SPRINT-4

CODE FOR ARDUINO

TEAM ID	PNT2022TMID42440
PROJECT TITLE	REAL TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM
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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);
}
```