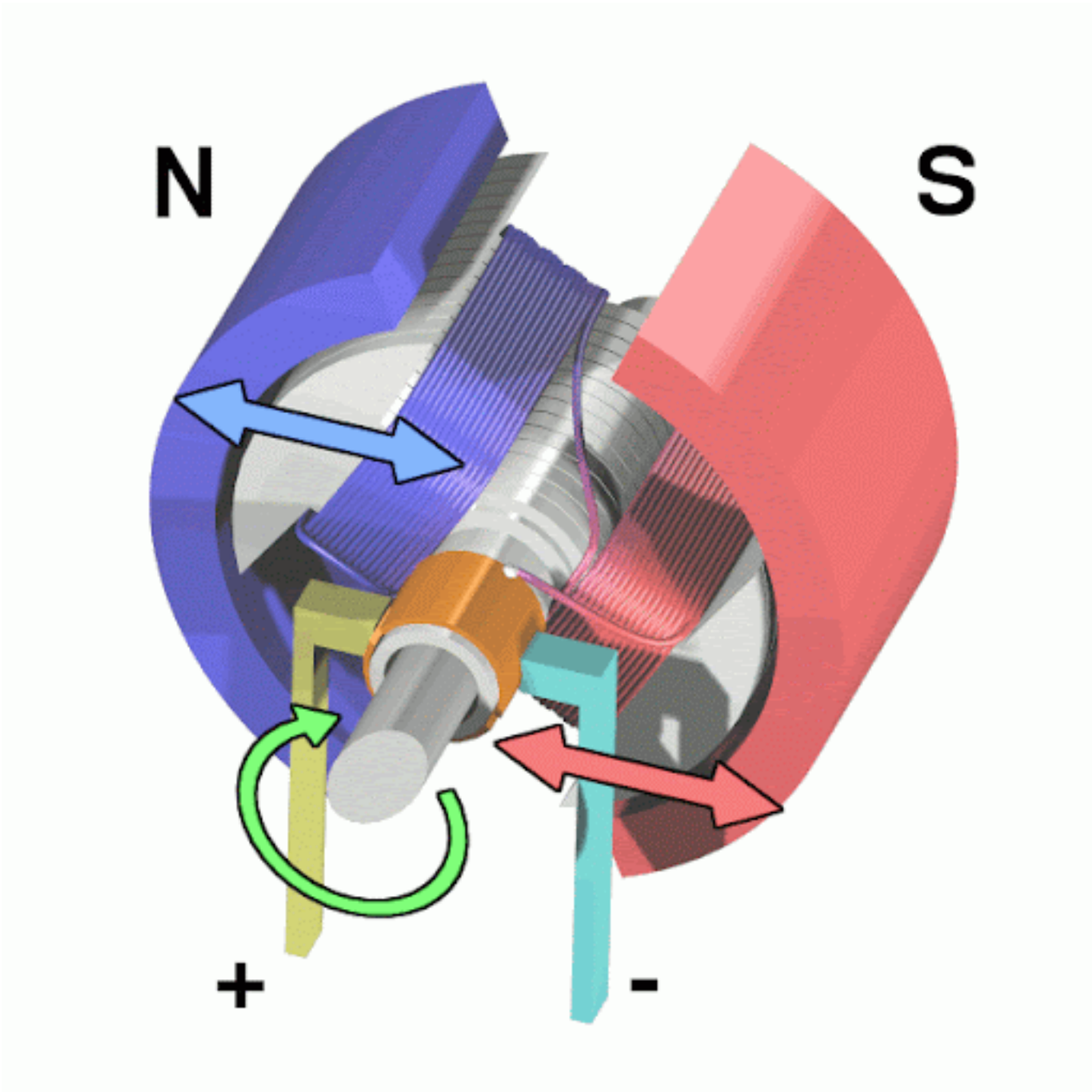
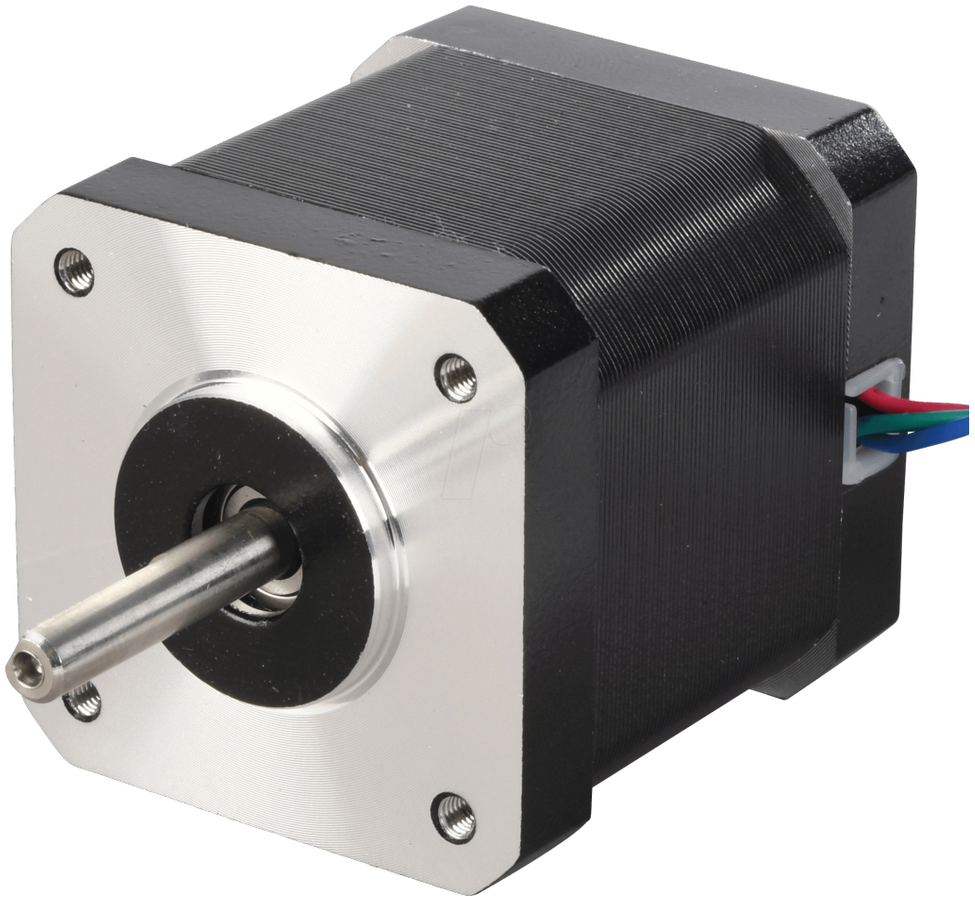
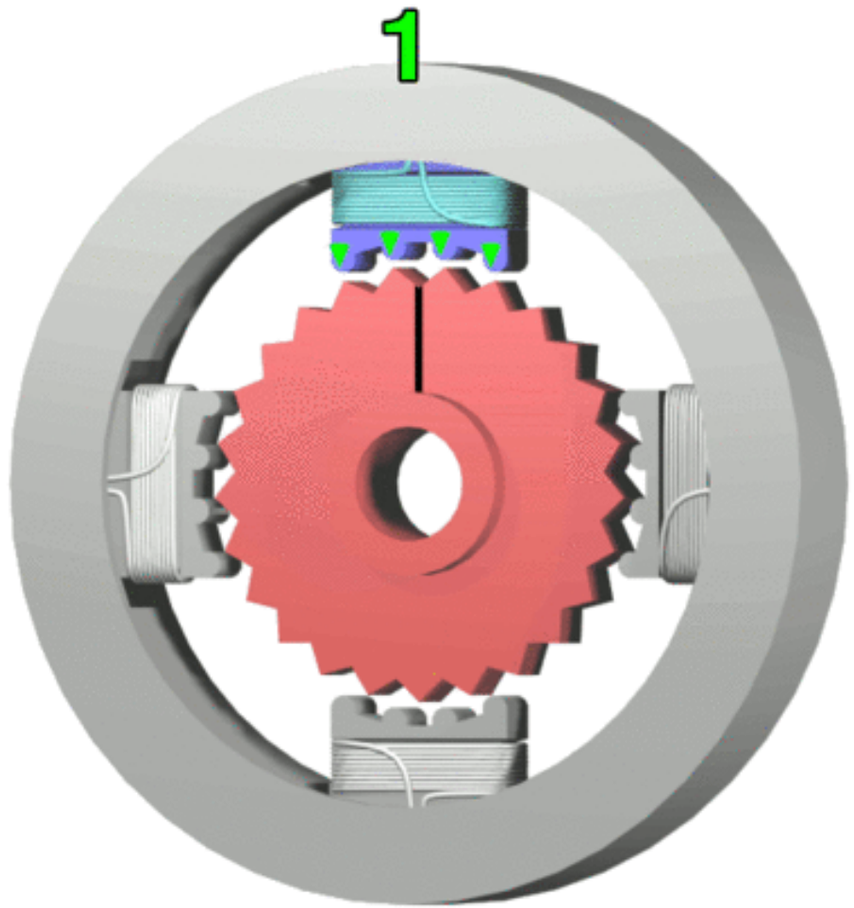
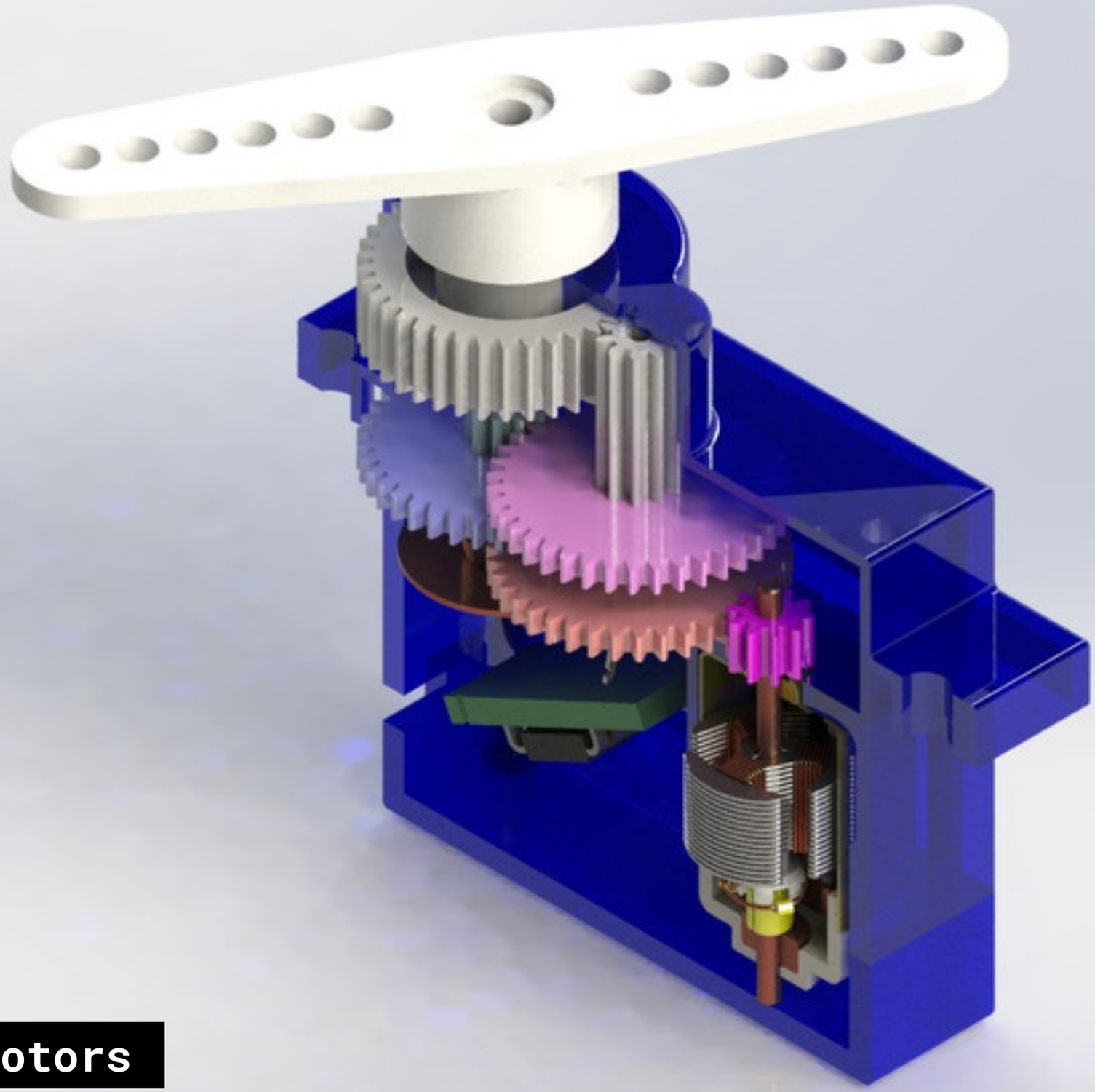


DC Motors



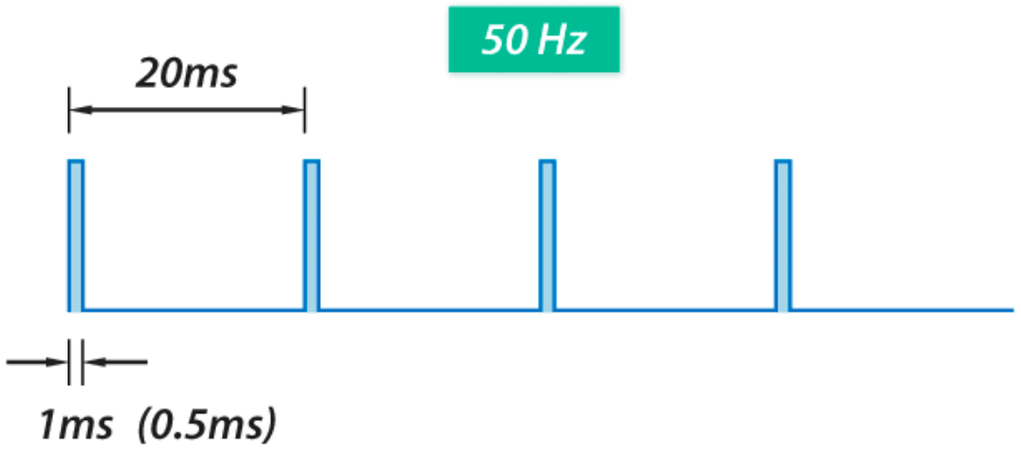


Stepper Motors

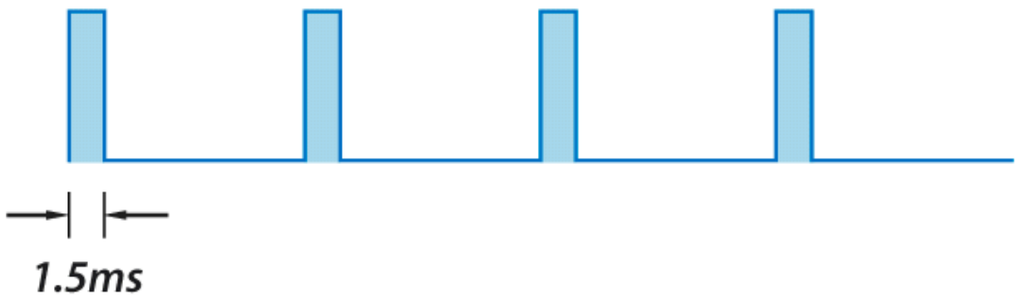


Servo Motors

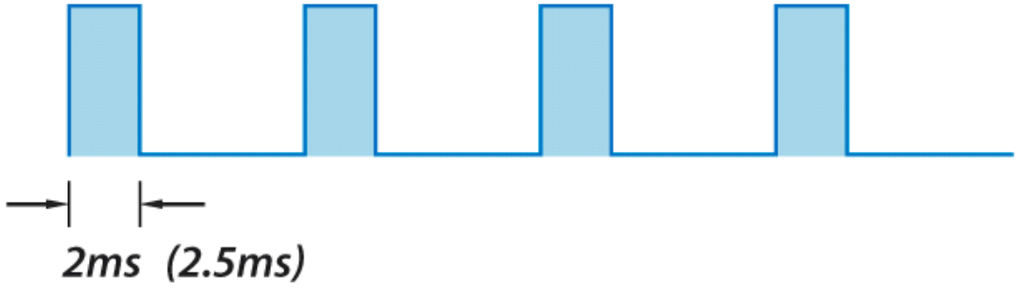
SERVO MOTOR CONTROL



0 Degrees

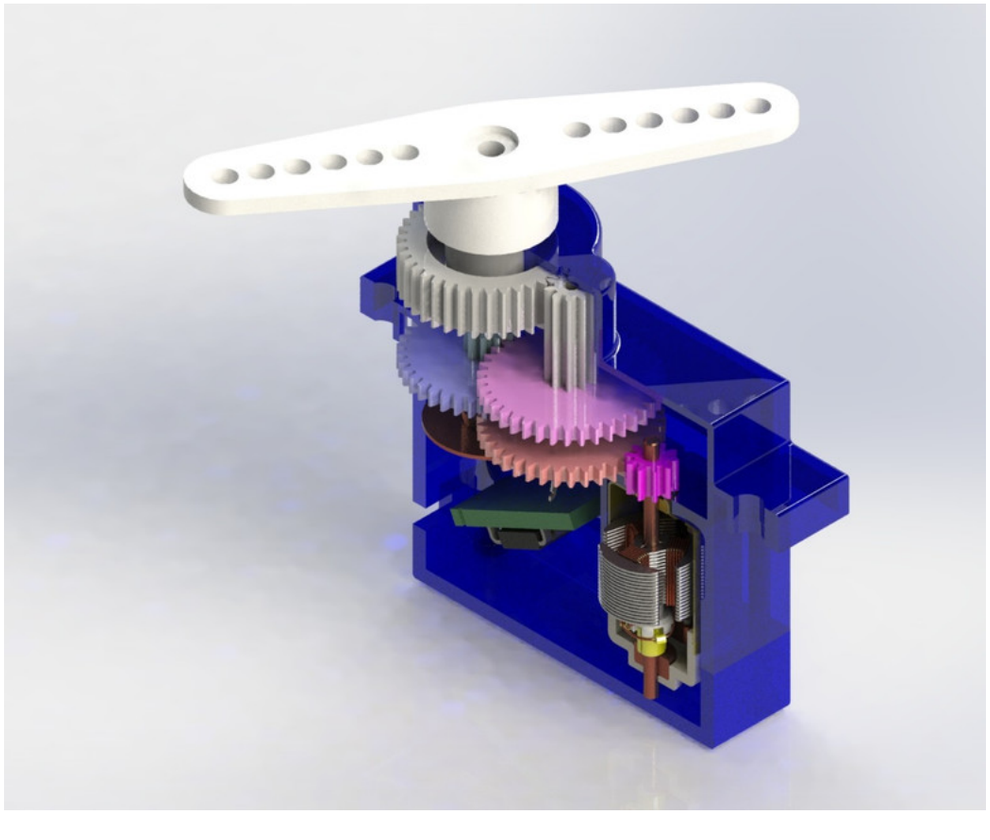


90 Degrees



180 Degrees

Servo Motors



Exercise 4.0: Ping Pong

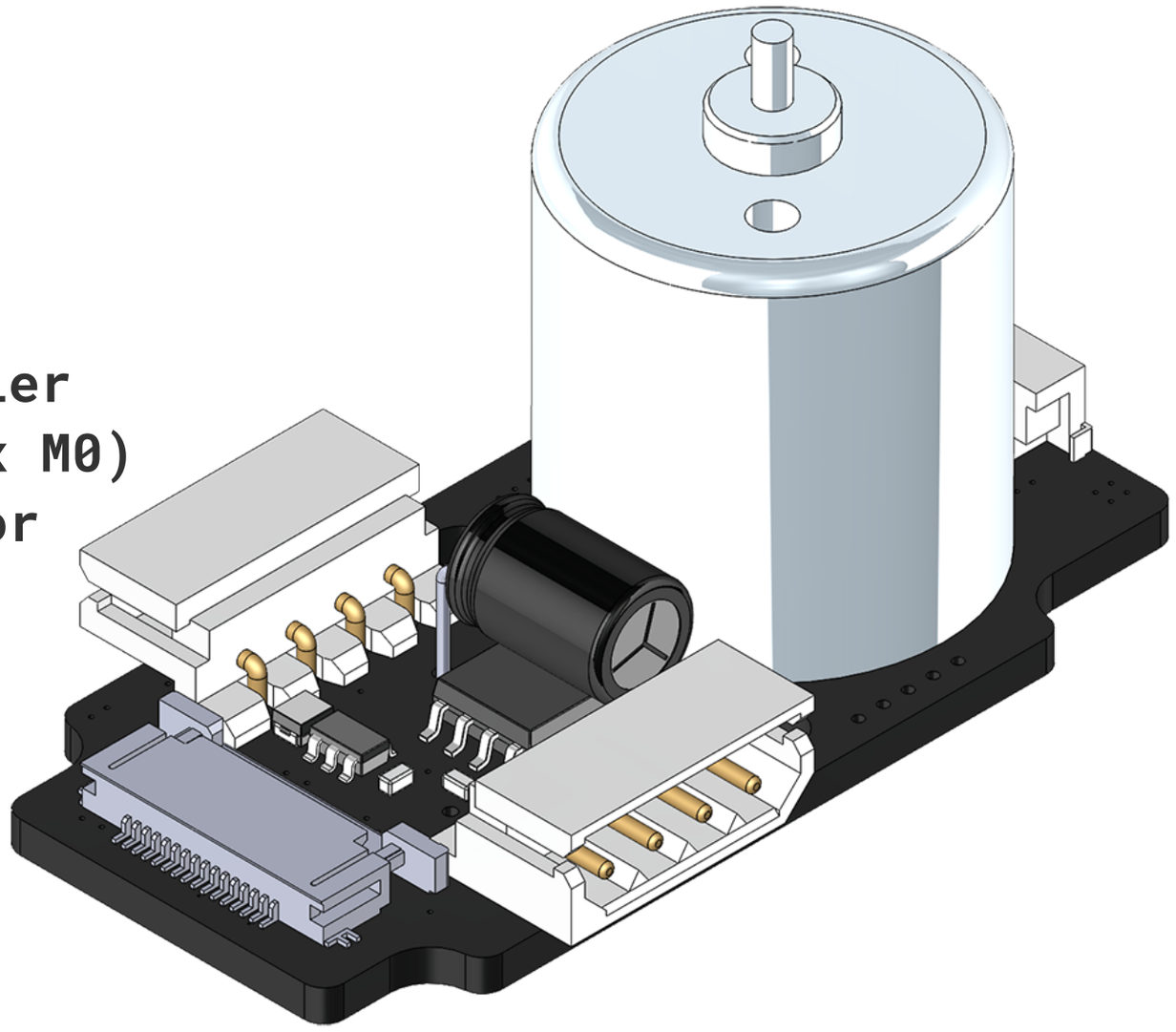
Make a ping pong hitting servo robots. Attach an arm to your servo head, and connect a button to the Arduino to control the hitting motion of your servo. Play your robot off against your neighbours robot.

Extra activity: use proximity sensor for your robot, so it hits when the ball is right in front of it.

Lynx Smart Servo

Hardware:

- H-bridge motor controller
- Microcontroller (Cortex M0)
- Magnetic position sensor
- Voltage sensor
- Temperature sensor
- Current sensor



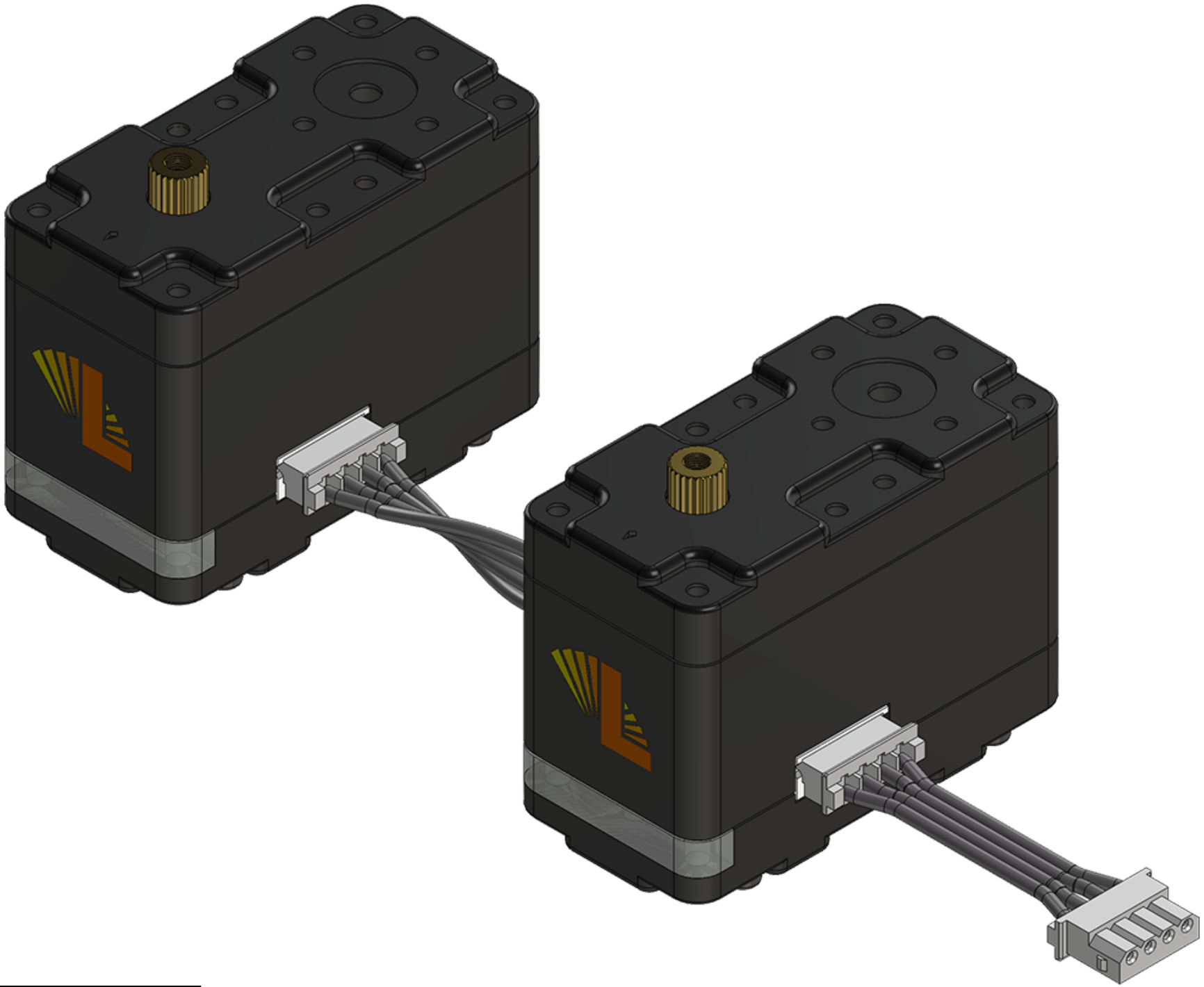
Lynx Smart Servo

Hardware: Human readable commands:

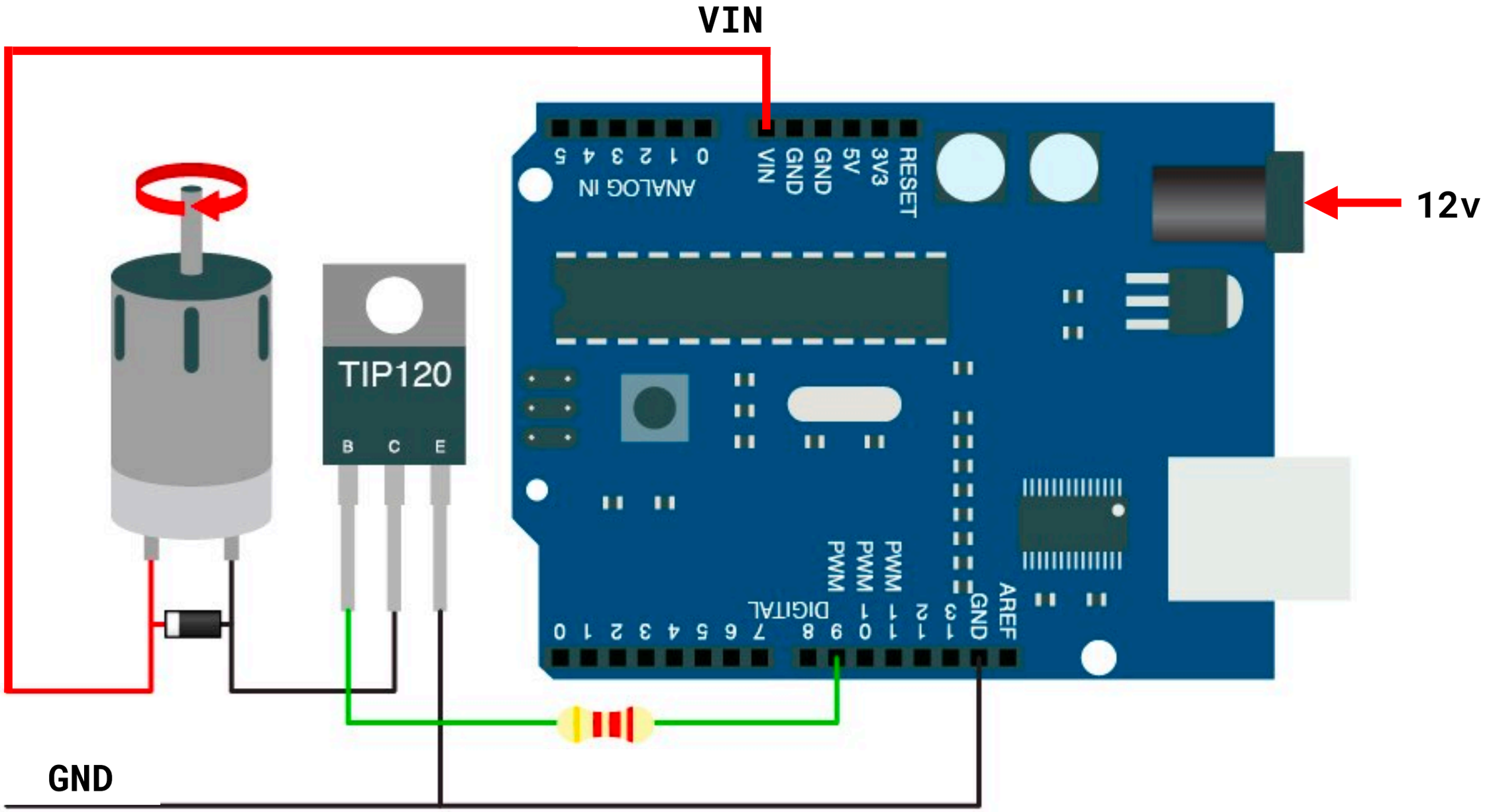
#5PD1443<cr>

- Number sign #
- Servo ID number as an integer
- Action command (two to three letters, no spaces, capital or lower case)
- Configuration value in the correct units with no decimal
- End with a control / carriage return '<cr>'

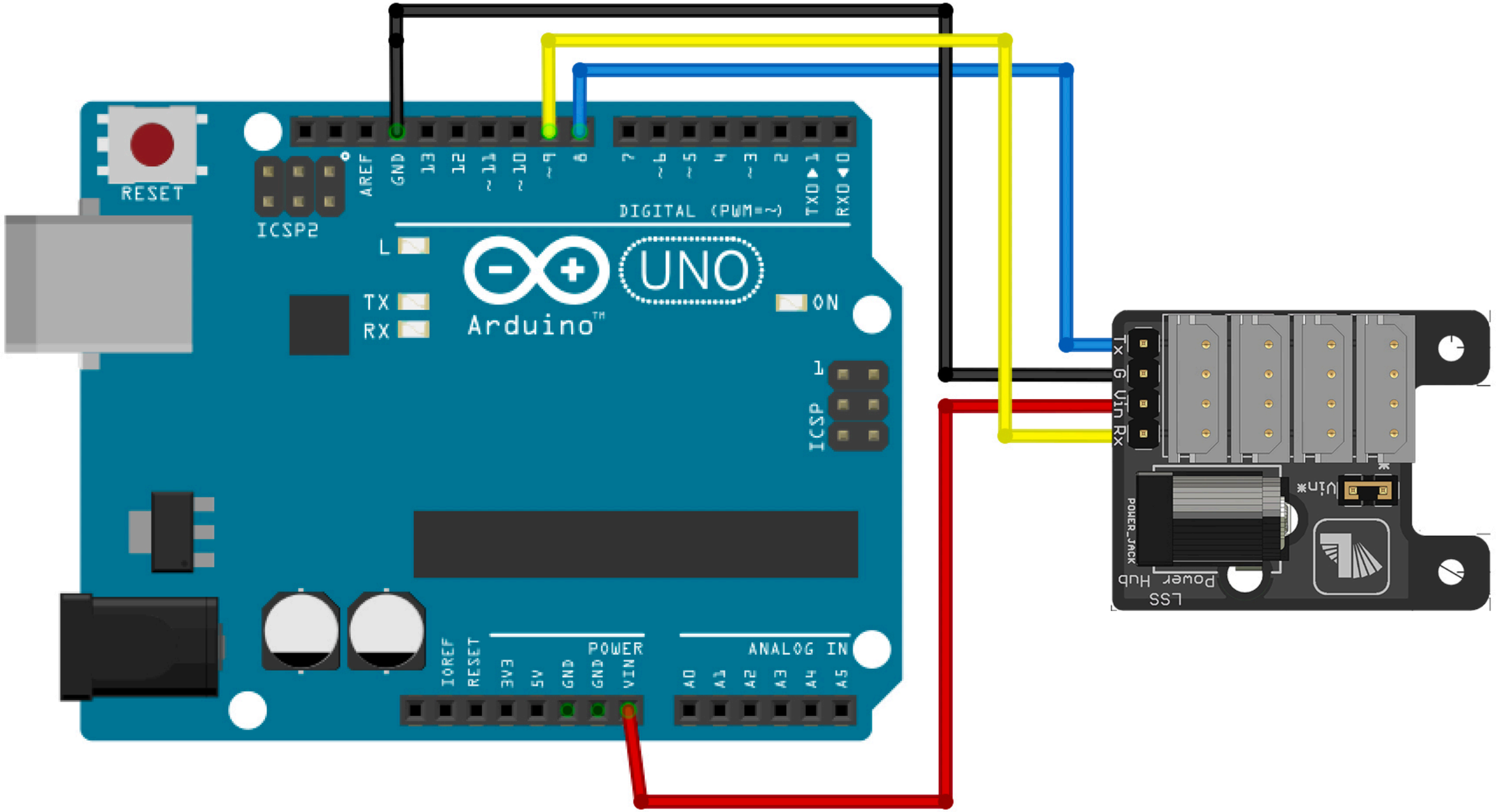
Lynx Smart Servo



Serial Multiples

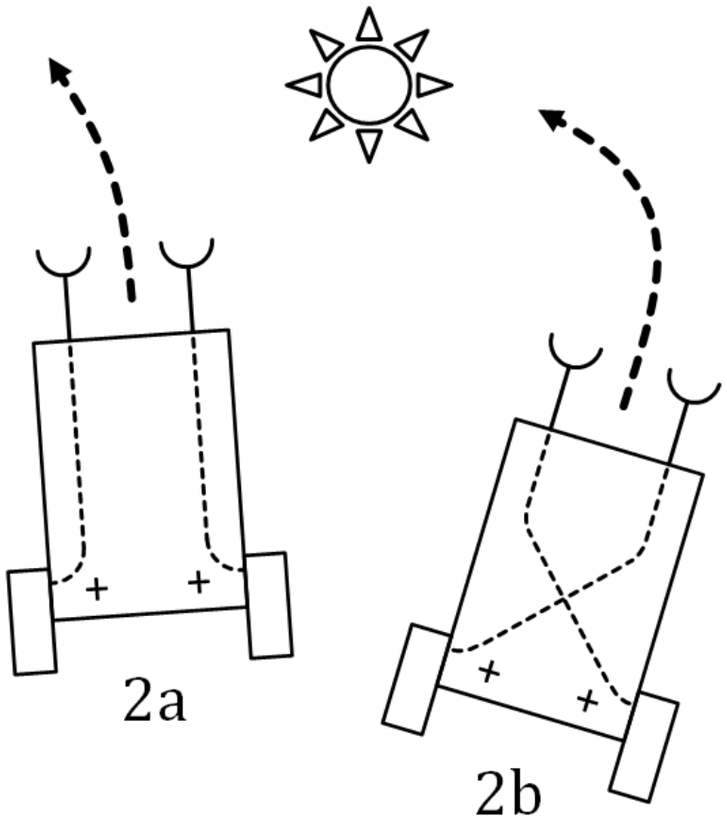


Mixing 12v with Arduino 5v


RESET
ICSP2
AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM=~)
L
TX
RX
ON
UNO
Arduino™
ICSP
IOREF
RESET
3V3
5V
GND
GND
VIN
POWER
A0
A1
A2
A3
A4
A5
ANALOG IN
Tx
G
Vin
Rx
POWER_JACK
Vin*
Power Hub
LSS

Hook Up

Exercise PC4.1: Braitenberg vehicle



Exercise PC4.1: Braitenberg vehicle

Build a Braitenberg vehicle using two smart servos and cardboard etc.

Program it to run with a simple behaviour based on a sensor input.