

PROJECT DEVELOPMENT PHASE

SPRINT 4

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#include <OneWire.h>
#include <DallasTemperature.h>
#define ONE_WIRE_BUS 5
OneWire oneWire(ONE_WIRE_BUS);
DallasTemperature sensors(&oneWire);
float Celcius=0;
float Fahrenheit=0;
float voltage=0;
const int analogInPin = A0;
int sensorValue = 0;
unsigned long int avgValue;
float b;
int buf[10],temp;
void setup(void)
{

Serial.begin(9600);
sensors.begin();
int sensorValue = analogRead(A1);
voltage = sensorValue * (5.0 / 1024.0);
}
void loop(void)
{
sensors.requestTemperatures();
Celcius=sensors.getTempCByIndex(0);
Fahrenheit=sensors.toFahrenheit(Celcius);
for(int i=0;i<10;i++)
{
buf[i]=analogRead(analogInPin);
delay(10);
```

```
}  
for(int i=0;i<9;i++)  
{  
  for(int j=i+1;j<10;j++)  
  {  
    if(buf[i]>buf[j])  
    {  
      temp=buf[i];  
      buf[i]=buf[j];  
      buf[j]=temp;  
    }  
  }  
}  
for(int i=2;i<8;i++)  
  avgValue+=buf[i];  
float pHVol=(float)avgValue*5.0/1024/6;  
float pHValue = -5.70 * pHVol + 21.34;  
Serial.println(pHValue);  
Serial.print("pH");  
  
Serial.print(" C ");  
Serial.print(Celcius);  
  
Serial.print(voltage);  
Serial.print("V");  
delay(10000);  
}
```

