

TM1637 Digit Display - Arduino Quick Tutorial © GPL3+

https://create.arduino.cc/projecthub/ryanchan/tm1637-digit-display-arduino-quick-tutorial-ca8a93?ref=search&ref_id=TM1637&offset=0

Components

Arduino UNO

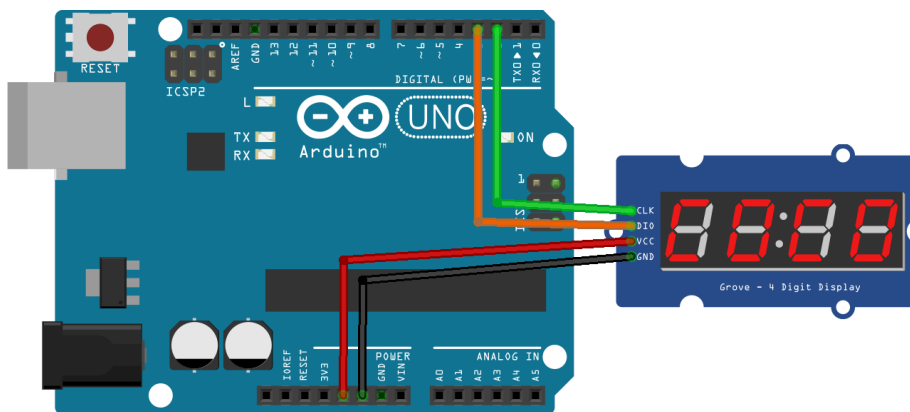
TM1637 Digit Display

About this project

The TM-1637 (also called the Grove 4-Digit Display by Seeed Studio) is a 7-segment 4-digit display that can be easily controlled with a few wires on an Arduino

Instructions

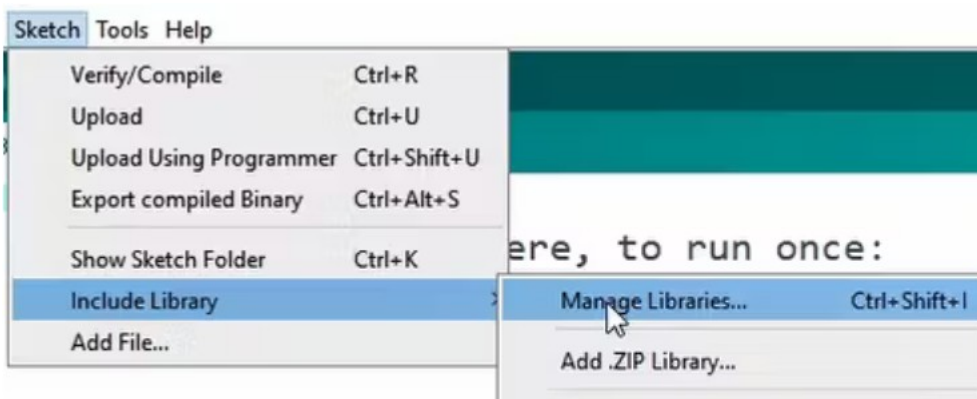
1.) Build the circuit according to the circuit diagram



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2.) Install the TM1637 library in the Arduino IDE by going to Sketch>Include Library>Manage Libraries

Then, type in "TM1637" and install the library labeled "Grove 4-Digit Display" by Seeed Studio





3.) Type in the setup code:

```
#include <TM1637.h>
int CLK = 2;
int DIO = 3;
TM1637 tm(CLK,DIO);
void setup() {
  // put your setup code here, to run once:
  tm.init();
  // set brightness; 0-7
  tm.set(2);
}
```

CLK and DIO can be set to any pin on the Arduino, they do not have to be pins 2 and 3

To set the brightness, pass in a value between 0-7 into `tm.set()` ;

4.) Now you can display characters in the loop function with 2 methods:

```
tm.display(<position>, <character> );
```

will display a character on the display

Position refers to the digit you want to change. The first is 0 and the last is 3



position: 0 1 2 3

Character refers to the character you want to display
0-9 displays 0-9 and 10-15 displays A-F

Input	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Output	0	1	2	3	4	5	6	7	8	9	A	b	C	d	E	F

Here is an example that displays "12:Ab":

```
void loop() {  
  // put your main code here, to run repeatedly:  
  // example: "12:ab"  
  // tm.display(position, character);  
  tm.display(0,1);  
  tm.display(1,2);  
  tm.point(1);  
  tm.display(2,10);  
  tm.display(3,11);  
}
```

5.) Connect your Arduino to the computer and upload the sketch

Easily Display a number: To make displaying numbers easier, here is a function that will display integers that you pass into it:

```
void displayNumber(int num){  
  tm.display(3, num % 10);  
  tm.display(2, num / 10 % 10);  
  tm.display(1, num / 100 % 10);  
  tm.display(0, num / 1000 % 10);  
}
```

To make it display "1234" for example, you can just call
`displayNumber(1234);`

Easily Display a Time: To make it display a time in the form minutes:seconds based on the number of seconds, you can use this function:

```
void displayTime(int seconds){  
  int minutes = seconds / 60;  
  int seconds = seconds % 60;  
  tm.point(1);  
  tm.display(3, seconds % 10);  
  tm.display(2, seconds / 10 % 10);  
  tm.display(1, minutes % 10);  
  tm.display(0, minutes / 10 % 10);  
}
```

To make it display "15:30" for example, you can just call `displayTime(930);`
(There are 930 seconds in 15 minutes 30 seconds)

Example Code C/C++

```
#include <TM1637.h>

int CLK = 2;
int DIO = 3;

TM1637 tm(CLK,DIO);

void setup() {
    // put your setup code here, to run once:
    tm.init();

    //set brightness; 0-7
    tm.set(2);
}

void loop() {
    // put your main code here, to run repeatedly:

    // example: "12:ab"
    // tm.display(position, character);
    tm.display(0,1);
    tm.display(1,2);
    tm.point(1);
    tm.display(2,10);
    tm.display(3,11);

    delay(1000);

    // example: "1234"
    displayNumber(1234);

    delay(1000);
}

void displayNumber(int num){
    tm.display(3, num % 10);
    tm.display(2, num / 10 % 10);
    tm.display(1, num / 100 % 10);
    tm.display(0, num / 1000 % 10);
}
```