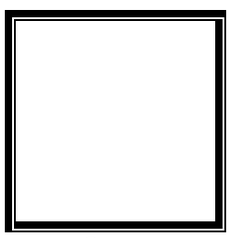
PAMANTASAN NG LUNGSOD NG MAYNILA
(University of the City of Manila)
Intramuros, Manila

Microprocessor Lab

Laboratory Activity No. 1
Familiarization with TinkerCAD



Score

Submitted by:
Albano, Laila B.
Sat 10am – 11am / CPE 0412.1 - 1

Date Submitted
16-09-2023

Submitted to:

Engr. Maria Rizette H. Sayo

1. Exercise

a. A process in Tinkercad where we can develop electronic circuits that can be quickly updated, modified and tested is called prototyping process.

b. In Tinkercad, start and stop simulation tests the working of the circuits and the components.

c. The device used to assemble and connect the various components is known as breadboard.

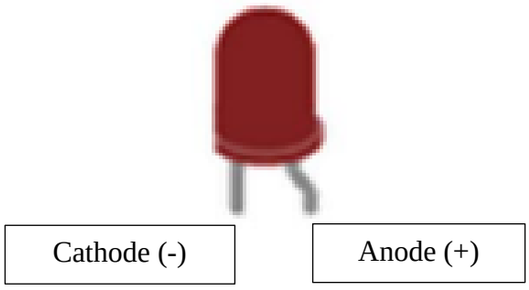
d. In an electronic circuit with LED, the positive end of the circuit should be connected to anode and negative end should be connected to cathode of the LED.

e. A resistor is used to restrict the flow of current to electrical components.

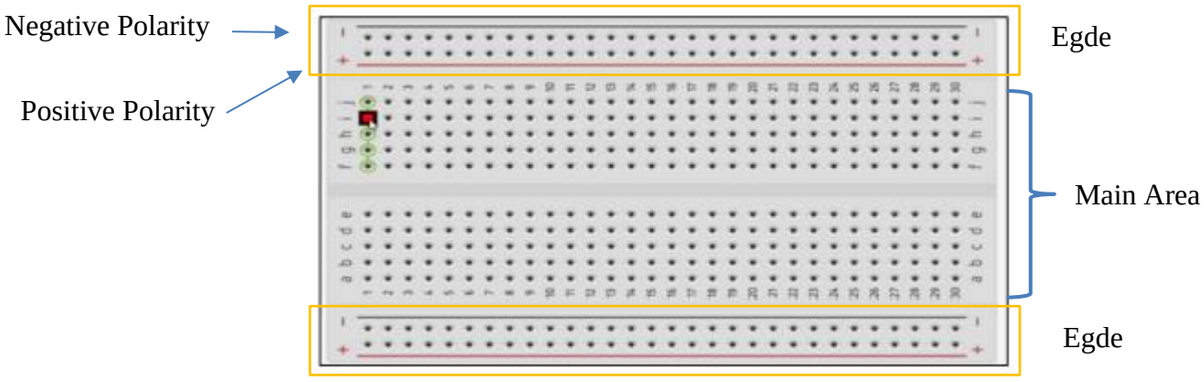
.

2. Label the following:

a. Anode and Cathode in a LED



b. Different parts of breadboard



c. List the electronic components used in a circuit assembly.

Resistor – It limits the movement of electric current within a circuit, ultimately causing a decrease in both voltage and current.

LED - A Light-Emitting Diode illuminates when electric current flows through it in the proper way.

Pushbutton - A circuit-closing switch that is activated when pressed.

Potentiometer - A resistor that has an adjustable resistance which can be modified by rotating a knob.

Capacitor - This circuit is designed to store and discharge electrical energy.

Slideswitch - There are two options for the switch: it can be either in an open state or in a closed state.

9V Battery - A commonly used battery ideal for powering high-demand devices such as motors.

Breadboard - Device used to assemble and connect the various components.

Arduino Uno R3 - A board with programming capabilities that allows you to create circuits with interactive functionalities.

NPN Transistor (BJT) - A device utilized to strengthen or control electronic signals. Frequently employed alongside motors.

Diode - Enables the passage of electricity in a singular direction.

Soil Moisture Sensor - The signal voltage of a sensor varies when it becomes moist.

Ultrasonic Distance Sensor - A device that utilizes sound waves to assess the distance between itself and an object.

Temperature Sensor (TMP36) - A device that generates varying voltages depending on the surrounding temperature.

Multimeter - An instrument designed to assess the voltage, current, and resistance within your electrical circuit.

Polarized Capacitor - A directional capacitor is employed to store and discharge electrical energy within a circuit.

Zener Diode - Similar to a standard diode, the zener diode allows current to pass through in the opposite direction if the zener voltage is attained.

IR Sensor - Identifies infrared signals transmitted by devices such as remote controls.

IC - An integrated circuit is a tiny electronic device that combines multiple electronic components on a semiconductor material. It revolutionized the electronics industry by enabling smaller, more powerful, and efficient devices.