// PROJECT  :TC74WireAccess

// PURPOSE  :ICS3U-E: First look at Wire level access to an I2C Device

// COURSE   :ICS3U

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// MCU      :\*

// STATUS   :Working

// REFERENCE:[http://darcy.rsgc.on.ca/ACES/Datasheets/TC74.pdf#page=8](http://darcy.rsgc.on.ca/ACES/Datasheets/TC74.pdf%23page%3D8)

**#include <Wire.h>**

#define TC74ADDRESS 0x4D //0x4D(B100\_1101 or 0x48(B100\_1000)

#define DURATION 1000 //pacing

void setup() {

  **Serial**.begin(9600);

  while(!**Serial**);

  Wire.begin();              // Initiate an I2C session

  **Serial**.println("I2C TC74 Temperature Sensor ...");

}

void loop() {

  Wire.beginTransmission(TC74ADDRESS);// Begin transmission to the TC74

  Wire.write(0);        // Request for data starting in Register 0

  Wire.endTransmission();             // End the transmission, then...

  Wire.requestFrom(TC74ADDRESS,1);    // Request # of bytes from stating register

  while (!Wire.available());       // pause & wait for the data to be sent

  **int8\_t** celsius = Wire.read();       // read the byte returned on the I2C bus

  float fahrenheit = celsius \* 1.8 + 32;    //or round()

  //Publish

  **Serial**.print(String(celsius));      //

  **Serial**.write(0xC2);                 // <https://www.utf8-chartable.de/>

  **Serial**.write(0xB0);                 // UTF-8 degree symbol

  **Serial**.print("C\t");                //

  **Serial**.print(String(fahrenheit,1));

  **Serial**.write(0xC2);                 // UTF-8 degree symbol

  **Serial**.write(0xB0);                 //

  **Serial**.print("F\n");                //

  delay(DURATION);

}