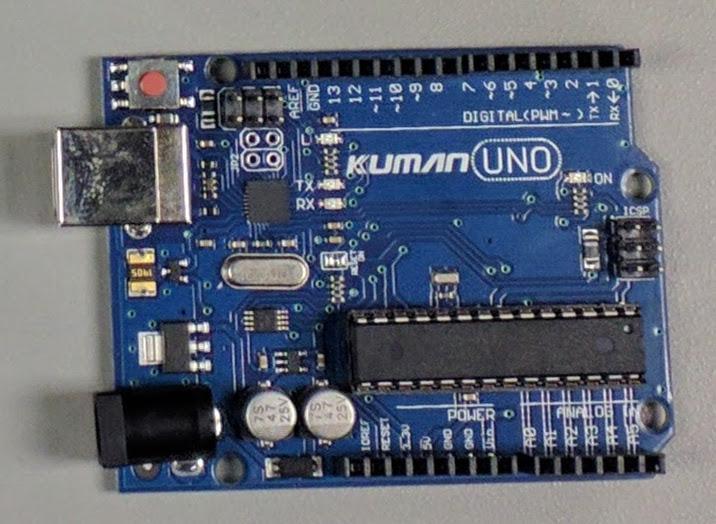
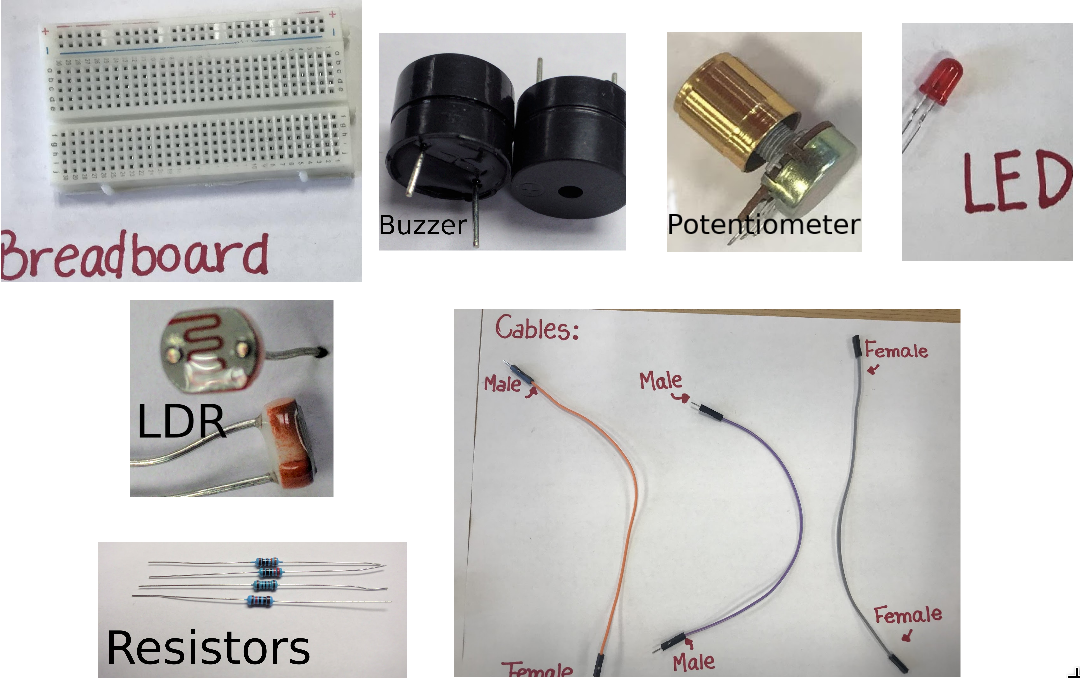
**iCREAT I: Module 4 - Homework:**

**Arduino, Sensors and potentiometer**



horizontal line

# Objectives

* Solve problems using the Arduino and its components
* Draw diagrams to represent circuits before creating them
* Create circuits and simulate them using Tinkercad.
* Implement them using a simple sketch
* Combine all the components to create interesting circuits

# Required Resources:

* Access to the Arduino IDE and Tinkercad
* An Arduino UNO connected to a computer
* LEDs, resistors (330Ω, 100Ω, 10KΩ), a piezo buzzer, jumper cables, a breadboard, LDR (light sensor), and potentiometer.
* Enough time to have fun!

**Part 1. The LDR and the Buzzer**

Create a circuit that will play tones based on the amount of light hitting an LDR. Be creative. Use variables.

1. **Provide a simulation** of your circuit. **Program it**.
2. **Submit your** completed working circuit (simulation, pictures of circuit and sketch).

**Part 2. The Potentiometer and LEDs**

Create a circuit that will control the number of LEDs (4) turned on based on the position of the potentiometer knob. Use variables.

1. **Provide a simulation** of your circuit. **Program it**.
2. **Submit your** completed working circuit (simulation, pictures of circuit and sketch).

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