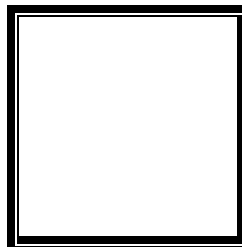




PAMANTASAN NG LUNGSOD NG MAYNILA
(University of the City of Manila)
Intramuros, Manila

Microprocessor Lab

Laboratory Activity No. 1
Familiarization with TinkerCAD



Score

Submitted by:
Malabago, Antonio Emmanuel C.
S 1:00-7:00PM / CPE 0412-2

Date Submitted
16-09-2023

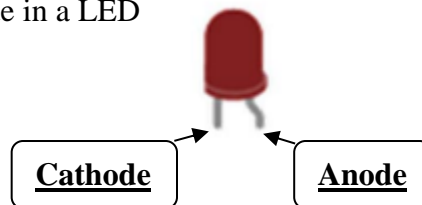
Submitted to:
Engr. Maria Rizette H. Sayo

1. Exercise

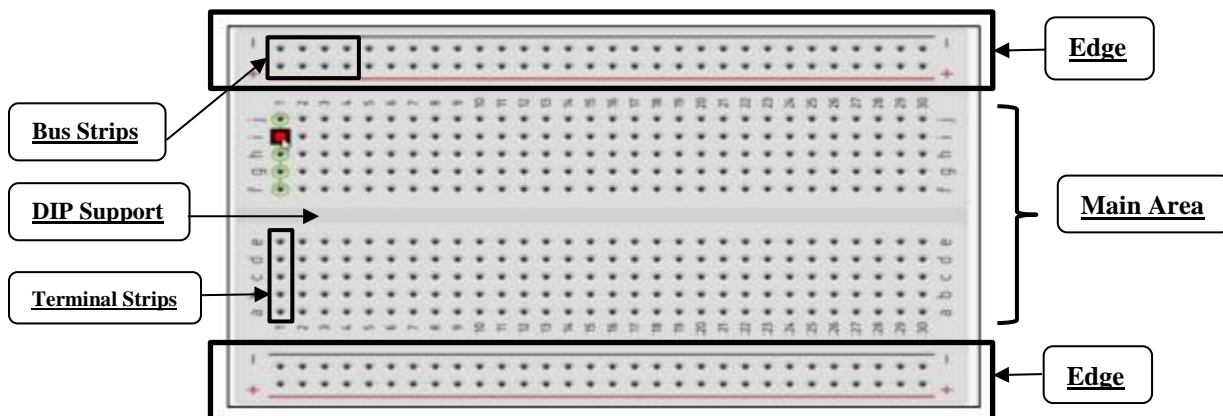
- A process in Tinkercad where we can develop electronic circuits that can be quickly updated, modified and tested is called **prototyping**.
- In Tinkercad, **simulation** tests the working of the circuits and the components.
- The device used to assemble and connect the various components is known as **breadboard**.
- 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.
- A **resistor** is used to restrict the flow of current to electrical components.

2. Label the following:

- Anode and Cathode in a LED



- Different parts of breadboard



- List the electronic components used in a circuit assembly.

- Breadboard** - a solderless platform on which components can be assembled and placed for prototyping before designing the actual PCB.
- Light Emitting Diodes (LEDs)** – a diode that emits light when a sufficient current flows through its filament and comes in different colors.
- Battery** – an energy storage device to power electronic components and low-power consumption microcontrollers such as Arduino Uno R3.
- Wire** - a thin and flexible metal used to conduct electrical current.
- Potentiometer – is a type of resistor that acts as a variable voltage divider and is usually used to manipulate the resistance of various components.
- Switch (push button)** - Controls the state of the electrical network, either ON (button is pressed) or OFF (not pressed).
- Buzzer** – an audio-signaling component that produces sound when a proper amount of voltage is applied.
- Capacitors** – used to store a small amount of energy for a limited time and typically used to smoothen the voltage ripple.
- Inductors** - used to temporarily store energy in a magnetic or filter radio frequency (RF) noise and are usually used in pairs to construct a step-up or step-down AC transformer.
- Resistors** – used to restrict or regulate the current in the circuit and commonly used to form voltage regulators in control systems.
- Diodes** – are used to block the current flow in one direction and are commonly used in rectification procedures where AC signals are converted into DC.
- Transistors** – used as a switching device that controls either current or voltage and amplifies the electronic signals.
- Integrated Circuits (ICs)** – a semiconductor package of electronic components used for specific functions, consisting of hundreds or thousands of transistors, capacitors, and resistors.