

```
///IR Temperature read for multiple sensors
```

```
///Jacob Miller 12/7/2017
```

```
///updated for different number of sensors 18 April 2018
```

```
#include "IRTemp.h" //includes previously established code for irtemp
```

```
int sensorpins[6][3] = { //setting up a matrix for pins
```

```
{2, 3, 4}, //sensor 1's pins
```

```
{5, 6, 7}, //sensor 2
```

```
{8, 9, 10}, //sensor 3
```

```
{11, 12, 13}, //4
```

```
{14, 15, 16}, //5
```

```
{17, 18, 19}, //6
```

```
//{20, 21, 22}, //7
```

```
//{23, 24, 25}, //8
```

```
//{26, 27, 28}, //9
```

```
//{29, 30, 31}, //10
```

```
//{32, 33, 34}, //11
```

```
//{35, 36, 37} //12
```

```
};
```

```
int i; //Sensor number
```

```
byte PIN_ACQUIRE; //starting Acquire, clock and data pins
```

```
byte PIN_CLOCK ;
```

```
byte PIN_DATA ;
```

```
String Message;
```

```
static const TempUnit SCALE=FAHRENHEIT; //can change to CELCIUS
```

```
int wait;
```

```
void setup(void) {
```

```
Serial.begin(9600);
```

```

}

void loop(void) {
  Message = "";
  for(i=0;i<6;i++){          //For loop set up for only 6 sensors for expo
  PIN_DATA = sensorpins[i][2];
  PIN_CLOCK = sensorpins[i][1];
  PIN_ACQUIRE = sensorpins[i][0];

  IRTemp irTemp(PIN_ACQUIRE, PIN_CLOCK, PIN_DATA);    //use these pins to retrieve the information

  float irTemperature = irTemp.getIRTemperature(SCALE);
  if (!isnan(irTemperature)) {
    Message = Message + String(irTemperature) + ",";
    delay(200);          //!!!important delay for clock with Labview

    float ambientTemperature = irTemp.getAmbientTemperature(SCALE); //retrieve information from
ambient
    Message = Message + String(ambientTemperature) + ",";
    delay(200);
  }
  else{
    Message = Message + ",,";

  }

}

Serial.println(Message);          //output is a string of however many sensors are connected
separated by commas. Labview sorts out commas.

//if (Serial.available() > 0) {

```

```
    // read the incoming byte:
    // wait = Serial.readString().toInt();
    // }
    // else {
    //   wait = 1000;
    // }

delay(1000);
}
```