```
#include <LiquidCrystal.h> //LCD Library

#define NOTE_C4 262
#define NOTE_D4 294
#define NOTE_E4 330
#define NOTE_F4 349
#define NOTE_G4 392
#define NOTE_A4 440
#define NOTE_B4 494
#define NOTE_C5 523

int temp;
int T_Sensor = A3;
int M_Sensor = A0;
int W_led = 7;
int P_led = 13;
int Speaker = 9;
int val;
int cel;

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup()
 {
    lcd.begin(16, 2);
    lcd.clear();
    pinMode(13,OUTPUT);
    pinMode(7,INPUT);
    pinMode(9,OUTPUT);

    val = analogRead(T_Sensor); //Read Temperature sensor value
    int mv = ( val/1024.0)*5000;
    cel = mv/10;



    lcd.setCursor(0,0);
    lcd.print("Project By");
    lcd.setCursor(0,1);
    lcd.print("SK GROUPS ");
    delay(1000);

}

void loop()
{

  lcd.clear();
  int Moisture = analogRead(M_Sensor); //Read Moisture Sensor Value

  lcd.setCursor(0,0);
  lcd.print("TEMP:");
  lcd.setCursor(5,0);
```

```
 lcd.print(cel);
 lcd.setCursor(7,0);
 lcd.print("*C");

if (Moisture> 700)   // for dry soil
 {
      lcd.setCursor(11,0);
      lcd.print("DRY");
      lcd.setCursor(11,1);
      lcd.print("SOIL");
     if (digitalRead(W_led)==1) //test the availability of water in storage
     {
       digitalWrite(13, HIGH);
       lcd.setCursor(0,1);
       lcd.print("PUMP:ON");
     }
     else
     {
       digitalWrite(13, LOW);
       lcd.setCursor(0,1);
       lcd.print("PUMP:OFF");

         tone(Speaker, NOTE_C4, 500);
         delay(500);
         tone(Speaker, NOTE_D4, 500);
         delay(500);
         tone(Speaker, NOTE_E4, 500);
         delay(500);
         tone(Speaker, NOTE_F4, 500);
         delay(500);
         tone(Speaker, NOTE_G4, 500);
         delay(500);
     }
  }

   if (Moisture>= 300 && Moisture<=700) //for Moist Soil
  {
    lcd.setCursor(11,0);
   lcd.print("MOIST");
   lcd.setCursor(11,1);
   lcd.print("SOIL");
   digitalWrite(13,LOW);
   lcd.setCursor(0,1);
   lcd.print("PUMP:OFF");
}

 if (Moisture < 300)  // For Soggy soil
{
  lcd.setCursor(11,0);
   lcd.print("SOGGY");
   lcd.setCursor(11,1);
   lcd.print("SOIL");
   digitalWrite(13,LOW);
   lcd.setCursor(0,1);
   lcd.print("PUMP:OFF");
```

```
  }
 delay(1000);
}
```