[code]

// Attach the serial display's RX line to digital pin 2

#include <LiquidCrystal.h> //the liquid crystal library contains commands for printing to the display

// Here we are setting up some water thersholds that we will

// use later. Note that you will need to change these to match

// your soil type and environment.

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 \* Change these values based on your calibration values

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int thresholdUp = 900;

int thresholdDown = 400;

// We are setting up the pin A0 on the redboard to be our sensor

// pin input:

int soilPin = A0;

int soilPower = 7;//Variable for Soil moisture Power

LiquidCrystal lcd(13, 12, 11, 10, 9, 8); // tell the RedBoard what pins are connected to the display

void setup(){

 delay(500); // wait for display to boot up

 pinMode(soilPower, OUTPUT);//Set D7 as an OUTPUT

 digitalWrite(soilPower, LOW);//Set to LOW so no power is flowing through the sensor

 lcd.begin(16, 2); //tell the lcd library that we are using a display that is 16 characters wide and 2 characters high

 lcd.clear(); //clear the display

}

void loop(){

 // Here we are declaring a string, which are lines of words,

 // and we want DisplayWords to be the words displayed on

 // the LCD screen, which will change based on whether the soil

 // wet or dry based on our threshold values above.

 String DisplayWords;

 // We need to set up a pin to get the value that the soil

 // moisture sensor is outputting, so sensorValue will get the

 // analog value from the sensor pin A0 on the redboard that we

 // set up earlier.

 int sensorValue;

 sensorValue = readSoil();

 lcd.setCursor(0,0); //set the cursor to the 0,0 position (top left corner)

if (sensorValue <= thresholdDown) {

 lcd.print ("TIME TO WATER! ");

}

else {

 lcd.print ("NO water please");

}

 lcd.setCursor(0,1); //move the cursor to the first space of the bottom row

 lcd.print(sensorValue); //print the number of seconds that have passed since the last reset

 delay(1000); //wait for half a second, so it is easier to read

}

//This is a function used to get the soil moisture content

int readSoil()

{

 digitalWrite(soilPower, HIGH);//turn D7 "On"

 delay(10);//wait 10 milliseconds

 int val = analogRead(soilPin);//Read the SIG value form sensor

 digitalWrite(soilPower, LOW);//turn D7 "Off"

 return val;//send current moisture value

}

[/code]