

## EXPERIMENT NUMBER – Practical 5

NAME – RAJDEEP JAISWAL

UID. – 20BCS2761

BRANCH. – B.TECH (CSE).

SEM – 2<sup>ND</sup>

SEC& GROUP = 26 (B)

SUBJECT = BEE LAB

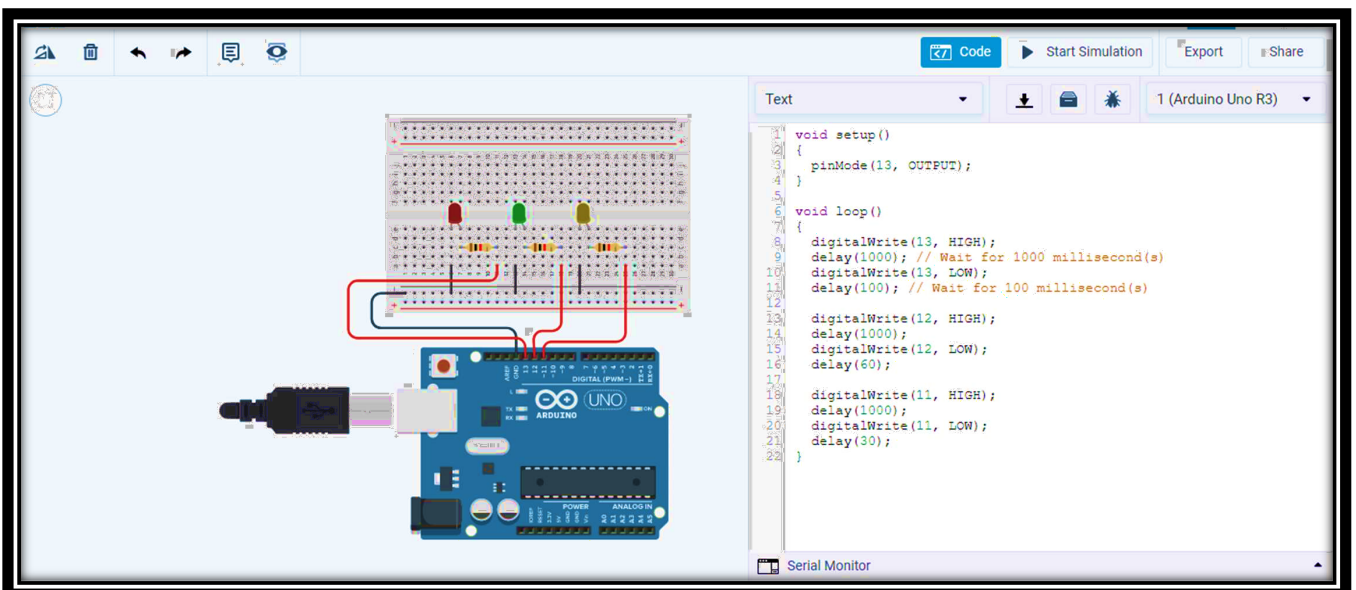
D.O.P = 2<sup>ND</sup> MAY 2021

### AIM OF THE EXPERIMENT – TO DESIGN A LED FLASHER

#### APPARATUS:

S.No.	Name	Specification & Rating	Quantities in Number
1.	Resistance	100 ohm	1
2.	LED Light	0-2V	1
3.	Breadboard	-----	1
4.	Connecting Wires	As per Requirement	

#### CIRCUIT DIGRAM:



The screenshot shows the Arduino IDE interface. On the left, a breadboard circuit is connected to an Arduino Uno R3. The circuit includes a 100 ohm resistor, an LED, and a 100 ohm resistor connected to digital pin 13. The code in the text editor is as follows:

```

1 void setup()
2 {
3   pinMode(13, OUTPUT);
4 }
5
6 void loop()
7 {
8   digitalWrite(13, HIGH);
9   delay(1000); // Wait for 1000 millisecond(s)
10  digitalWrite(13, LOW);
11  delay(100); // Wait for 100 millisecond(s)
12
13  digitalWrite(12, HIGH);
14  delay(1000);
15  digitalWrite(12, LOW);
16  delay(60);
17
18  digitalWrite(11, HIGH);
19  delay(1000);
20  digitalWrite(11, LOW);
21  delay(30);
22 }

```

## **STEPS OF THE EXPERIMENTS :**

- 1. Open TINKERCAD.**
- 2. Place Breadboard in white space.**
- 3. Connect LEDs of different colours in Breadboard.**
- 4. Connect Resistances in Breadboard.**
- 5. Choose and connect Arduino Board in Breadboard.**
- 6. Make other left out and necessary connections using connecting wires.**
- 7. Write the correct Code in the code section of TINKERCAD.**

## **CALCULATIONS / FORMULAE USED :**

### **CODINGS : / CODE:**

```
Int led_flash=13; //defines usage of pin 13 for connecting LED void setup()
{
pinMode(led_flash, OUTPUT);

// initialize digital pin led_flash as an output.
}
// the loop function runs over and over again forever void loop()
{
digitalWrite(led_flash, HIGH);

// turn the LED on (HIGH is the voltage level)
delay(1000); // wait for a second digitalWrite(led_flash, LOW);

// turn the LED off by making the voltage LOW delay(1000); // wait for a second
}
```

**CODE USED IN TINKERCAD:  
(IN TEXT FORM) :**

```
void setup() {  
  
pinMode(13, OUTPUT); }  
  
void loop() {  
  
digitalWrite(13, HIGH);  
delay(1000); // Wait for 1000 millisecond(s) digitalWrite(13, LOW);  
delay(100); // Wait for 100 millisecond(s)  
  
digitalWrite(12, HIGH); delay(1000); digitalWrite(12, LOW); delay(60);  
  
digitalWrite(11, HIGH); delay(1000); digitalWrite(11, LOW);  
  
delay(30); }
```

**OBSERVATION /DISCUSSIONS:**

**NIL**

**PERCENTAGE ERROR (IF ANY):**

**NIL**



## **RESULT /OUTPUT /SUMMARY:**

Blinking of LED was verified after uploading the program.

## **GRAPH (IF ANY):**

**NIL**

## **LEARNING OUTCOMES:**

1. Understand the concept of Arduino.
2. Design of circuit using Arduino.
3. Verify the circuit by programming.
4. Understand the concept of LED.
5. Understand the working of LED.

## LEARNING OUTCOMES

- Identify situations where computational methods would be useful.
- Approach the programming tasks using techniques learnt and write pseudo-code.
- Choose the right data representation formats based on the requirements of the problem.
- Use the comparisons and limitations of the various programming constructs and choose the right one for the task.

## EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet Completion including writing learning objective/ Outcome	10	
2.	Post Lab Quiz Result	5	
3.	Student engagement in Simulation/ Performance/ Pre Lab Questions	5	
4.	Total Marks	20	