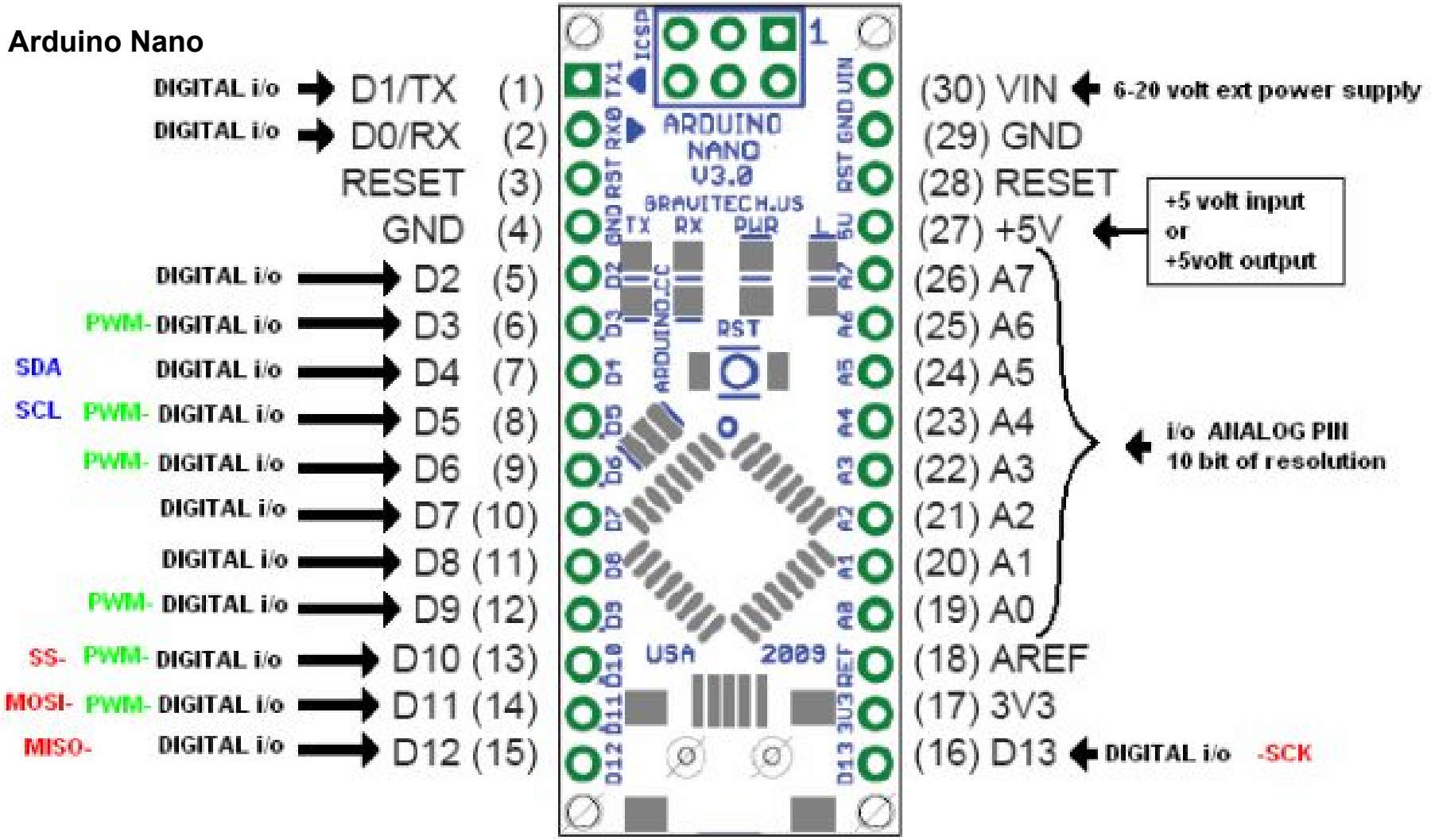
Workshop on

Ultrasonic and IR Sensors

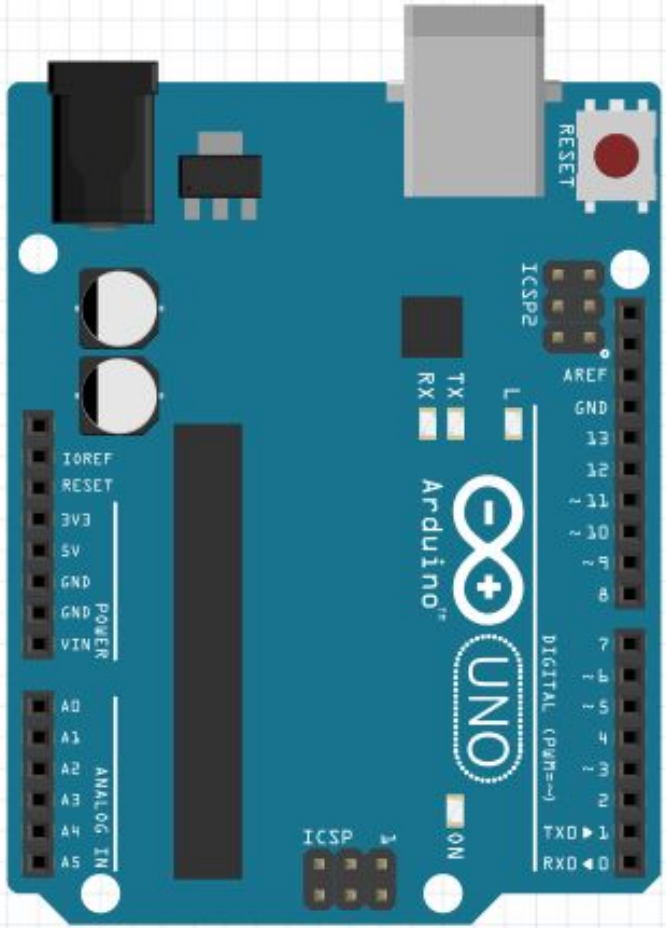
Learn How to Program
And
Wire Sensors using Arduino

IEEE
uOttawa

Arduino Nano

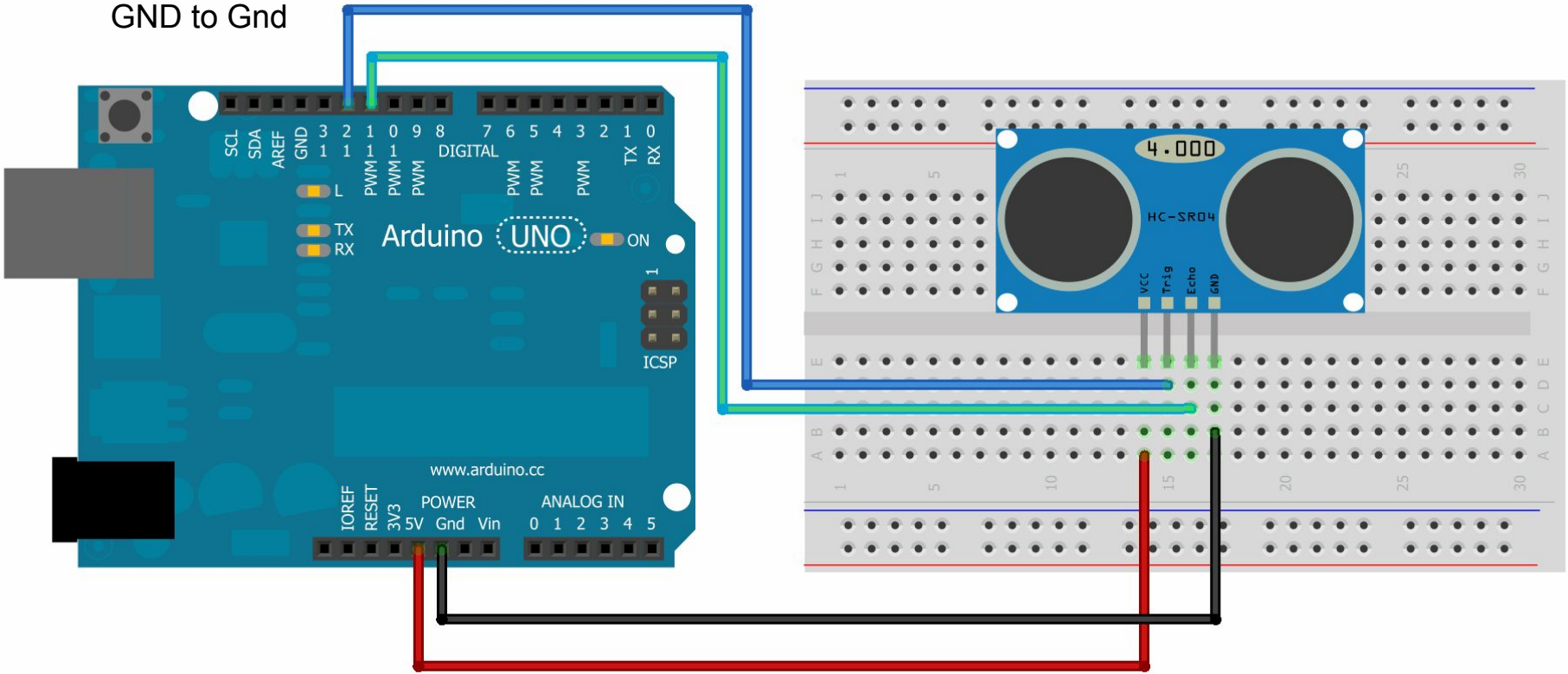


MCU : Atmega 328
Input voltage : 7V-12V
Operating voltage : 5V
CPU Speed : 16MHZ
Analog In/Out : 6/0
Digital IO/PWM :14/6
EEPROM : 1KB
SRAM : 2KB
Flash : 32KB
UART : 1
USB : Regular



ARDUINO PIN		MICROCONTROLLER PIN
0	-	PD0(RXD)
1	-	PD1(TXD)
2	-	PD2(INT0)
3	-	PD3(INT1)
4	-	PD4
5	-	PD5
6	-	PD6
7	-	PD7
8	-	PB0
9	-	PB1
10	-	PB2(SS')
11	-	PB3(MOSI)
12	-	PB4(MISO)
13	-	PB5(SCK)
A0	-	PC0
A1	-	PC1
A2	-	PC2
A3	-	PC3
A4	-	PC4(SDA)
A5	-	PC5(SCL)

Echo pin must be PWM
VCC to 5V power supply
GND to Gnd



Code:

https://docs.google.com/document/d/1zJw06HmOYUaac325bmaICW_Vpq_I3rnPT5o-_Jhk3aw/edit?usp=sharing

Needed library:

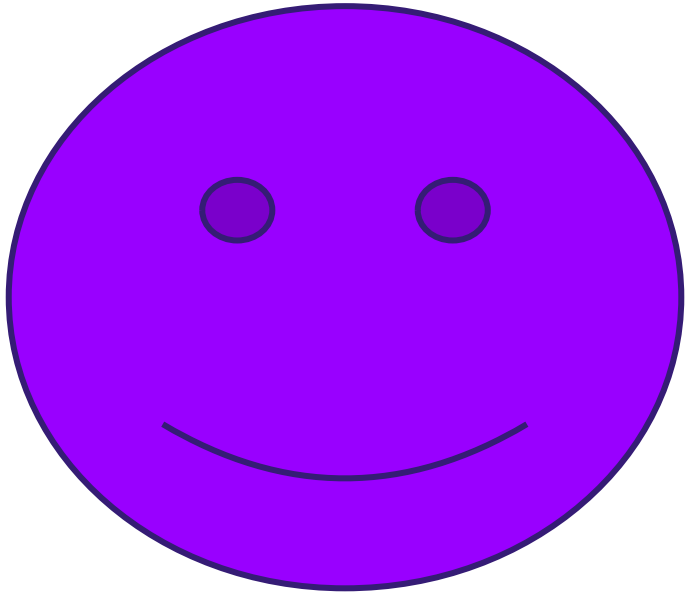
https://drive.google.com/file/d/0B3Tq3CkzcabNbFJpRTlBdVdSa0U/view?usp=sharing

Put this library in your Arduino>Libraries folder

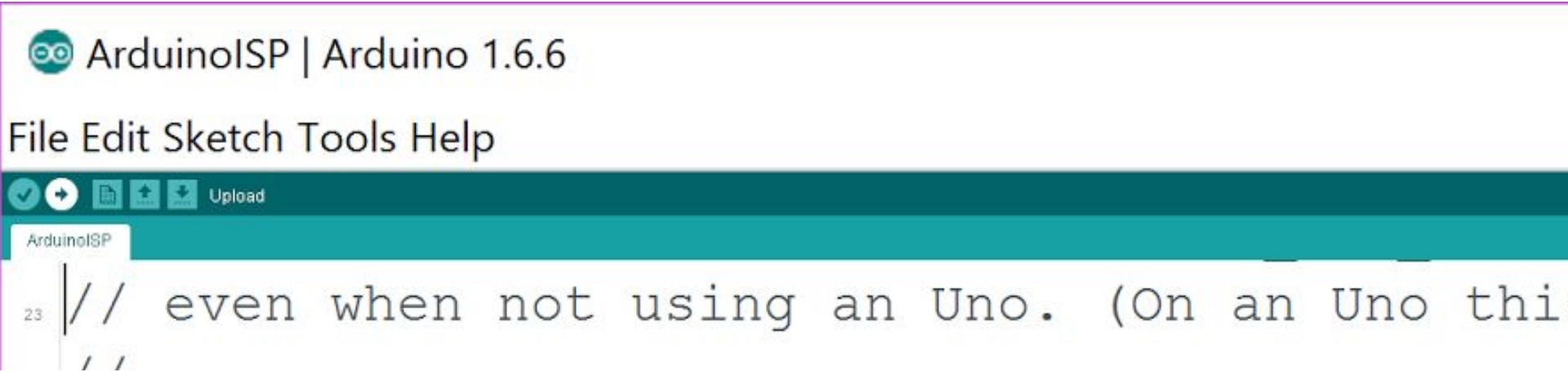
See the instructions on using/ installing the library here:
http://playground.arduino.cc//Main/SharpIR

Ensure Arduino is plugged into your computer

Ensure that the USB port (ie: Tools>Port> COM4) and your type of Arduino board (ie: Tools>Board> Nano) are accurate



Upload sketch



Serial Monitor - read all the sensor values!