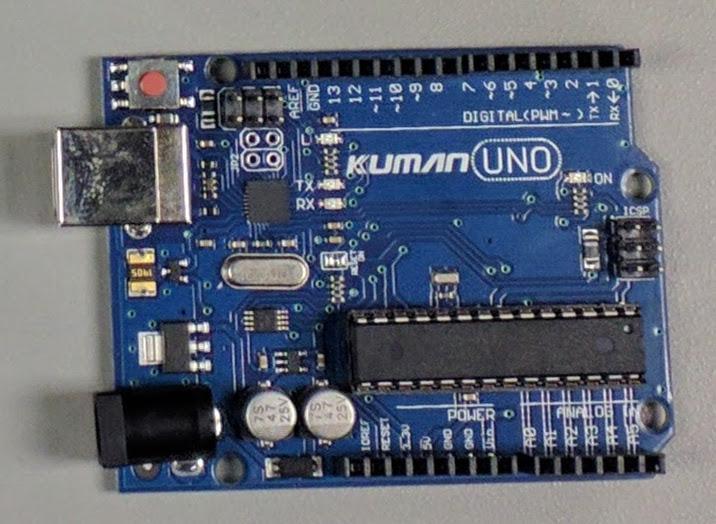
**iCREAT I: Module 3 - Homework:**

**Arduino with LED and Buzzer**

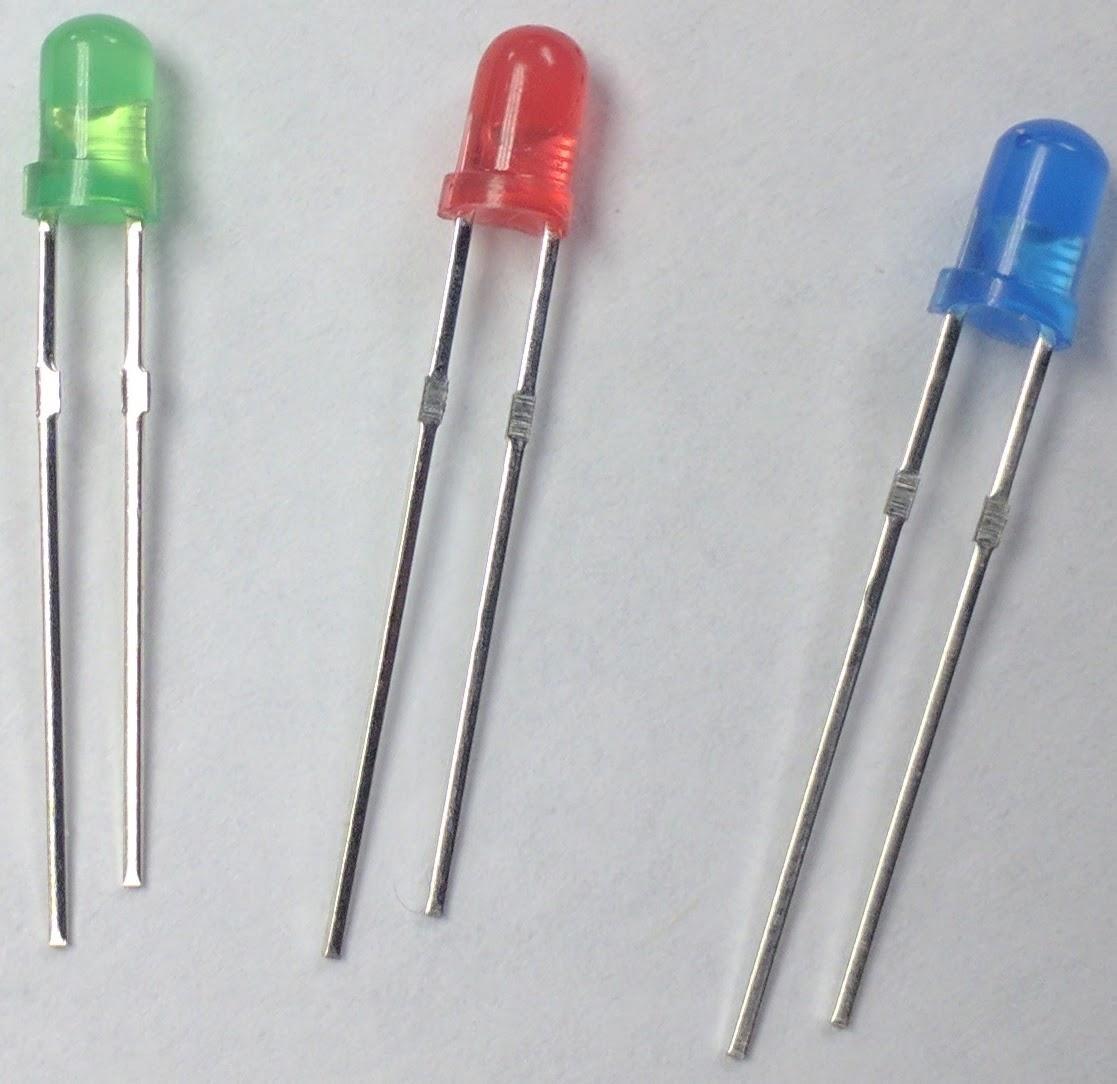
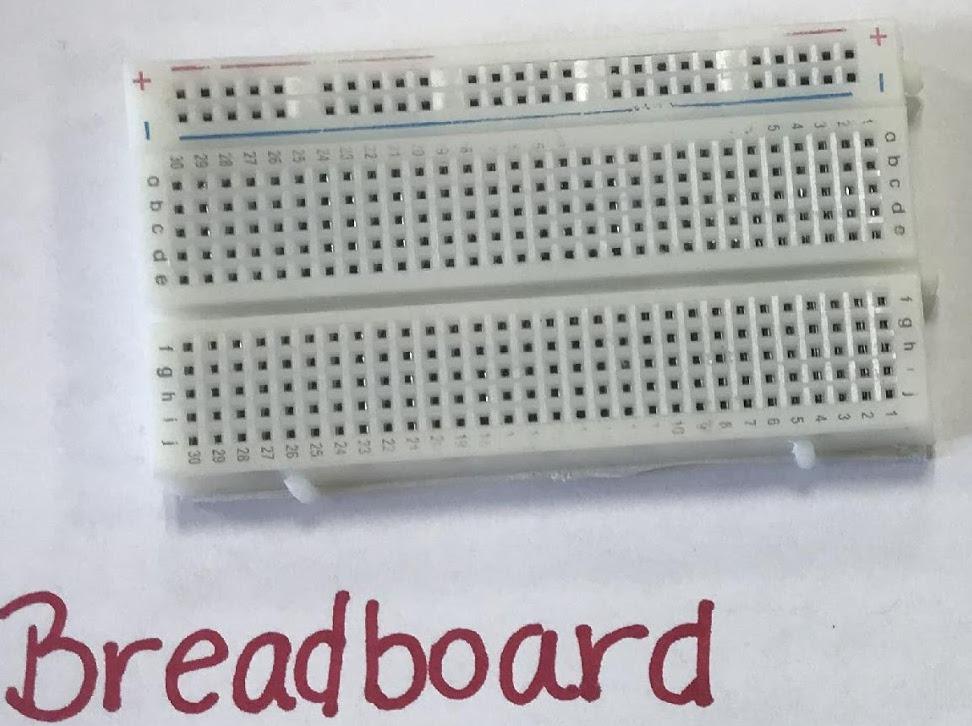
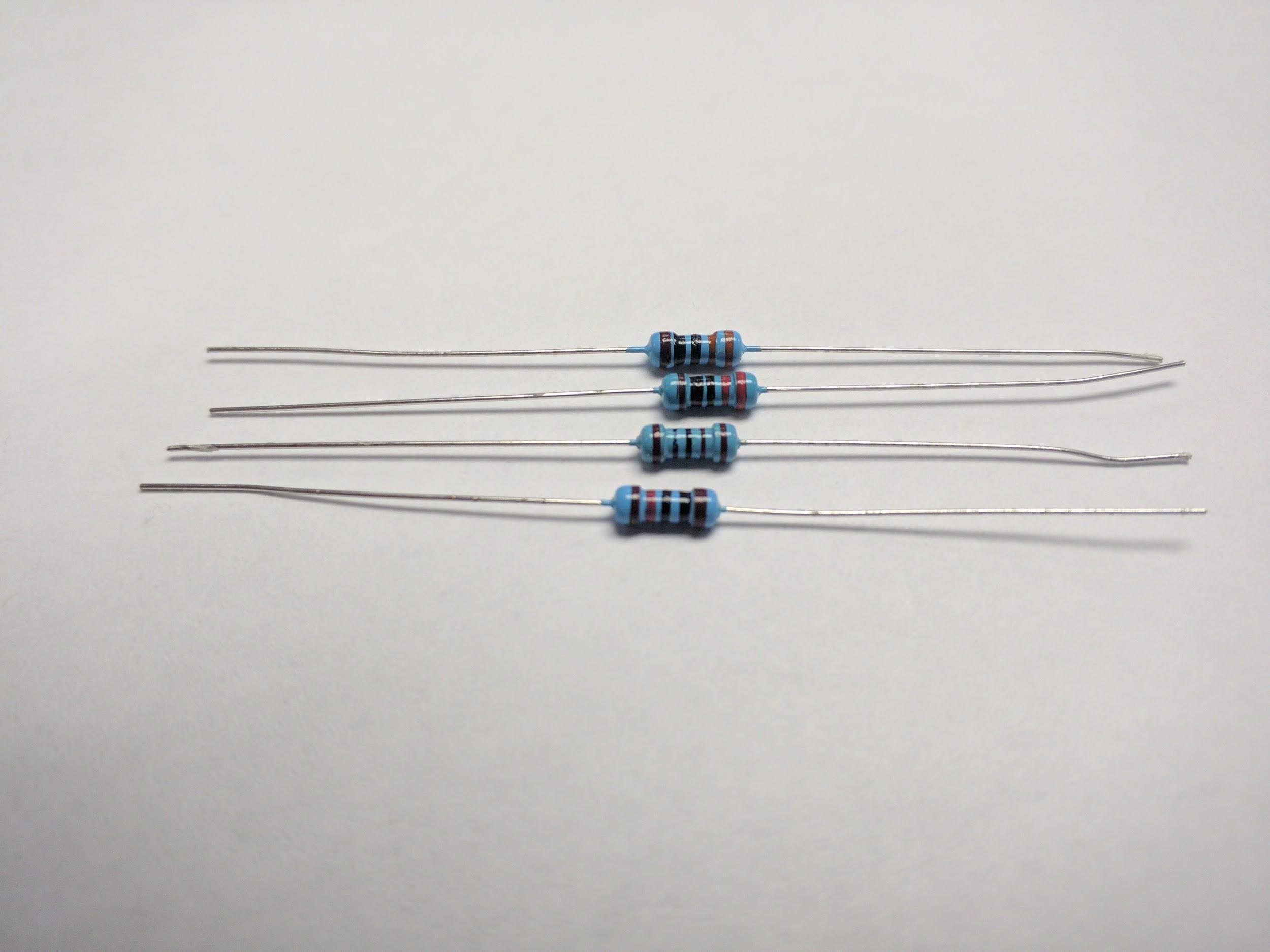


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# Objectives

* Solve problems using the Arduino and its components
* Draw diagrams to represent circuits before creating them
* Create circuits and program them using sketch
* Combine all the components to create interesting circuits
* Use variables.

# Required Resources:

* Access to the Arduino IDE and Tinkercad
* An Arduino UNO connected to a computer
* LEDs, resistors (330Ω, 100Ω, 10KΩ), a piezo buzzer, a breadboard, wires.
* Access to the iCREAT course
* Enough time to have fun!

**Part 1. LEDs**

Create a circuit that will light up **4 LEDs** one at a time starting from right to left and then turning off one at a time from left to right. Be creative.

1. **Simulate** your circuit and implement it. **USE VARIABLES**.
2. **Submit the following:** 
   1. A **link to your SHARED circuit simulation** in Tinkercad.
   2. A **picture of your physical circuit** with LEDs on.
   3. The **sketch in the Arduino IDE**.

**Part 2. Play a melody and light up LEDs**

Create a circuit that will play a melody and manipulate **3 LEDs** any way you wish.

1. **Simulate** your circuit and implement it. **USE VARIABLES**.
2. **Submit the following:**
3. A **link to your SHARED circuit simulation** in Tinkercad.
4. A picture of your **physical circuit** with LEDs on.
5. The **sketch in the Arduino IDE**.

Tutorials, Examples and help at <https://www.arduino.cc/en/Tutorial/BuiltInExamples>