

## Light Sensor Test

Time required: 15 minutes

Please read all the directions carefully before beginning the assignment.

- Comment your code as shown in the tutorials and other code examples.
- Follow all directions carefully and accurately.
- Think of the directions as minimum requirements.

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### Understanding

Please watch this short video about serial communication:

<https://www.youtube.com/watch?v=GiidlydJKjI> Duration: 2:05

Demonstrate understanding of:

**light sensor, serial monitor**

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### Requirements

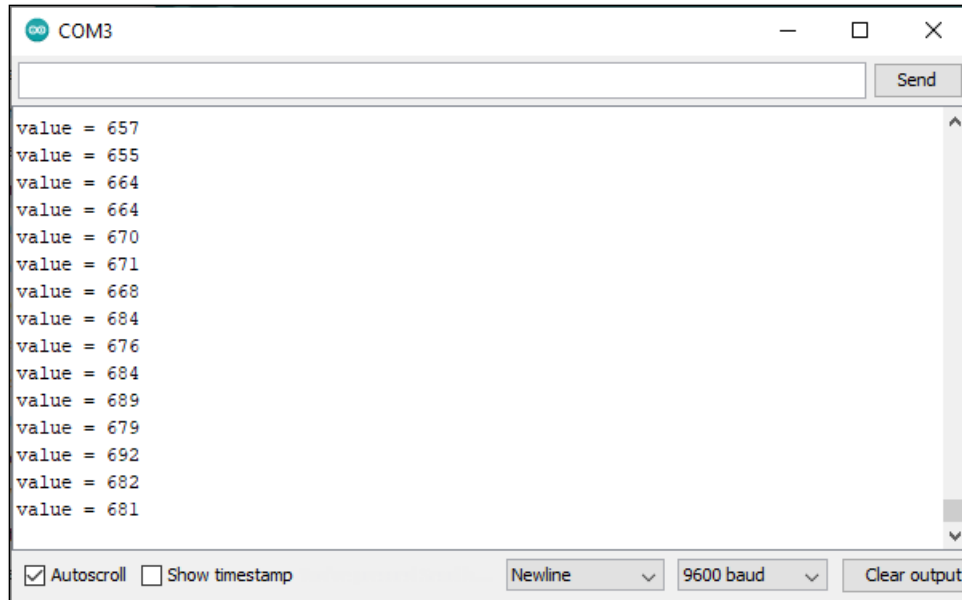
The mBot has a light sensor which can be used to create interactivity with the robot. The onboard light sensor has a sensitivity of 0 (dark) - 1024 (light).

This program uses the serial monitor to show the readings coming from the light sensor.

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### Tutorial Assignment

1. Start the Arduino IDE. Save the sketch as **LightSensorTest**.
2. Complete and test the program as shown.
3. While the sketch is running: In the Arduino IDE, go to **Tools → Serial Monitor** to display the real time reading from the light sensor. Move your hand back and forth on top of the mBot. Notice the number changes.
4. Please include the serial monitor in your screencast.



```
1  /**
2   * @file    LightSensorTest.ino
3   * @author  William A Loring
4   * @version V1.0.0
5   * @Revised: 06/07/2017 Created: 12/10/2016
6   * @Description: Sample code for mBot onboard light sensor
7   */
8  #include <MeMCore.h>           // Include the mBot library
9  // Setup global variables and objects
10 MeLightSensor lightSensor(PORT_8); // Setup the light sensor object
11 const int SENSOR_DELAY = 50;    // Sensor read delay in milliseconds
12
13 void setup() {
14   Serial.begin(9600); // Setup serial monitor
15 }
16
17 void loop() {
18   Serial.print("value = ");      // Print the results to the serial monitor
19   Serial.println(lightSensor.read()); // Brightness value from 0-1023
20   delay(SENSOR_DELAY);          // Wait before next measurement
21 }
```

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## Assignment Submission

- **All students** → Attach finished programs to the assignment in Blackboard.
- **In class assignment submission** → Demonstrate in person.

- **Online submission** → A link to a YouTube video recording showing the assignment placed in the submission area in BlackBoard.