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// URL Source : http://playground.arduino.cc/Main/I2cScanner
// -----
// i2c_scanner
//
// Version 1
// This program (or code that looks like it)
// can be found in many places.
// For example on the Arduino.cc forum.
// The original author is not know.
// Version 2, Juni 2012, Using Arduino 1.0.1
// Adapted to be as simple as possible by Arduino.cc user Krodal
// Version 3, Feb 26 2013
// V3 by louarnold
// Version 4, March 3, 2013, Using Arduino 1.0.3
// by Arduino.cc user Krodal.
// Changes by louarnold removed.
// Scanning addresses changed from 0...127 to 1...119,
// according to the i2c scanner by Nick Gammon
// http://www.gammon.com.au/forum/?id=10896
// Version 5, March 28, 2013
// As version 4, but address scans now to 127.
// A sensor seems to use address 120.
// Version 6, November 27, 2015.
// Added waiting for the Leonardo serial communication.
//
//
// This sketch tests the standard 7-bit addresses
// Devices with higher bit address might not be seen properly.
//

```

```
#include <Wire.h>
```

```
void setup()
```

```
{
  Wire.begin();

  Serial.begin(9600);
  while (!Serial); // Leonardo: wait for serial monitor
  Serial.println("\nI2C Scanner");
}
```

```
void loop()
```

```
{
  byte error, address;
  int nDevices;

  Serial.println("Scanning...");

  nDevices = 0;
```

```

for(address = 1; address < 127; address++ )
{
  // The i2c_scanner uses the return value of
  // the Write.endTransmission to see if
  // a device did acknowledge to the address.
  Wire.beginTransmission(address);
  error = Wire.endTransmission();

  if (error == 0)
  {
    Serial.print("I2C device found at address 0x");
    if (address<16)
      Serial.print("0");
    Serial.print(address,HEX);
    Serial.println(" !");

    nDevices++;
  }
  else if (error==4)
  {
    Serial.print("Unknown error at address 0x");
    if (address<16)
      Serial.print("0");
    Serial.println(address,HEX);
  }
}
if (nDevices == 0)
  Serial.println("No I2C devices found\n");
else
  Serial.println("done\n");

delay(5000);      // wait 5 seconds for next scan
}

```