

INDEX

Name of the Laboratory :

Sub. Code

Name of the Staff In-Charge :

Sl No.	Date of Experiment	Name of the Experiment	Page No.	Date of Submission	Marks	Staff Signature with Date
1.	15/06/2022	Program that blinks the LED on the development board using M8TFB	1-2	15/06/2022	10	
2.	15/06/2022	Program that blinks through button blink LED	3 - 4	22/06/2022	10	
3.	17/06/2022	LED with Digital Counter	5 - 9	22/06/2022	10	
4.	22/06/2022	Program to implement RGB LED	10-11	29/06/2022	10	
5.	06/07/2022	Analog Potentiometer	12-13	06/07/2022	10	
6.	06/07/2022	Reading Sensors(Multimeter)	14-15	06/07/2022	10	
7.	06/07/2022	Reading Sensors	16-17	06/07/2022	10	

Expt. Name Create a program that blinks the LED on the development board using MEB Software Date: _____

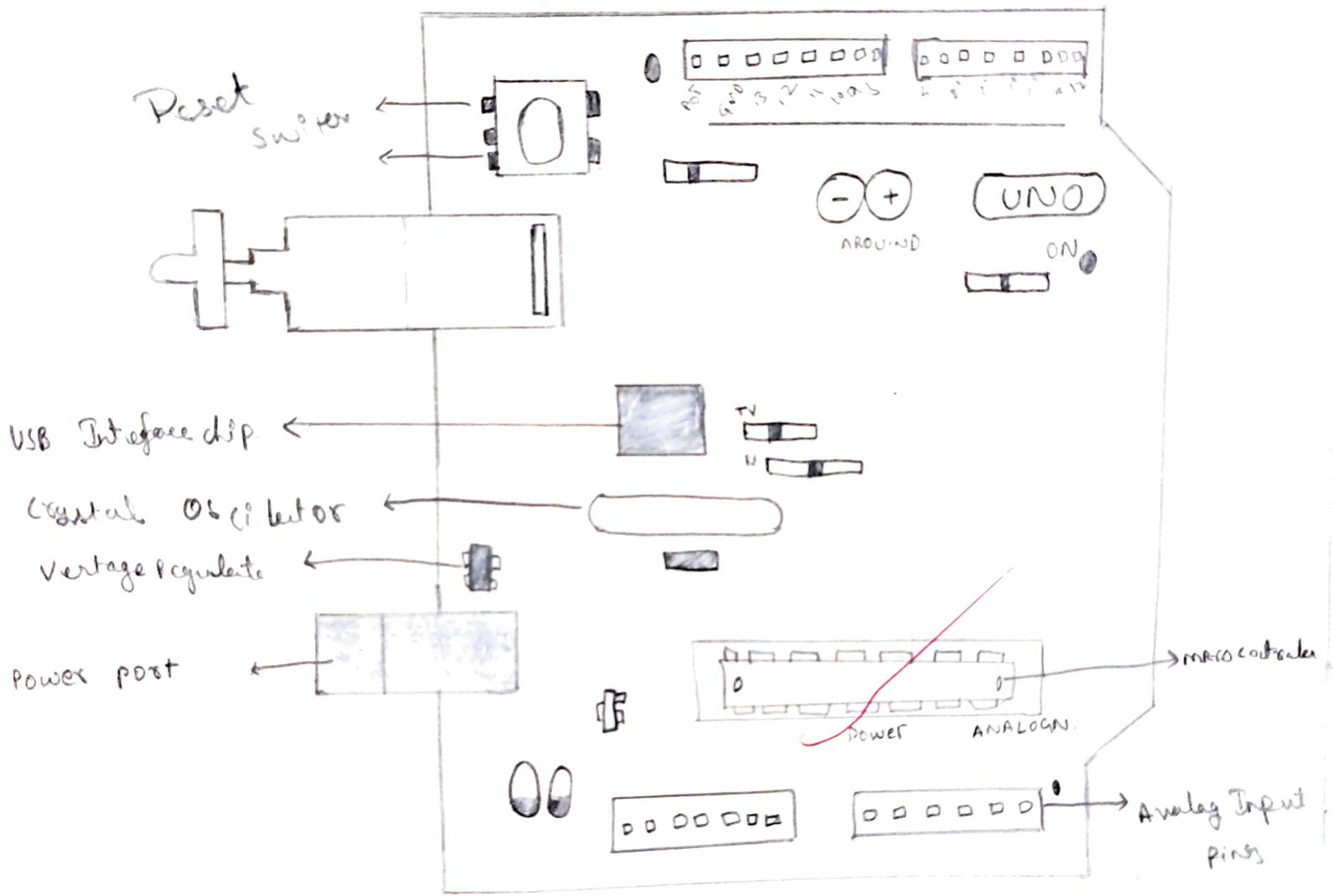
Aim:- To write a program for blink LED bulb using tinker Cad

Components:-

1. Arduino LED
2. LED

Procedure:-

1. Get the Arduino Uno board from the component
2. Get the LED from the components
3. LED has two sides which are cathode and anode and cathode where negative side is connected to the Ground (GND), positive side is connected to digital pin B of Arduino



Expt. No. _____

Page No. 2

Expt. Name. _____

Date : _____

Program :-

```
void setup ()
```

```
{
```

```
pinmode (13, OUTPUT);
```

```
}
```

```
void loop ()
```

```
{
```

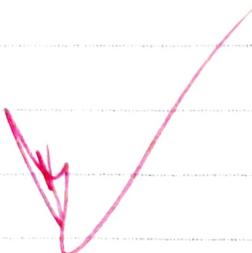
```
digitalwrite (13, HIGH);
```

```
delay (1000);
```

```
digitalwrite (13, LOW);
```

```
delay (1000);
```

```
}
```



Result: Thus the program has been successfully implemented using LED on the development board using mbed software

Expt. Name. A program that blinks through button blink Date: _____

LED

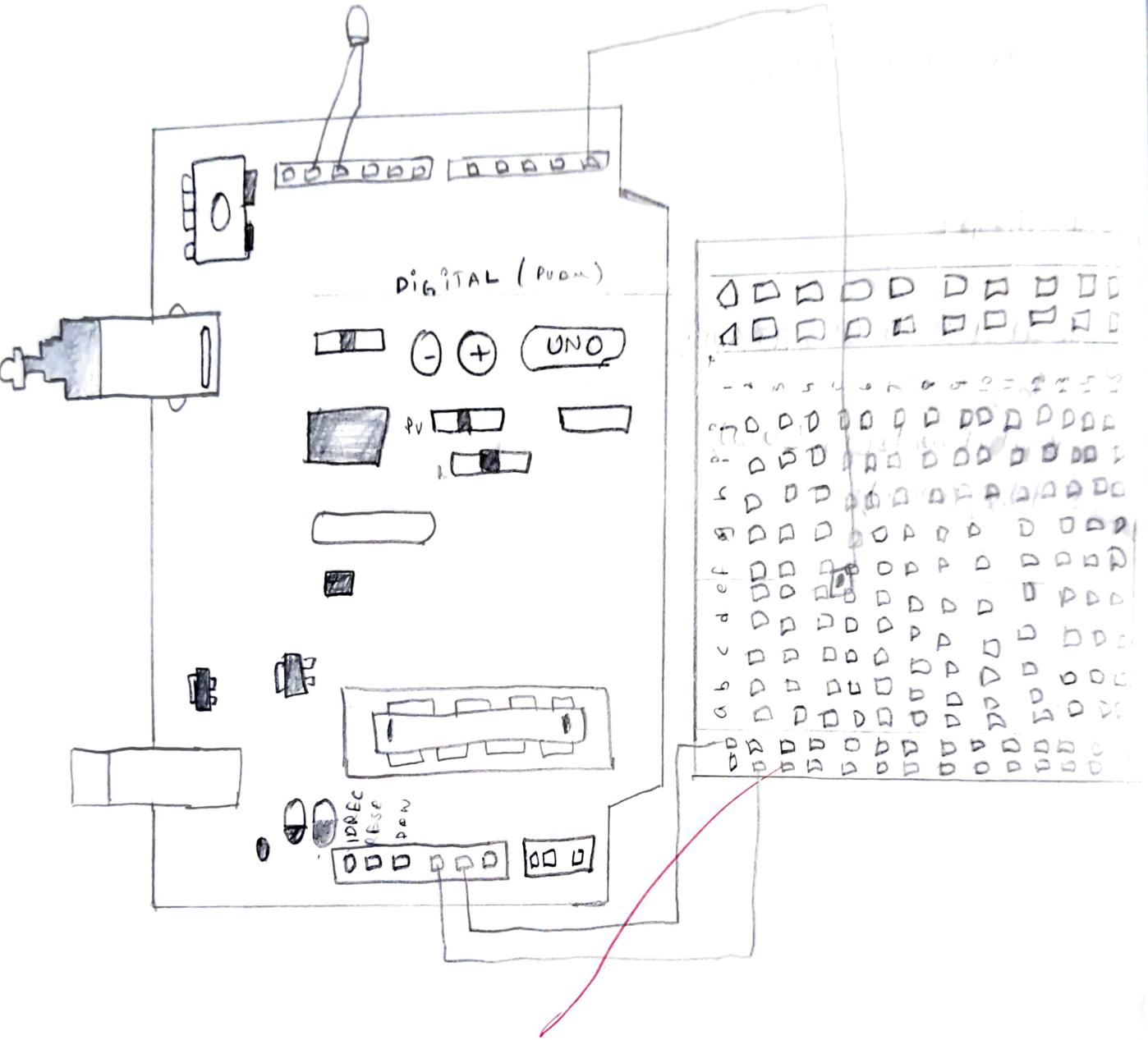
Aim: To write a program for blinks through button blink LED

Components:-

1. Arduino UNO
2. LED
3. Resistor
4. Push Button
5. Bread Board

Procedure:-

1. Get the Arduino UNO board from the components.
2. Get the LED from the components.
3. LED has two sides which are +ve and -ve where -ve is connected to GND (Ground). +ve is connected to digital pin 13 of Arduino.
4. Resistor and push button is connected to the Arduino board.
5. Resistor is connected to the GND.
6. Push button is connected to the opposite side S and 2.



the address of the servos and the outputs will just have
to be mapped to the right output at no problem.

Code:

```
Void setup ()  
{  
    pinmode(2, INPUT);  
    pinmode(13, OUTPUT);  
}  
  
Void loop ()  
{  
    if (digital Read(2) == 1)  
    {  
        digital write(13, HIGH);  
    }  
    else  
    {  
        digital write(13, LOW);  
    }  
}
```



Result: Thus the program has been created successfully through button blink LED.

Expt. No. 3

Page No. 5

Expt. Name. LED with Digital Counter

Date: _____

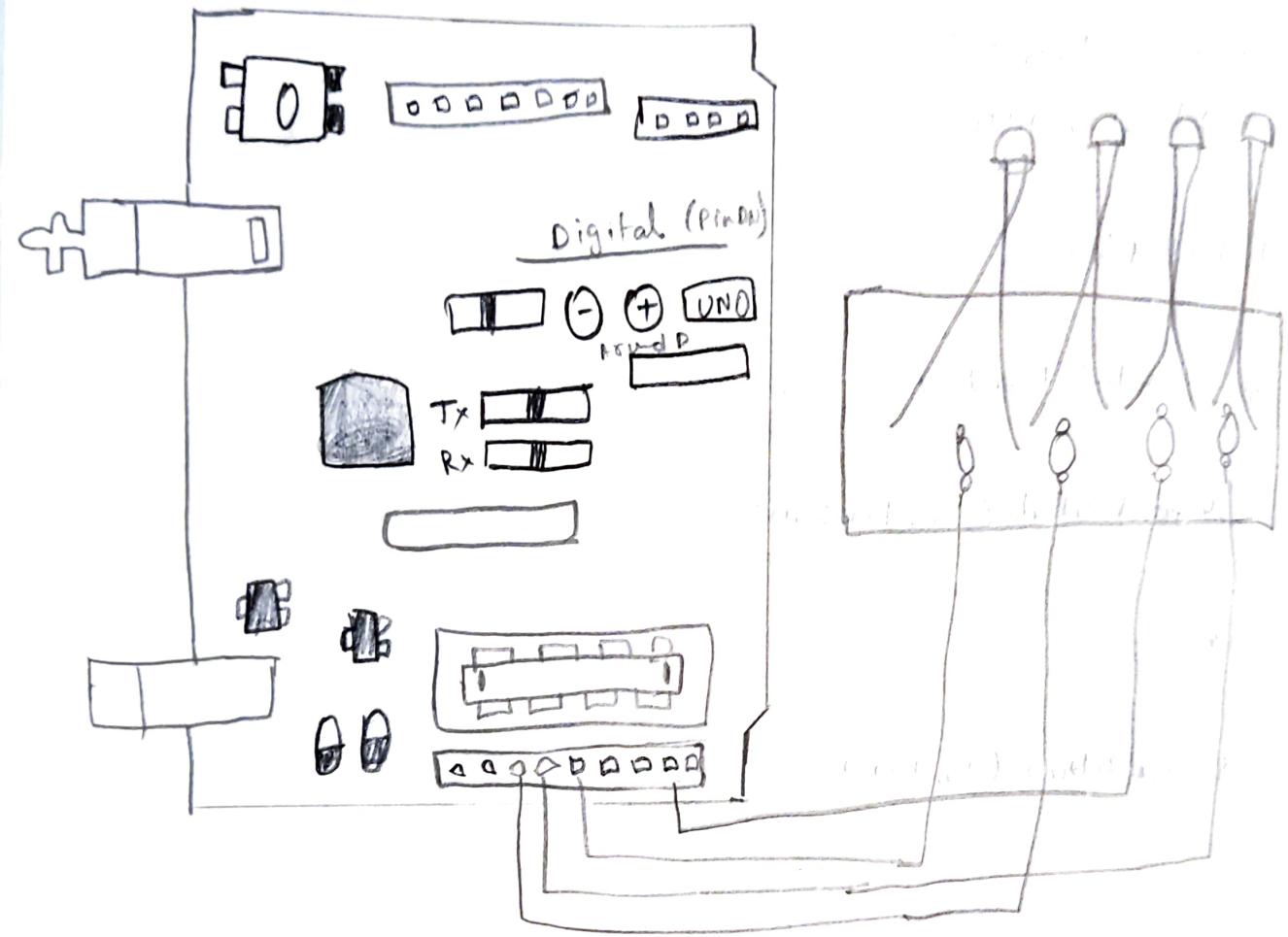
Aim: To write a program to implement the digital counter.

Components:

1. Arduino UNO
2. LED (Light Emitting Diode)
3. Resistor
4. Bread Board

Procedure:

1. Get the Arduino UNO based board from the components.
2. Get the LED from the components.
3. LED has two sides which is positive (anode) and negative (cathode). Negative side is connected to the Ground (GND).
4. Resistors has been connected to the breadboard to connect the Arduino board.
5. LED has been connected to the resistor for the conversion of the digital counts.
6. The bulb glows like series of binary format of the LED bulb.



Code:

```
int pin 2=2;  
int pin 3=3;  
int pin 4=4;  
int pin 5=5;  
int time = 500;
```

Void Setup()

{

```
pinMode (pin 2, OUTPUT);  
pinMode (pin 3, OUTPUT);  
pinMode (pin 4, OUTPUT);  
pinMode (pin 5, OUTPUT);
```

}

Void Loop()

{

```
digitalWrite (pin 2, LOW);  
digitalWrite (pin 3, LOW);  
digital write (pin 4, LOW);  
digital write (pin 5, LOW);  
delay (5 time);
```

~~```
digitalWrite (pin 2, LOW);
digitalWrite (pin 3, LOW);
digitalWrite (pin 4, LOW);
digital write (pin 5, HIGH);
delay (5 time);
```~~

digital write (pin 2, LOW);

digital write (pin 3, LOW);

digital write (pin 4, HIGH);

digital write (pin 5, LOW);

delay (5 time);

digital write (pin 2, LOW);

digital write (pin 3, LOW);

digital write (pin 4, HIGH);

digital write (pin 5, HIGH);

delay (5 time);

digital write (pin 2, LOW);

digital write (pin 3, HIGH);

digital write (pin 4, LOW);

digital write (pin 5, LOW);

delay (5 time);

digital write (pin 2, LOW);

digital write (pin 3, HIGH);

digital write (pin 4, LOW);

digital write (pin 5, HIGH);

delay (5 time);

digital write (pin 2, LOW);

digital write (pin 3, HIGH);

digital write (pin 4, HIGH);

digital write (pin 5, LOW);

delay (5 time);

digital write (pin 2, LOW);  
digital write (pin 3, HIGH);  
digital write (pin 4, HIGH);  
digital write (pin 5, HIGH);  
delay (5 time);

digital write (pin 2, HIGH);  
digital write (pin 3, LOW);  
digital write (pin 4, LOW);  
digital write (pin 5, LOW);  
delay (5 time);

digital write (pin 2, HIGH);  
digital write (pin 3, LOW);  
digital write (pin 4, LOW);  
digital write (pin 5, HIGH);  
delay (5 time);

digital write (pin 2, HIGH);  
digital write (pin 3, LOW);  
~~digital write (pin 4, HIGH);~~  
digital write (pin 5, LOW);  
delay (5 time);

digital write (pin 2, HIGH);  
digital write (pin 3, LOW);  
digital write (pin 4, HIGH);  
digital write (pin 5, HIGH);  
delay (5 time);

digital write (pin 2, HIGH);

digital write (pin 3, HIGH);

digital write (pin 4, LOW);

digital write (pin 5, LOW);

delay (5000);

digital write (pin 2, HIGH);

digital write (pin 3, HIGH);

digital write (pin 4, LOW);

digital write (pin 5, HIGH);

delay (5000);

digital write (pin 2, HIGH);

digital write (pin 3, HIGH);

digital write (pin 4, HIGH);

digital write (pin 5, LOW);

delay (5000);

digital write (pin 2, HIGH);

digital write (pin 3, HIGH);

digital write (pin 4, HIGH);

digital write (pin 5, HIGH);

delay (5000);

3

Result: True the program has been created successfully

Expt. No. 4

Page No. 10

Expt. Name. Program to implement RGB LED

Date :

Aim: To write a program to implement RGB LED.

Components:

Arduino Board

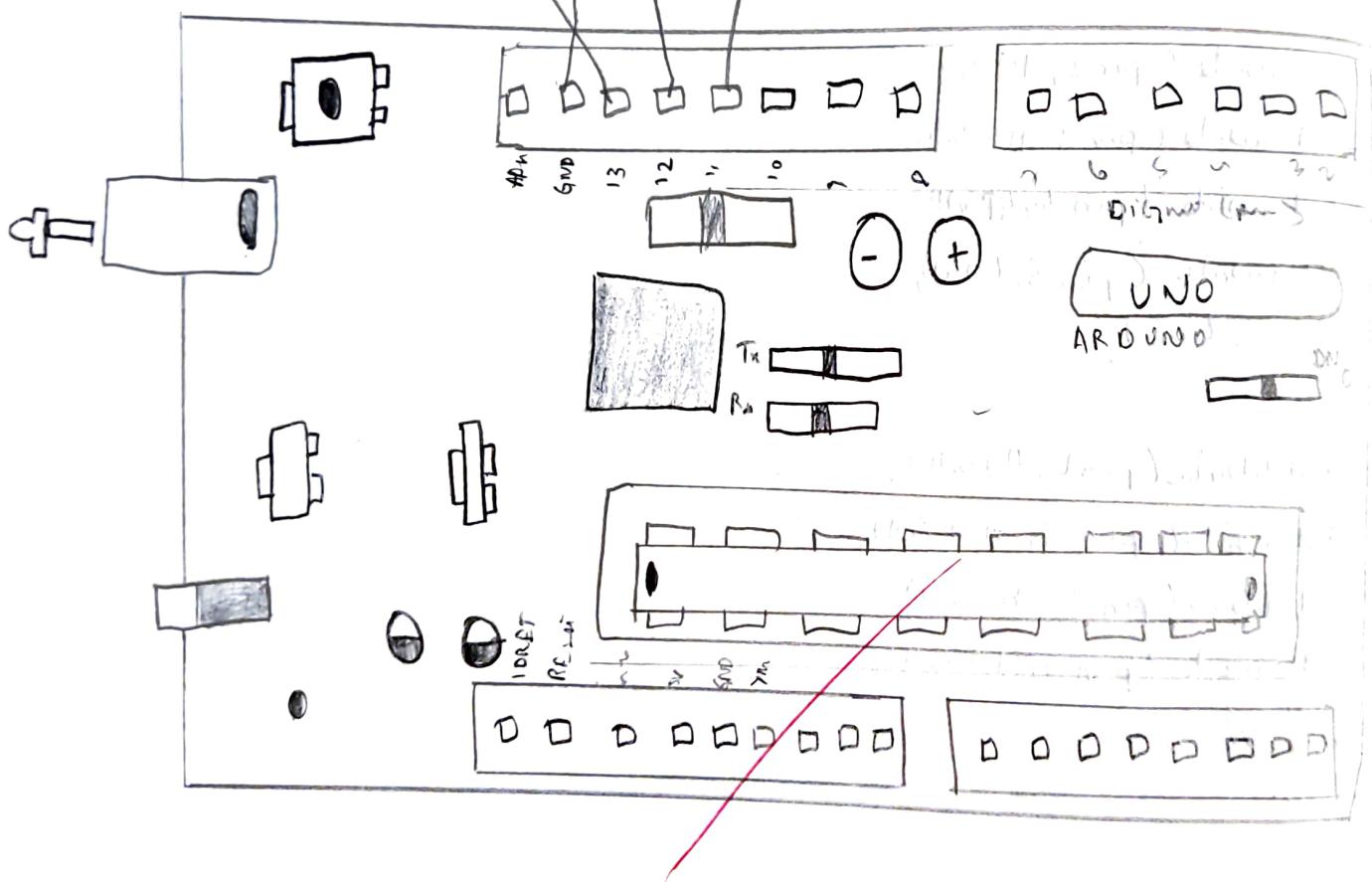
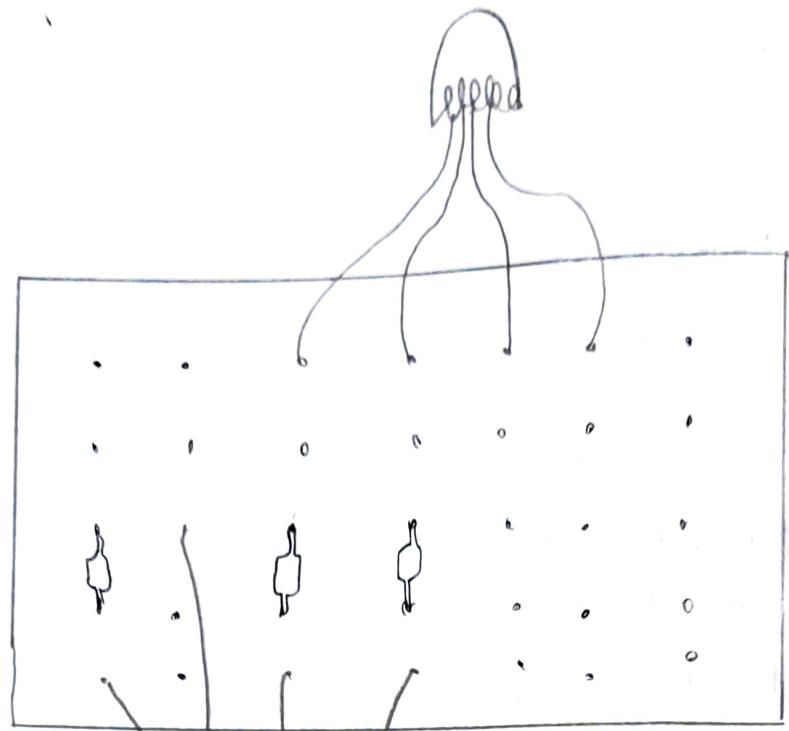
RGB LED

Resistors

Breadboard

Procedure:

1. Get the Arduino board from the Components
2. Get the RGB LED from the Components
3. Connect the RGB LED to the bread board.
4. Connect the cathode of RGB LED to the GND of Arduino board
5. Connect the blue, green, red terminals of RGB LED to digital pin of the Arduino board.



Code:

```
int redled = 13;
int blueled = 12;
int greenled = 11;
void setup ()
{
 pinMode (redled, OUTPUT);
 pinMode (blueled, OUTPUT);
 pinMode (greenled, OUTPUT);
 Serial . begin (9600);
 Serial . println ("rgb");
}
```

void loop ()

```
{
 digitalWrite (redled, HIGH);
 digitalWrite (blueled, HIGH);
 digitalWrite (greenled, HIGH);
 delay (1000);
}
```

3

Result: The program has been created successfully.

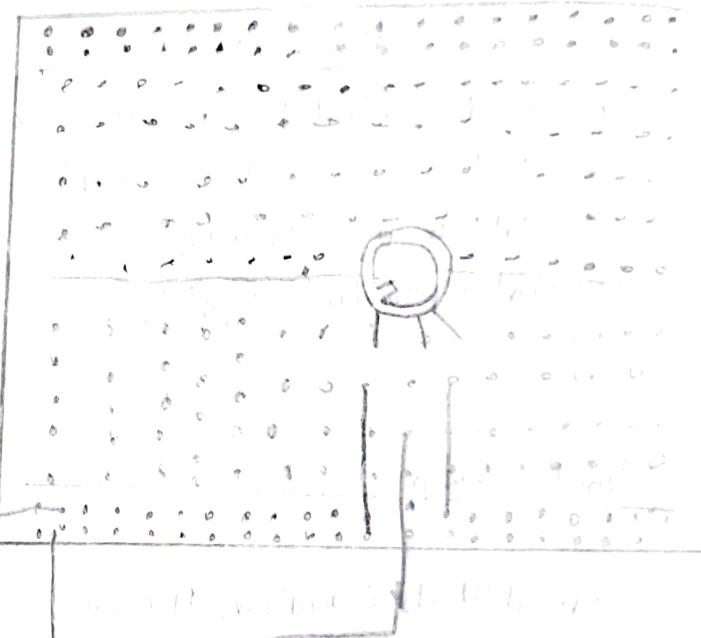
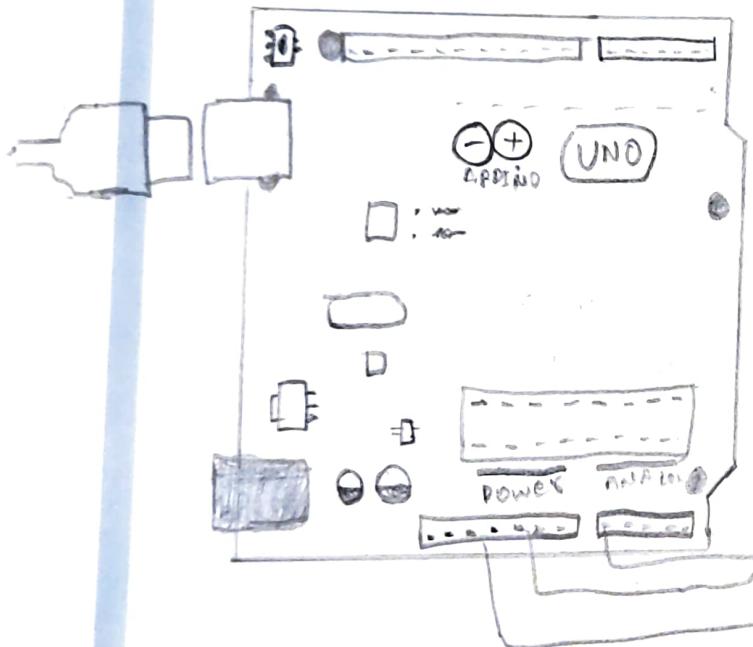
Aim: To write an Analog potentiometer input from the physical world using potentiometers

Components:-

1. Arduino Uno
2. Bread Board
3. Potentiometers

Procedure:-

1. Get the Arduino Uno based board from the components
2. Connect power 5V to the photo resistor at one end and another end of photo resistor to the resistor and connect it to the connection of GND end (-) negative of multimeter
3. Connect to the Gnd to the negative and A0 to the (+) one



Expt. No. \_\_\_\_\_

Page No. 13

Expt. Name. \_\_\_\_\_

Date : \_\_\_\_\_

Code :-

```
int pot = A0;
void setup ()
{
 serial.begin (9600);
}
void loop ()
{
 int potvalue = analogRead (Pot);
 serial.print ("potvalue");
 serial.println (Pot value);
 delay (10);
}
```



Result: Thus, the program has been successfully implemented in analog potentiometer.

O/P :-

Serial Monitor

6

6

6

4 39

4 52

4 6 4

5 5 9

Aim: To read the multimeter of Arduino uno board using tinker card.

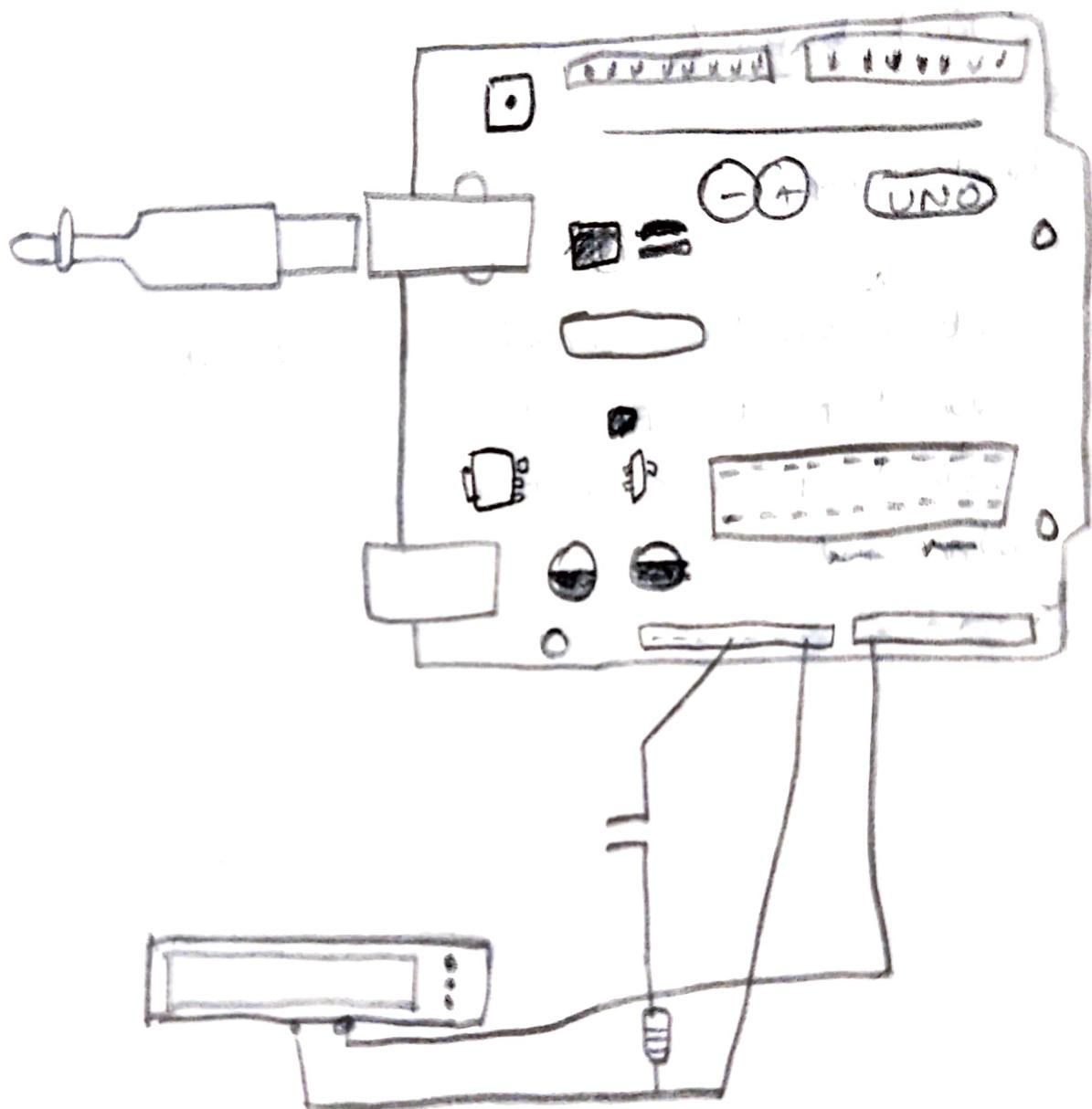
#### Components:

1. Arduino Uno
2. Resistor
3. Multimeter
4. Photoresistor

#### Procedure:-

1. Get the Arduino uno boards from the components.
2. Connect power 5V to the photoelectric resistor at one end and another end of photoresistor to the resistor and connect it to the connection of GND & (-)
3. Connect power GND to the negative of multimeter.
4. Connect the analog in A0 to the positive (+) of multimeter.
5. Do the process





0/PI-

6

6

6

6

6

6

6

6

118

S17

S17

607

607

607

607

Expt. No. \_\_\_\_\_

Page No. 15

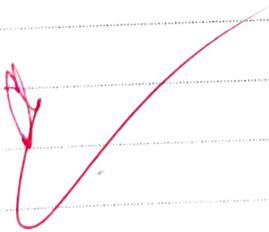
Expt. Name. \_\_\_\_\_

Date: \_\_\_\_\_

Code:

```
Void setup ()
{
 pinMode (A0, INPUT);
 serial.begin (9600);
}

Void loop ()
{
 int light value = analogRead (A0);
 serial.println (light value);
 delay (1000);
}
```



**Result :** Thus, the reading sensor has been successfully  
executed

Expt. No. 7

Page No. 16

Expt. Name. Reading Sensors

Date:

Aim: To write a program for Reading Sensors using tinkerCAD software

Components:

1. Arduino Uno board

2. Resistor

3. LED

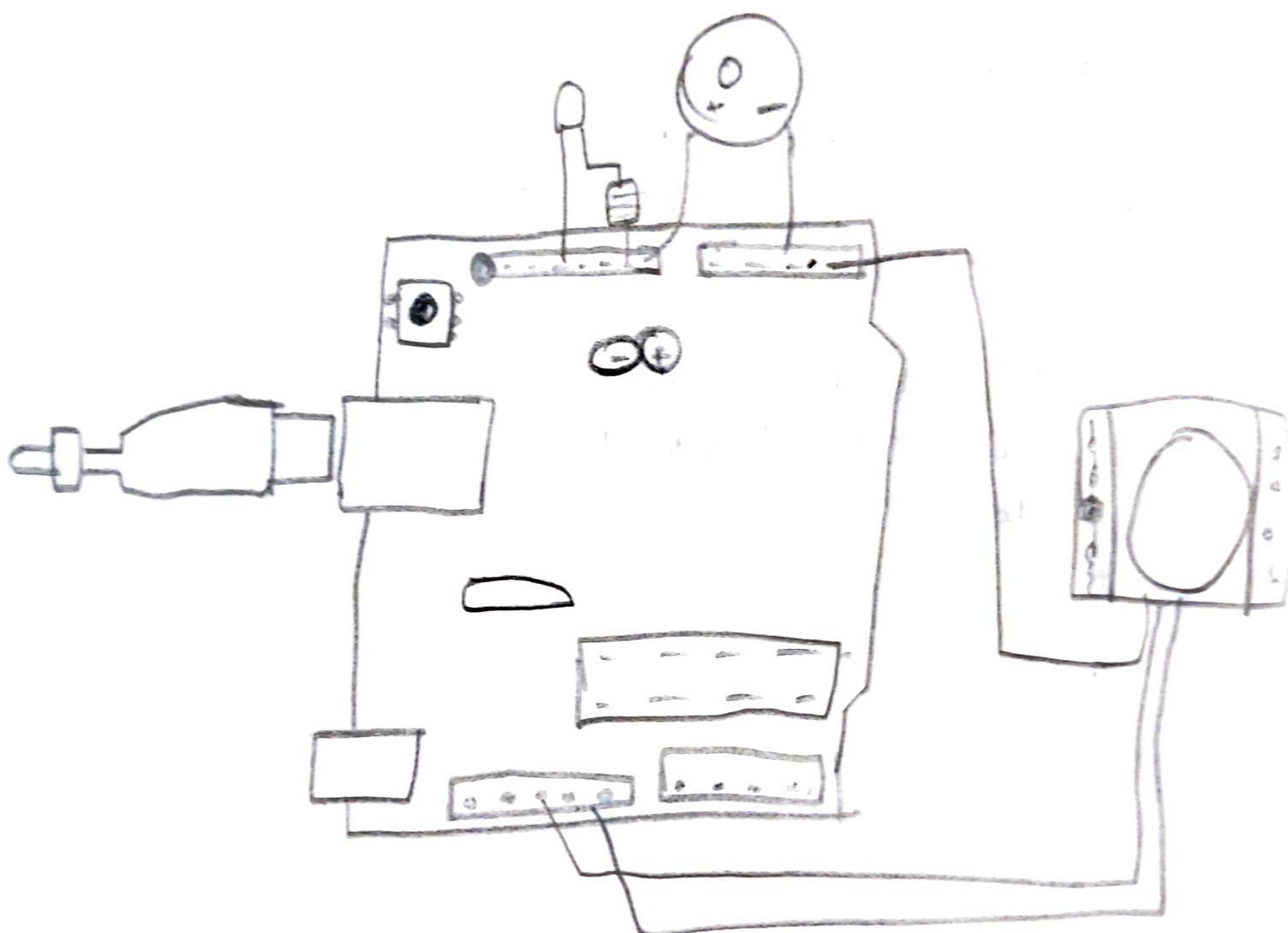
4. PIR sensor

5. Piezo

Procedure:

1. Get the Arduino uno boards from the components using tinkerCAD
2. Connect the LED bulb to the Arduino Uno board
3. Piezo is connected to the Arduino board with the resistor and switch
4. PIR sensor is to the Arduino uno boards with the required pins.
5. After completing the code, right side and start the simulation of the code
6. At last stop simulation after finished





✓

Expt. No. \_\_\_\_\_

Page No. 17

Expt. Name. \_\_\_\_\_

Date : \_\_\_\_\_

Code:-

```
void setup()
{
 pinMode(2, INPUT);
 pinMode(13, OUTPUT);
 pinMode(9, OUTPUT);
}

void loop()
{
 if(digitalRead(2) >= HIGH)
 {
 digitalWrite(13, HIGH);
 tone(9, 523, 1000);
 }
 else
 {
 digitalWrite(13, LOW);
 noTone(9);
 }
 delay(1);
}
```



Result : Thus, the program has been executed successfully