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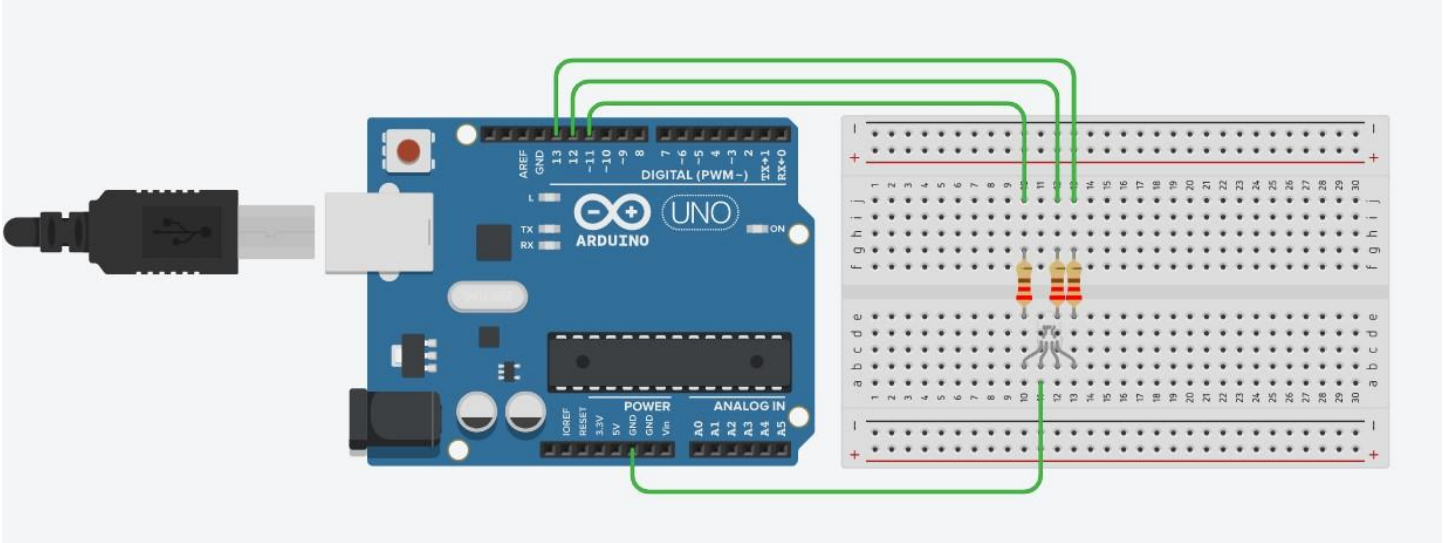
Subject Name and Code: FSSI – 01CT1103	Date of Experiment: 13-12-21

Task: Interfacing Tri-Color LED with the Arduino Board.

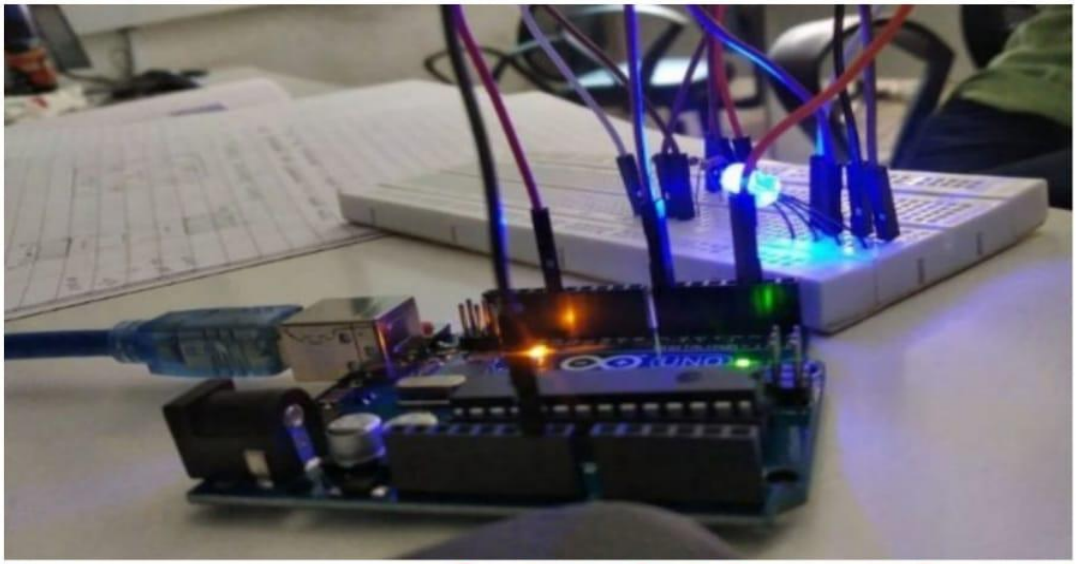
Components:
Tri-color LED, Arduino Uno, Resistor, Breadboard, Usb Cable.

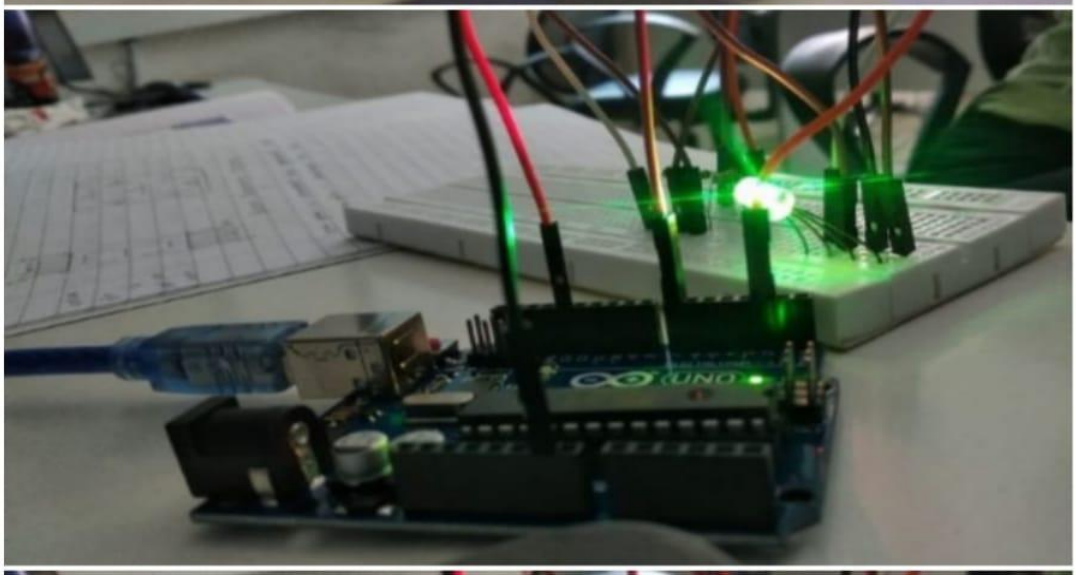
About the Project:
In this project we are going to blink all three different colors of tri-color led at some expected interval of time. There are three colors in a tri-color led. One is Red, Second is Green and third is Blue. There are total four terminals in tri-color led. One is common terminal which defines it might be a common anode or common cathode. If the common terminal is anode then the rest three will be cathode representing three different colors and if the common terminal is cathode then the rest three will be anode representing the three different colors of led. We can blink all three colors simultaneously or at a same time also. We can make different colors by combination of led. Suppose if we turn HIGH the Red and Blue color led at the same time then it will reflect the violet shade. In same way if we turn HIGH the green and red led then it will reflect the yellow shade. If we turn HIGH all the three colors of the led at the same time i.e Red + Green + Blue then it will reflect the white shade. In this way we can reflect the variety of shades in the tri-color led turning HIGH and LOW the appropriate color at the same time.

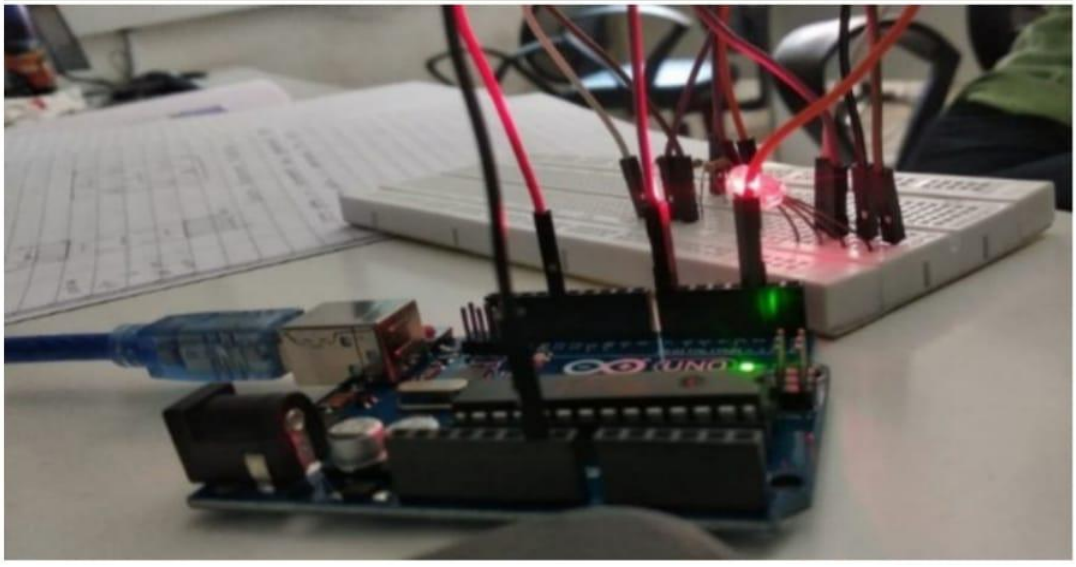
Schematic:



Output: (your circuit implementation and its working photo)







Code:

```
void setup()
{
  pinMode(11, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(13, OUTPUT);
}

void loop()
{
 digitalWrite(11, HIGH);
 delay(1000); // Wait for 1000 millisecond(s)
 digitalWrite(11, LOW);
 delay(1000); // Wait for 1000 millisecond(s)
 digitalWrite(12, HIGH);
 delay(1000); // Wait for 1000 millisecond(s)
 digitalWrite(12, LOW);
 delay(1000); // Wait for 1000 millisecond(s)
 digitalWrite(13, HIGH);
 delay(1000); // Wait for 1000 millisecond(s)
 digitalWrite(13, LOW);
 delay(1000); // Wait for 1000 millisecond(s)

}
```

Application:

Tri-Color LEDs are used in the new advanced display panels. They are highly efficient to create and reflect the exact color amount. They can be used in the digital media industries like in manufacturing of Television screen, Display Frames, etc. There are so many technologies which works on tri-color. One of them is Tri-luminous technology which used in TVs and is highly efficient to display variety of color shade in a very small space of a pixel. Pixel is one of the example where this phenomena comes in action. In one pixel there are such number of leds which creates a combination of lights and are capable to demonstrate the exact picture color tone. Now a days it's a world of color there were days when television comes only in the Black and White shade of pictures but now its totally changed. Day by day evolution of technology is creating the bigger impact on the digital industry and tri-color technologies is of them.

Conclusion:

By completion of the following task we are able to acquire the knowledge of how different colors are made by using only one led and controlling the led contrast to produce variety of color range. We are also able to know the different evolution of the technologies which are evolving day by day in the digital field. Thank you.
Your Sincerely,
Shashank Bagda