

## Arduino Code Comments for the Teacher

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Conductivity_Sensor_with_LCD | Arduino 1.7.6
Conductivity_Sensor_with_LCD §
1 #include <LiquidCrystal.h>
2 LiquidCrystal lcd(12,11,5,4,3,2); //this indicates which pins on the LCD will be utilized
3
4
5
6 const int switchPin = 6; //this sets a constant called switchPin to analog pin 6 on the Arduino
7 int switchState = 0; //this sets the integer called switchState to 0 (or low)
8 int condVal; //this sets an integer called condVal which is used in later calculations in the code below
9
10 void setup() {
11     Serial.begin(9600); //establishes a connection to the Arduino at a baud rate of 9600
12     lcd.begin(16,2); //instructs the lcd to begin displaying
13     pinMode(switchPin, INPUT); //sets analog 6 as an input pin
14
15 }
16
17 void loop() { //everything between these curly braces will loop
18     condVal = analogRead(A0); //this sets the integer condVal equal to the value read from analog 0 on the Arduino
19     float voltage = condVal*(5.0/1023.0); //calculation of relative conductivity, essentially this is a measure of the voltage drop
20                                     //across the conductivity probe. As the conductivity increases, the voltage drop across the
21                                     //probe also increases
22     lcd.setCursor(0,0); //instructs LCD to go to the first line, first space
23     lcd.print("Rel Conductance"); //instructs LCD to display "Rel Conductance" beginning on the first line, first space of the LCD display.
24     lcd.setCursor(0,1); //instructs LCD display to go to the second line, first space.
25     lcd.print(voltage); //display the relative conductivity from the probe on the second line, first space. Note that the object called
26                         //is the calculation performed on line 19 in the code
27     delay(50); //delay before looping, numerical values are in milliseconds
28 }
```

27 Arduino Yun on /dev/tty.usbmodem14100000.1