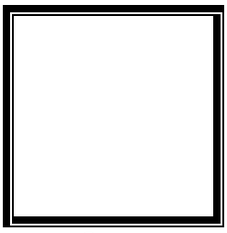
PAMANTASAN NG LUNGSOD NG MAYNILA
(University of the City of Manila)
Intramuros, Manila

Microprocessor Lab

Laboratory Activity No. 1
Familiarization with TinkerCAD



Score

Submitted by:
Manahan, Johnielle Mike T.
<SAT 1:00-4:00 PM> / <Section 2>

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 rapid prototyping.

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

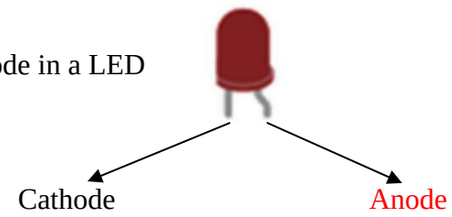
c. The device used to assemble and connect the various components is known as breadboard.

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.

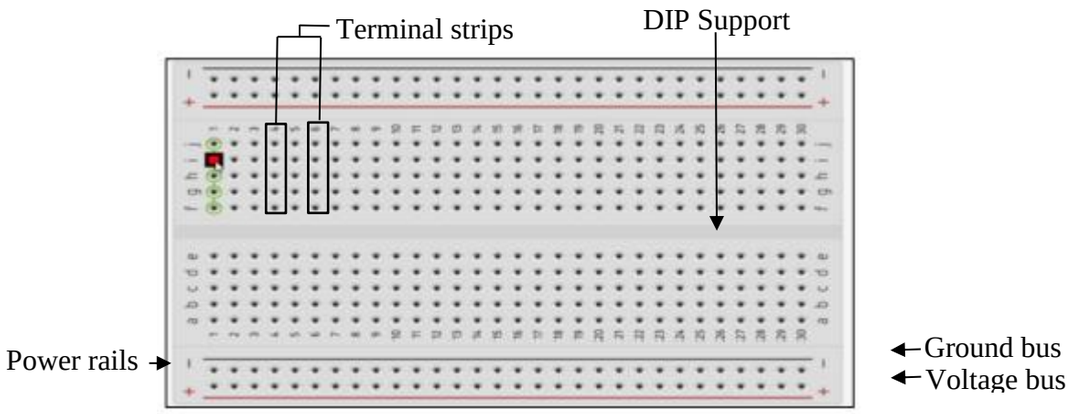
e. A resistor is used to restrict the flow of current to electrical components

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: Used to limit current and control voltage in a circuit.
- Capacitor: Stores and releases electrical energy.
- Inductor: Stores energy in a magnetic field.
- Diode: Allows current to flow in one direction only.
- LED (Light Emitting Diode): Emits light when current passes through it.
- Transistor: Amplifies or switches electronic signals.
- Integrated Circuit (IC): A chip that contains various electronic components and functions.
- Microcontroller: A small computer on a single integrated circuit used to control other components.
- Voltage Regulator: Maintains a stable output voltage from a varying input voltage.
- Op-Amp (Operational Amplifier): Used for signal amplification and other operations.
- Switch: Opens or closes a circuit to control the flow of current.
- Connector: Allows for easy connection and disconnection of components.
- Battery: Provides a source of electrical energy.
- Sensor: Measures physical properties like temperature, light, or motion.
- Transformer: Changes the voltage level of alternating current (AC).
- Crystal Oscillator: Generates precise clock signals for timing purposes.
- Fuse: Protects the circuit by breaking when there is excessive current.
- Relay: An electrically operated switch.
- Potentiometer: Variable resistor for adjusting voltage or current.
- Switching Regulator: Efficiently converts one voltage to another.

- Fuse Holder: Holds a fuse in place within a circuit.
- Resistor Network: Multiple resistors in one package.
- Connector Headers and Pins: Used for connecting wires and components.
- Electrolytic Capacitor: A type of capacitor with high capacitance.
- Varistor: Protects against voltage spikes and surges.