

## SPRINT 1

Simulation Creation -Connect Sensors with  
Arduino using C++ code

Date	8 October 2022
Team ID	PNT2022TMID23451
Project Name	Project – Smart Farmer-IoT Enabled smartFarming Application
Maximum Marks	4 Marks

### Connecting Sensors with Arduino using C++ code

```
#include "Arduino.h"

#include "dht.h"

#include "SoilMoisture.h"

#define dht_apin A0

const int sensor_pin = A1; //soil moisture

int pin_out = 9;

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 OFF
delay(100);
}

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;
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((String)"update-
>" +(String)"Temprature="+t+(String)"Humidity="+h+(String)
)"Moisture="+m);
delay(1000);
}
}

```

## Circuit Diagram

