Enrolment/ Roll No.92100588007

Practical No. 2

Aim: Introduction to Basic IoT Components.

Objectives:

1. To learn Arduino UNO basics
2. To interface 5 LED's with Arduino and write a program to blink 6 LEDs, one at a time, in a back and forth formation.

Theory:

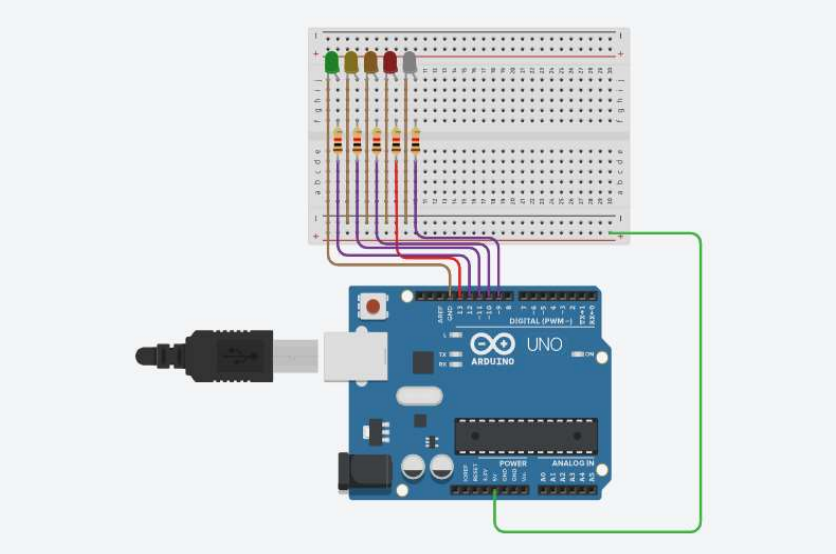
Hardware:

- Arduino board
- 5 LEDs
- 5 resistors
- Jumper wires

Function:

- The Arduino board is a microcontroller that can be programmed to control electronic devices.
- The LED is a light-emitting diode, which is a semiconductor device that emits light when current flows through it.
- The resistor protects the LED from too much current, which could damage it.
- The jumper wires are used to connect the Arduino board to the LEDs and resistors.

Circuit Diagram: (Download from tinkercad.com)



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Program:

```
int ledPins[] = {12,11, 10,13,9, 6};

void setup() {

  for (int i = 0; i < sizeof(ledPins) / sizeof(ledPins[0]); i++) {
    pinMode(ledPins[i], OUTPUT);
  }
}
void loop() {

  for (int i = 0; i < sizeof(ledPins) / sizeof(ledPins[0]); i++) {
    digitalWrite(ledPins[i], HIGH);
    delay(1000);
    digitalWrite(ledPins[i], LOW);
    delay(1000);
  }
}
```

Output: (Screenshot of LED On)

Conclusion: The above program is a simple example of how to interface multiple LEDs with Arduino and control them using a program. You can use this program as a starting point to create more complex projects, such as traffic light systems, warning signals, and displays.