Sprint – 1

Team ID	PNT2022TMID24443
Project Name	Smart Farmer – IOT Enabled Smart Farming Application

Aurdino code:

```
//include libraries
#include <dht.h>
#include <SoftwareSerial.h>
//define pins
#define dht_apin A0 // Analog Pin sensor is connectedSoftwareSerial
mySerial(7,8);//serial port of gsm
const int sensor_pin = A1; // Soil moisture sensor O/P pinint
pin_out = 9;
//allocate variables
dht DHT;
int c=0;

void setup()
{
pinMode(2, INPUT); //Pin 2 as INPUT
pinMode(3, OUTPUT); //PIN 3 as OUTPUT
pinMode(9, OUTPUT);//output for pump
}
void loop()
{
  if (digitalRead(2) == HIGH)
  {
  digitalWrite(3, HIGH); // turn the LED/Buzz ON
  delay(10000); // wait for 100 msecond digitalWrite(3,
  LOW);  // turn the LED/Buzz OFFdelay(100);
  }
```

```arduino
 Serial.begin(9600);
   delay(1000);
   DHT.read11(dht_apin); //temprature
 float h=DHT.humidity;
 float t=DHT.temperature;
   delay(5000);
   Serial.begin(9600);
    float moisture_percentage;//moisture
 int sensor_analog;
 sensor_analog = analogRead(sensor_pin);
 moisture_percentage = ( 100 - ( (sensor_analog/1023.00) * 100 ) );
 float m=moisture_percentage;delay(1000);
 if(m<40)//pump
 {
 while(m<40)
 {
 digitalWrite(pin_out,HIGH);//open pump
 sensor_analog = analogRead(sensor_pin);
 moisture_percentage = ( 100 - ( (sensor_analog/1023.00) * 100 ) );
 m=moisture_percentage;
 delay(1000);
 }
 digitalWrite(pin_out,LOW);//closepump
 }
 if(c>=0)
 {
 mySerial.begin(9600);
 delay(15000);
 Serial.begin(9600);
 delay(1000); Serial.print("\r");
 delay(1000);
 Serial.print("AT+CMGF=1\r");
 delay(1000);
 Serial.print("AT+CMGS=\"+XXXXXXXXXX\"\r"); //replace X with 10 digit mobile
number
 delay(1000);
```

```arduino
  Serial.print((String)"update-
>"+(String)"Temprature="+t+(String)"Humidity="+h+(String)"Moisture="+m);
  delay(1000);
  Serial.write(0x1A);
  delay(1000);
  mySerial.println("AT+CMGF=1");//Sets the GSM Module in Text Mode
  delay(1000);
  mySerial.println("AT+CMGS=\"+XXXXXXXXXX\"\r"); //replace X with 10 digit
mobile number
  delay(1000);
  mySerial.println((String)"update-
>"+(String)"Temprature="+t+(String)"Humidity="+h+(String)"Moisture="+m);//
message format
  mySerial.println();
  delay(100);
  Serial.write(0x1A);
  delay(1000);
  c++;

  }


}
```