

Robot Wiring, DB 5/11/2018

| Arduino Data Connections by Pin # | Connections by Function |
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| <p>Digital/PWM pins</p> <p>Pin 0 (RX)- Reserved for serial data Pin 1 (TX)- Reserved for serial data</p> <p>Pin 2 → Trigger on HC-SR04 Ultrasonic sensor Pin 3 ← Echo on HC-SR04 Ultrasonic sensor</p> <p>Pin 4 (PWM) → Servo motor Pin 5(PWM) - Pin 6(PWM) - Speaker Pin 7 → Neopixel Strip Data IN</p> <p>Motor Control</p> <p>Pin 8 → IN1 on L298n (left motor) Pin 9 (PWM) – Left motor enable (speed control) Pin 10(PWM) - Right mtr enable (speed control) Pin 11(PWM) → IN2 on L298 n (left motor) Pin 12 → IN3 on L298n (right motor) Pin 13 → IN4 on L298n (right motor)</p> <p>SDA/A4- (for I2C devices) SCL/A5- (for I2C devices)</p> <p>Analog Inputs:</p> <p>Analog 0 ← Polulu Reflectance Sensor 1 Analog 1 ← Polulu Reflectance Sensor 2 Analog 2 ← Polulu Reflectance Sensor 3 Analog 3 ← Analog 4 ← Right light sensor Analog 5 ← Left Light Sensor</p> <p>Power Connections:</p> <p>Arduino</p> <p>DC IN ← 9V Battery pack barrel connector</p> <p>Vin → Vin on L298N Gnd → Gnd on L298N 5V → Gnd → Ground Bus on Breadboard</p> <p>L298N</p> <p>5V → 5V Bus on Breadboard Gnd → Ground Bus on Breadboard</p> | <p>L298 H-Bridge</p> <p>Motor A + → Left Motor Red Motor A- → Left Motor Black Motor B+ → Right Motor Red Motor B- → Right Motor Black</p> <p>Motor A Enable ← Arduino Pin 9 (PWM) IN1 ← Arduino Pin 8 IN2 ← Arduino Pin 11 IN3 ← Arduino Pin 12 IN4 ← Arduino Pin 13 Motor B Enable ← Arduino Pin 10 (PWM)</p> <p>Vin ← from Arduino Gnd ← from Arduino / → to Breadboard GND Bus +5V out → to Breadboard +5V Bus</p> <p>Neopixels</p> <p>Pwr ← 5V from L298 Gnd ← GND Data In ← Arduino Pin 7</p> <p>Speaker</p> <p>Arduino Pin 6 GND Bus</p> <p>Ultrasonic Sensor</p> <p>Vcc → Breadboard 5V Bus Gnd → Breadboard Gnd Bus Trigger → Arduino 2 Echo → Arduino 3</p> <p>Servo</p> <p>Blk ← Gnd Bus Red ← 5V Bus White ← Arduino Pin 4</p> <p>Photoresistors</p> <p>1 end → Gnd Bus Right, Other end → A4 Left, Other end → A5</p> <p>Line-following reflectance Sensors</p> <p>VCC → 5V Bus Gnd → Gnd Bus Polulu QTRA pin1 (right) → Arduino A0 Polulu QTRA pin2 (middle) → Arduino A1 Polulu QTRA pin3 (left) → Arduino A2</p> |