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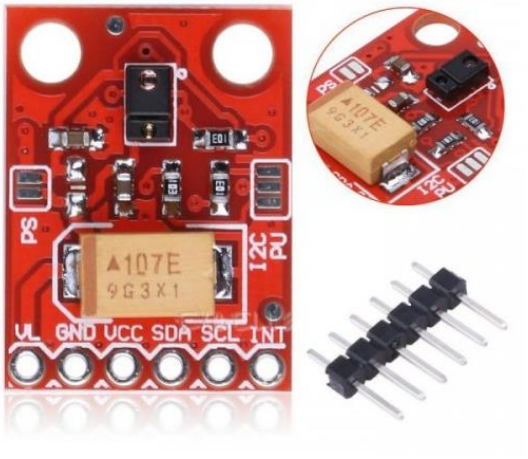
Gesture Sensor APDS-9960 using Arduino

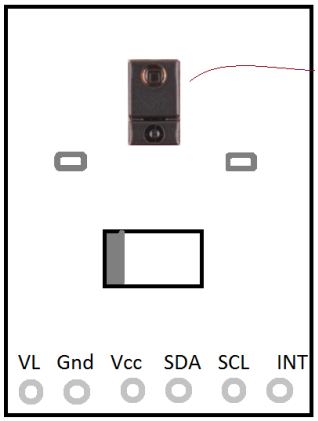
Introduction:



This is the RGB and Gesture Sensor, a small breakout board with a built in APDS-9960 sensor that offers ambient light and color measuring, proximity detection, and touch less gesture sensing. With this RGB and Gesture Sensor you will be able to control a computer, microcontroller, robot, and more with a simple swipe of your hand! This is, in fact, the same sensor that the Samsung Galaxy S5 uses and is probably one of the best gesture sensors on the market for the price.

The APDS-9960 is a serious little piece of hardware with built in UV and IR blocking filters, four separate diodes sensitive to different directions, and an I2C compatible interface. For your convenience we have broken out the following pins: VL (optional power to IR LED), GND (Ground), VCC (power to APDS-9960 sensor), SDA (I2C data), SCL (I2C clock), and INT (interrupt). Each APDS-9960 also has a detection range of 4 to 8 inches (10 to 20 cm).

Sensor Breakout Board Pin out:



- VL – Optional Power to IR LED
- Gnd – Connect
- Vcc – Power to APDS-9960 Sensor (2.4V - 3.6V)
- SDA – I2C Data
- SCL – I2C Clock
- INT – External Interrupt Pin (Active Low)

Features:

- Operational Voltage: 3.3V
- Ambient Light & RGB Color Sensing
- Proximity Sensing
- Gesture Detection
- Operating Range: 4-8in (10-20cm)
- I2C Interface (I2C Address: 0x39)

Objective:

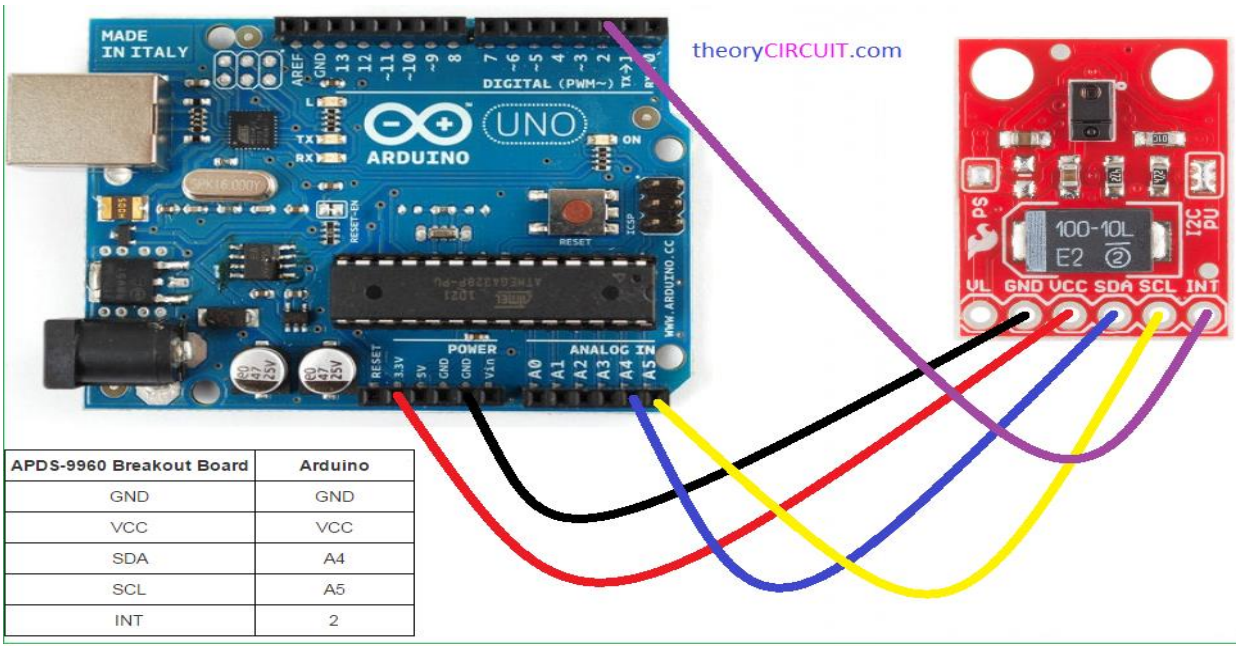
With this APDS-9960 sensor we can make interaction to Arduino, Microcontroller, Computer, robot etc. with a simple gesture swipe of your hand. In this tutorial we will do simple proximity test to see the reading values when we move the object closer or farther than sensor.

Components Needed:

- Gesture & Ambient Light Sensor APDS-9960
- Arduino Uno
- Some Jumper Wires

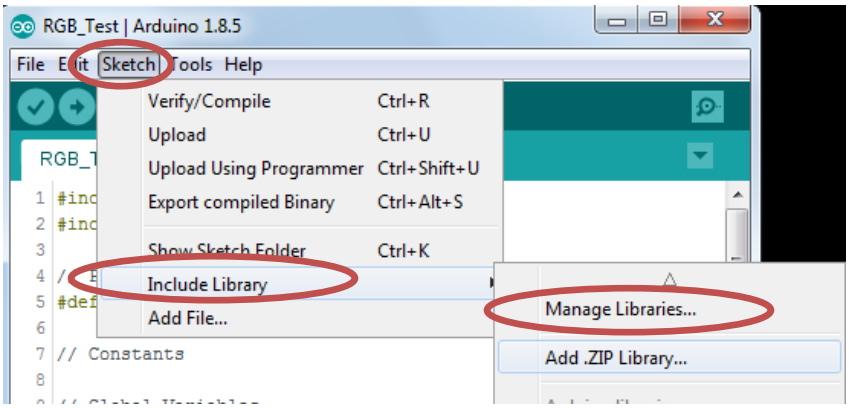
Procedures:

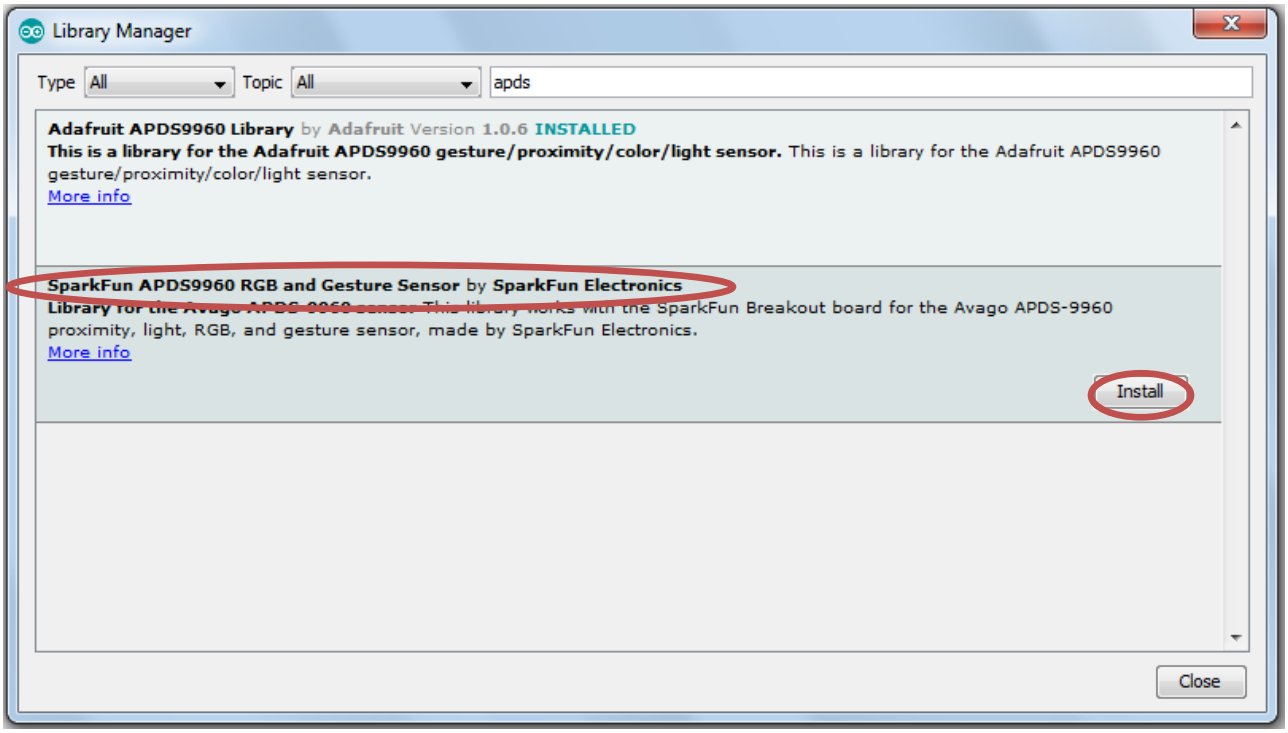
Step 1- Connect the jumper wires from Arduino to the APDS-9960 Sensor based on the picture below.



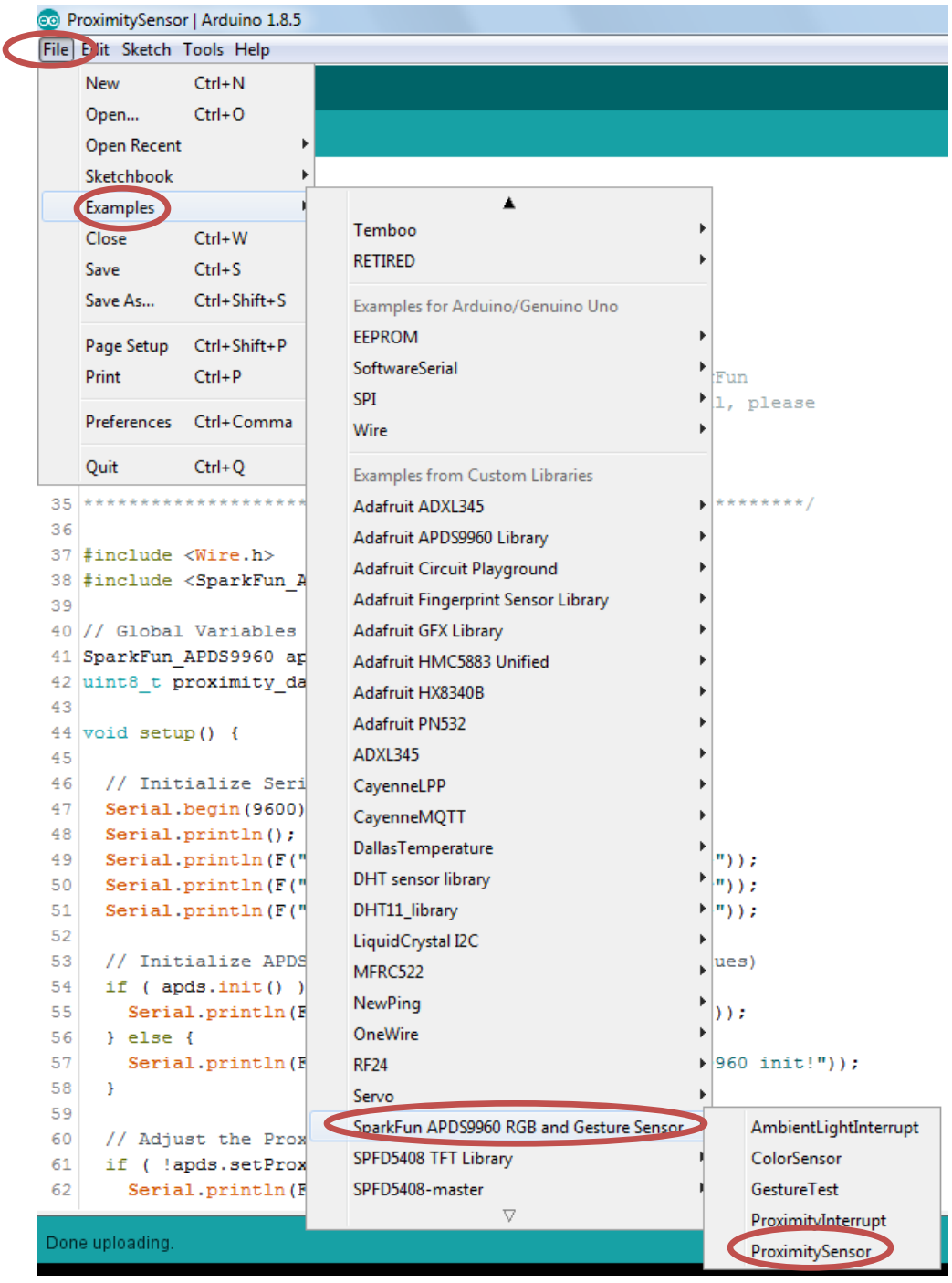
APDS-9960 Breakout Board	Arduino
GND	GND
VCC	VCC
SDA	A4
SCL	A5
INT	2

Step 2 – Open the Arduino IDE on PC, download the library and add it into Arduino IDE library. Click on **Sketch > Include Library > Manage Library**. Search for **"APDS"** install the library as image shown below.

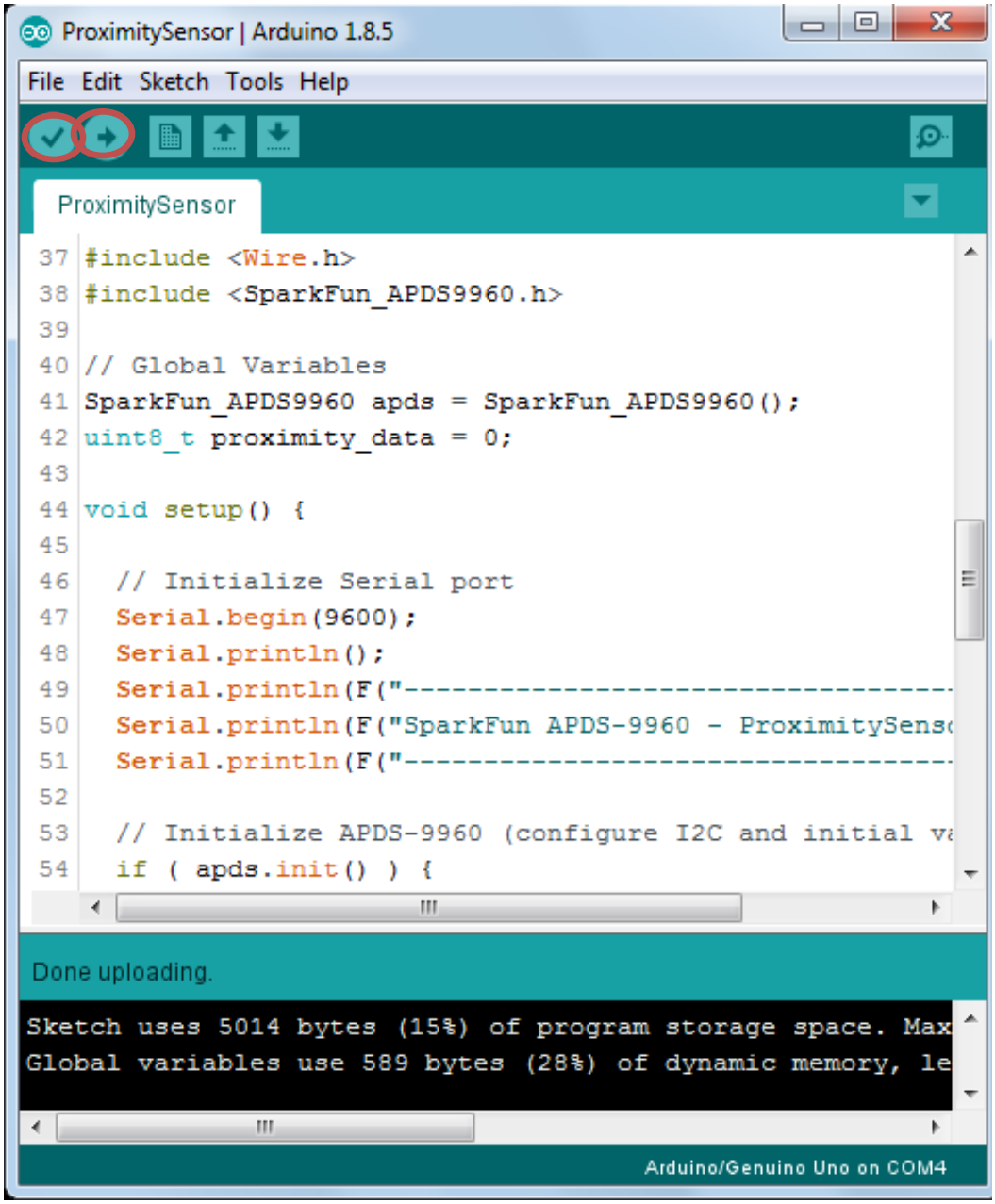




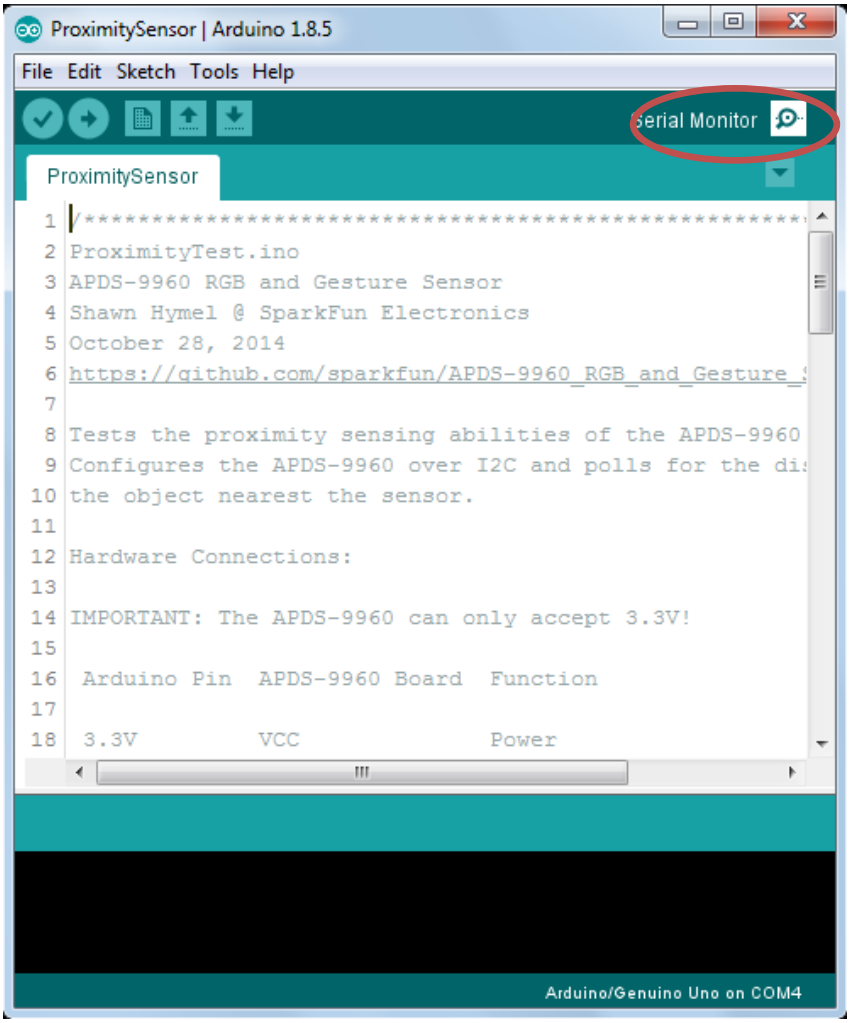
Step 3 – Still in Arduino IDE click on following button **(File > Examples > SparkFun > APDS9960 RGB and Gesture Sensor > ProximitySensor)** based on picture below.

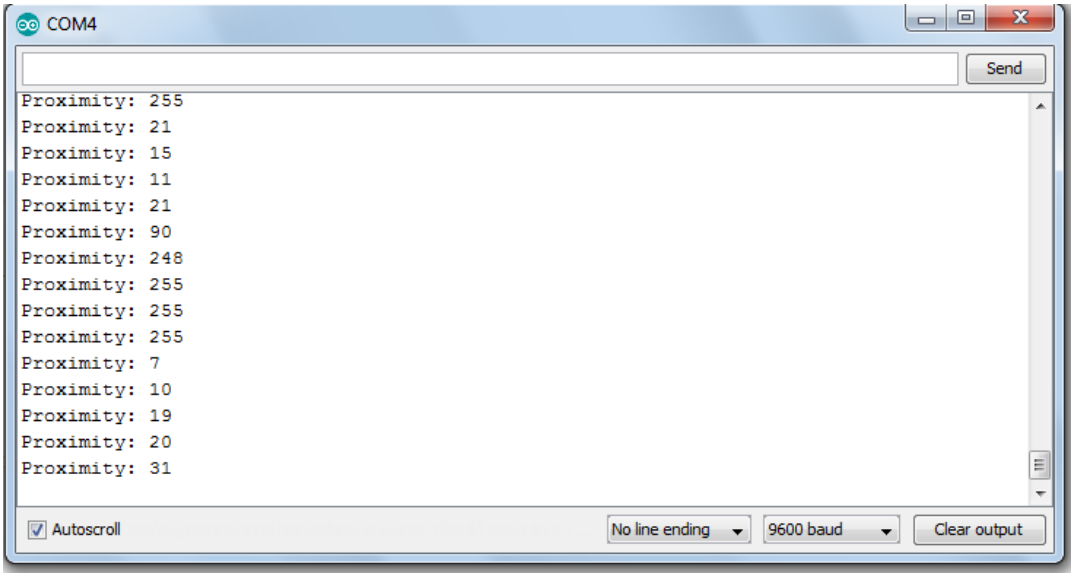


Step 4 – The new Tab will be opened, connect the Arduino and click on Verify and Upload button.



Step 5 – After finish Verify and Uploading the program to Arduino. Open the Serial Monitor tab to see the sensor reading result. Done!!!





Step 6 – You also can test the other function that's already included in the library such as Colour Sensor and Gesture Sensor on the same sensor and same connection.