// 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=8)

**#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);

}