ARDUINO PROJECT

GROUP MEMBERS : 326 SHALINI BAWANKULE

340 YASHASHRI GAWANDE

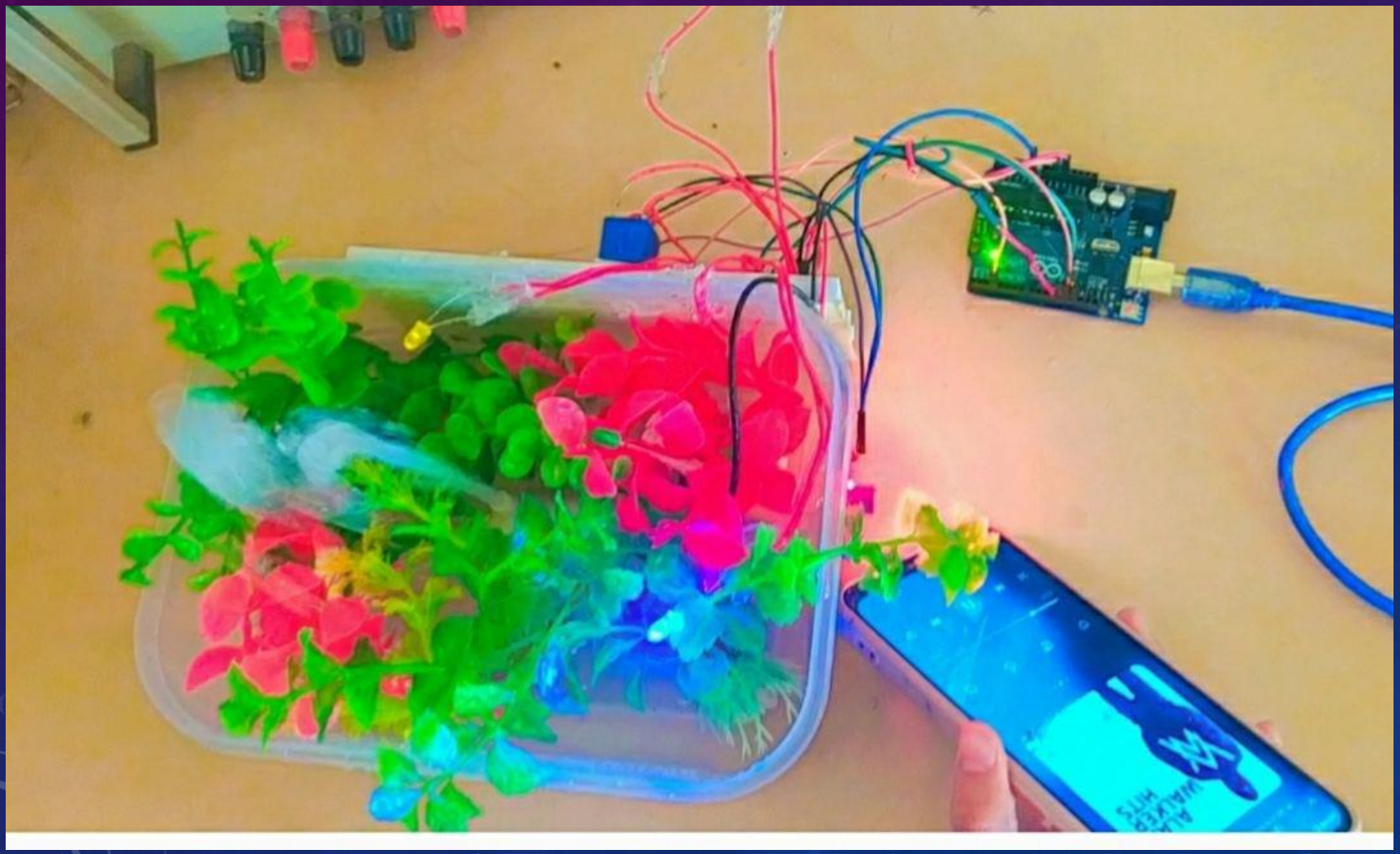
BATCH : C2

TITLE : ARDUINO CONTROLLED MUSICAL FOUNTAIN USING SOUND SENSOR

OBJECTIVES

- There are several water fountains which unconditionally sprinkle water with some interesting lighting effects. So we design an innovative water fountain which can respond to external music and sprinkle water depending on the music beats.
- The basic idea of these Arduino Water Fountain is to take an input from any external sound source like mobile, iPod, PC etc., sample the sound and break it down to different voltage ranges.
- Then the voltage will be fed to op-amp to compare sound level with a particular limit. The higher voltage range will correspond to a relay switch ON which comprises a musical water fountain operating to the beats and rhythms of the song.

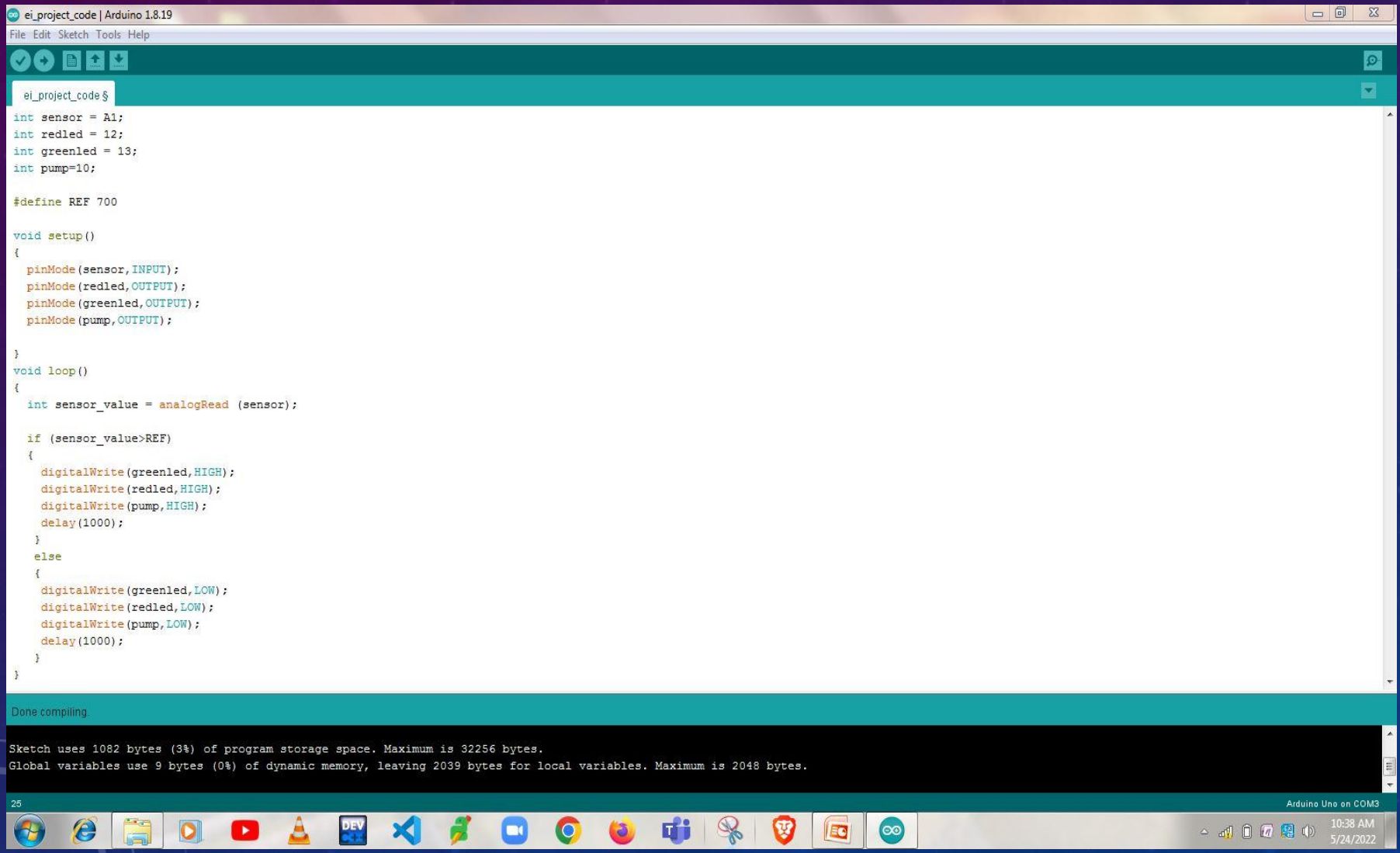
HARDWARE DIAGRAM



LINK TO VIDEO

https://drive.google.com/file/d/1T_4EZ_Mr6xIP3glAapzwHkb7_oTq4d0i/view?usp=drivesdk

PROGRAM


ei_project_code | Arduino 1.8.19
File Edit Sketch Tools Help
ei_project_code §
int sensor = A1;
int redled = 12;
int greenled = 13;
int pump=10;
#define REF 700
void setup()
{
pinMode(sensor,INPUT);
pinMode(redled,OUTPUT);
pinMode(greenled,OUTPUT);
pinMode(pump,OUTPUT);
}
void loop()
{
int sensor_value = analogRead (sensor);
if (sensor_value>REF)
{
digitalWrite(greenled,HIGH);
digitalWrite(redled,HIGH);
digitalWrite(pump,HIGH);
delay(1000);
}
else
{
digitalWrite(greenled,LOW);
digitalWrite(redled,LOW);
digitalWrite(pump,LOW);
delay(1000);
}
}
Done compiling.
Sketch uses 1082 bytes (3%) of program storage space. Maximum is 32256 bytes.
Global variables use 9 bytes (0%) of dynamic memory, leaving 2039 bytes for local variables. Maximum is 2048 bytes.
25
Arduino Uno on COM3
10:38 AM
5/24/2022

ARDUINO CODE

```
int sensor = A1;
int redled = 12;
int greenled = 13;
int pump=10;

#define REF 700

void setup()
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  pinMode(redled,OUTPUT);
  pinMode(greenled,OUTPUT);
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 }
```

```
}
void loop()
{
  int sensor_value  = analogRead (sensor);

  if (sensor_value>REF)
  {
    digitalWrite(greenled,HIGH);
    digitalWrite(redled,HIGH);
    digitalWrite(pump,HIGH);
    delay(1000);
   }
   else
   {
    digitalWrite(greenled,LOW);
    digitalWrite(redled,LOW);
    digitalWrite(pump,LOW);
    delay(1000);
   }
}
```

SIMULATION RESULTS