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 1: // Progressive examples, toward PyGame Zero Xi (Extended Interaction) integration
 2: // Brygg Ullmer, Clemson University
 3: // Support by NSF CNS-1828611
 4: // Begun 2023-04
 5:
 6: #define BAUD 9600
 7: //#define BAUD 115200
 8: #define LED0 13
 9: #define LED_BRIGHTNESS 255
10:
11: #include <Adafruit_NeoPixel.h>
12: #include <SerialCommands.h>
13:
14: #define NUMPIXELS 1
15: Adafruit_NeoPixel pixels(NUMPIXELS, PIN_NEOPIXEL, NEO_GRB + NEO_KHZ800);
16:
17: // https://learn.adafruit.com/adafruit-grand-central/adapting-sketches-to-m0
18: #if defined(ARDUINO_SAMD_ZERO) && defined(SERIAL_PORT_USBVIRTUAL)
19:    // Required for Serial on Zero based boards
20:    #define Serial SERIAL_PORT_USBVIRTUAL
21: #endif
22:
23: ////////////////// led & serial code //////////////////
24:
25: void lightBlue(SerialCommands *sender) {pixels.fill(0x0000FF); pixels.show();}
26: void lightRed( SerialCommands *sender) {pixels.fill(0xFF0000); pixels.show();}
27: void lightOff( SerialCommands *sender) {pixels.fill(0x000000); pixels.show();}
28: void unrecognized(SerialCommands* sender, const char* cmd) {lightOff(sender);}
29:
30: char serial_command_buffer[32];
31:
32: SerialCommands serCmds(&Serial, serial_command_buffer,
                           sizeof(serial_command_buffer), "\r\n", " ");
33:
34: SerialCommand cmd_red( "r", lightRed,  true);
35: SerialCommand cmd_blue("b", lightBlue, true);
36: SerialCommand cmd_off( "-", lightOff,  true);
37:
38: ////////////////// setup //////////////////
39:
41: void setup() {
43:    pinMode(13, OUTPUT);
44:    Serial.begin(BAUD);
45:
46:    #if defined(NEOPIXEL_POWER)
47:    // If this board has a power control pin, we must set it to output and high
48:    // in order to enable the NeoPixels. We put this in an #if defined so it can
49:    // be reused for other boards without compilation errors
50:    pinMode(NEOPIXEL_POWER, OUTPUT);
51:    digitalWrite(NEOPIXEL_POWER, HIGH);
52:    #endif
53:
54:    pixels.begin();
55:    pixels.setBrightness(LED_BRIGHTNESS);
56:
57:    serCmds.SetDefaultHandler(unrecognized);
58:    serCmds.AddCommand(&cmd_red);
59:    serCmds.AddCommand(&cmd_blue);
60: }
61:
65: void loop() {
66:    serCmds.ReadSerial();
67: }
68: /// end ///
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67: }
68: /// end ///
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