/\*PCE-10 Modified by Pat McMahon 12/10/2022.Uses Pat's 20 Plug & Code Examples.

  17 LED bar graph

   Connections-LED to Gnd & D2,D3,D4,D5,D6,D7,D8,D9,D10,D11,D12,D13,A0,A1,A2,A3,A4,A5.

   Potentiometer to +5V,A0 & Gnd.

  Turns on a series of LEDs based on the value of an analog sensor.

  This is a simple way to make a bar graph display. Though this graph uses 10

  LEDs, you can use any number by changing the LED count and the pins in the

  array.

  This method can be used to control any series of digital outputs that depends

  on an analog input.

  The circuit:

  - LEDs from pins 2 through 11 to ground

  created 4 Sep 2010

  by Tom Igoe

  This example code is in the public domain.

  http://www.arduino.cc/en/Tutorial/BarGraph

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// these constants won't change:

const int analogPin = A0;   // the pin that the potentiometer is attached to

const int ledCount = 17;    // the number of LEDs in the bar graph

int ledPins[] = {

  2, 3, 4, 5, 6, 7, 8, 9, 10, 11,12,13,A1,A2,A3,A4,A5

};   // an array of pin numbers to which LEDs are attached

void setup() {

  // loop over the pin array and set them all to output:

  for (int thisLed = 0; thisLed < ledCount; thisLed++) {

    pinMode(ledPins[thisLed], OUTPUT);

  }

}

void loop() {

  // read the potentiometer:

  int sensorReading = analogRead(analogPin);

  // map the result to a range from 0 to the number of LEDs:

  int ledLevel = map(sensorReading, 0, 1023, 0, ledCount);

  // loop over the LED array:

  for (int thisLed = 0; thisLed < ledCount; thisLed++) {

    // if the array element's index is less than ledLevel,

    // turn the pin for this element on:

    if (thisLed < ledLevel) {

      digitalWrite(ledPins[thisLed], HIGH);

    }

    // turn off all pins higher than the ledLevel:

    else {

      digitalWrite(ledPins[thisLed], LOW);

    }

  }

}