

```
1.  /*****
2.   This is a test example for the Adafruit Trellis w/HT16K33
3.
4.   Designed specifically to work with the Adafruit Trellis
5.   ----> https://www.adafruit.com/products/1616
6.   ----> https://www.adafruit.com/products/1611
7.
8.   These displays use I2C to communicate, 2 pins are required to
9.   interface
10.  Adafruit invests time and resources providing this open source code,
11.  please support Adafruit and open-source hardware by purchasing
12.  products from Adafruit!
13.
14.  Written by Limor Fried/Ladyada for Adafruit Industries.
15.  MIT license, all text above must be included in any redistribution
16.  *****/
17.
18. #include <Wire.h>
19. #include "Adafruit_Trellis.h"
20.
21. /*****
22.   This example shows reading buttons and setting/clearing buttons in a loop
23.   "momentary" mode has the LED light up only when a button is pressed
24.   "latching" mode Lets you turn the LED on/off when pressed
25.
26.   Up to 8 matrices can be used but this example will show 4 or 1
27.   *****/
28.
29. #define MOMENTARY 0
30. #define LATCHING 1
31. // set the mode here
32. #define MODE LATCHING
33.
34.
35. Adafruit_Trellis matrix0 = Adafruit_Trellis();
36. Adafruit_Trellis matrix1 = Adafruit_Trellis();
37. Adafruit_Trellis matrix2 = Adafruit_Trellis();
38. Adafruit_Trellis matrix3 = Adafruit_Trellis();
39. // you can add another 4, up to 8
40.
41.
42. // Just one
43. //Adafruit_TrellisSet trellis = Adafruit_TrellisSet(&matrix0);
44. // or use the below to select 4, up to 8 can be passed in
45. Adafruit_TrellisSet trellis = Adafruit_TrellisSet(&matrix0, &matrix1, &matrix2, &matrix3);
46.
47. // set to however many you're working with here, up to 8
48. #define NUMTRELLIS 4
49.
50. #define numKeys (NUMTRELLIS * 16)
51.
52. // Connect Trellis Vin to 5V and Ground to ground.
53. // Connect the INT wire to pin #A2 (can change later!)
54. #define INTPIN A2
55. // Connect I2C SDA pin to your Arduino SDA line
56. // Connect I2C SCL pin to your Arduino SCL line
57. // ALL Trellises share the SDA, SCL and INT pin!
58. // Even 8 tiles use only 3 wires max
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```
59.
60.
61. void setup() {
62.   Serial.begin(9600);
63.   // Serial.println("Trellis Demo");
64.
65.   // INT pin requires a pullup
66.   pinMode(INTPIN, INPUT);
67.   digitalWrite(INTPIN, HIGH);
68.
69.   // begin() with the addresses of each panel in order
70.   // I find it easiest if the addresses are in order
71.   trellis.begin(0x71,0x72,0x73,0x74); // only one
72.   // trellis.begin(0x70, 0x71, 0x72, 0x73); // or four!
73. trellis.setBrightness(0);
74.   // light up all the LEDs in order
75.   for (uint8_t i=0; i<numKeys; i++) {
76.     trellis.setLED(i);
77.     trellis.writeDisplay();
78.     delay(50);
79.   }
80.   // then turn them off
81.   for (uint8_t i=0; i<numKeys; i++) {
82.     trellis.clrLED(i);
83.     trellis.writeDisplay();
84.     delay(50);
85.   }
86. }
87.
88.
89. void loop() {
90.   delay(30); // 30ms delay is required, dont remove me!
91.
92.   if (MODE == MOMENTARY) {
93.     // If a button was just pressed or released...
94.     if (trellis.readSwitches()) {
95.       // go through every button
96.       for (uint8_t i=0; i<numKeys; i++) {
97.         // if it was pressed, turn it on
98.         if (trellis.justPressed(i)) {
99.           Serial.print("v"); Serial.println(i);
100.          trellis.setLED(i);
101.        }
102.        // if it was released, turn it off
103.        if (trellis.justReleased(i)) {
104.          Serial.print("^"); Serial.println(i);
105.          trellis.clrLED(i);
106.        }
107.      }
108.      // tell the trellis to set the LEDs we requested
109.      trellis.writeDisplay();
110.    }
111.  }
112.
113.  if (MODE == LATCHING) {
114.    // If a button was just pressed or released...
115.    if (trellis.readSwitches()) {
116.      // go through every button
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```
117.     for (uint8_t i=0; i<numKeys; i++) {
118.         // if it was pressed...
119.     if (trellis.justPressed(i)) {
120.         /*Serial.print("v");*/ Serial.write(i);
121.         // Alternate the LED
122.         if (trellis.isLED(i))
123.             trellis.clrLED(i);
124.         else
125.             trellis.setLED(i);
126.         }
127.     }
128.     // tell the trellis to set the LEDs we requested
129.     trellis.writeDisplay();
130. }
131. }
132. }
```