

Arduino playground : Code / Metro

Metro library for Arduino
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VERSION

2.2 2008/09/23 Updated examples

HISTORY

2.1 2008/09/19 Updated documentation 1.0 2006/06/27 Initial Release

DESCRIPTION

Metro is a library for Arduino (arduino.cc).

It facilitates the implementation of recurring timed events like:

- blinking LEDs
- servo motor control
- Serial communication

HOW TO IMPORT/INSTALL

Download here: [Metro version 2.2](#)

Put the Metro folder in "hardware\libraries\".

In the Arduino IDE, create a new sketch (or open one) and
select from the menubar "Sketch->Import Library->Metro".

Once the library is imported, an "#include Metro.h" line will appear
at the top of your Sketch.

CREATION

Metro(unsigned long interval)

Instantiates a Metro object with a set interval in milliseconds.

Because Metro does not use interrupts, you have to "check" the Metro regularly (at least every millisecond).

METHODS

byte check()

Returns true if the interval has lapsed. Returns false if not.

void interval(unsigned long interval)

Changes the interval in milliseconds.

void reset()

Restarts/resets the Metro.

EXAMPLE 1: Blinking a led

```
/*
  This code will blink an LED attached to pin 13 on and off.
  It will stay on for 0.25 seconds.
  It will stay off for 1 second.
*/
#include <Metro.h> //Include Metro library
#define LED 13 // Define the led's pin

//Create a variable to hold the led's current state
int state = HIGH;

// Instanciate a metro object and set the interval to 250 milliseconds (0.25 seconds).
Metro ledMetro = Metro(250);

void setup()
{
  pinMode(LED,OUTPUT);
  digitalWrite(LED,state);
}

void loop()
{
  if (ledMetro.check() == 1) { // check if the metro has passed it's interval .
    if (state==HIGH) {
      state=LOW;
      ledMetro.interval(250); // if the pin is HIGH, set the interval to 0.25 seconds.
    }
    else {
      ledMetro.interval(1000); // if the pin is LOW, set the interval to 1 second.
      state=HIGH;
    }
    digitalWrite(LED,state);
  }
}
```

```
}  
}
```

EXAMPLE 2: Serial Interval

```
// This example sends a Serial message every 250 milliseconds  
  
#include <Metro.h> // Include the Metro library  
  
Metro serialMetro = Metro(250); // Instantiate an instance  
  
void setup() {  
  Serial.begin(115200); // Start the Serial communication  
}  
  
void loop() {  
  
  if (serialMetro.check() == 1) { // check if the metro has passed it's interval .  
    // Output all the analog readings seperated by a space character  
    for (int i = 0; i < 6; i++ ) {  
      Serial.print (analogRead( i) );  
      Serial.print(32,BYTE);  
    }  
    // Terminate message with a linefeed and a carriage return  
    Serial.print(13,BYTE);  
    Serial.print(10,BYTE);  
  }  
}
```

(Printable View of <http://www.arduino.cc/playground/Code/Metro>)