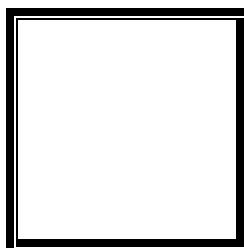




PAMANTASAN NG LUNGSOD NG MAYNILA
(University of the City of Manila)
Intramuros, Manila

Microprocessor Lab

Laboratory Activity No. 1
Familiarization with TinkerCAD



Score

Submitted by:
Santiago, Fernand D.
Sat 1:00-4:00PM / CpE-412-2

Date Submitted
16-09-2023

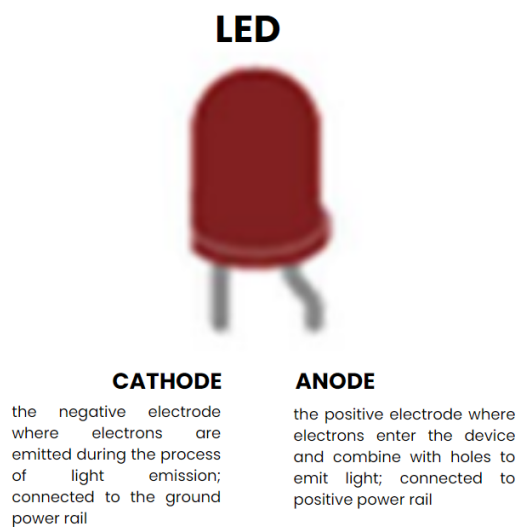
Submitted to:
Engr. Maria Rizette H. Sayo

1. Exercise

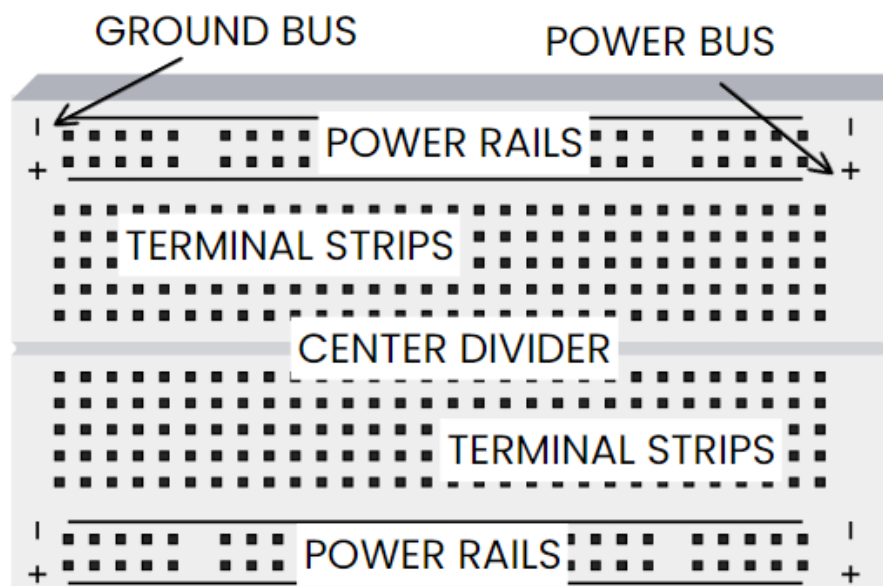
- A process in Tinkercad where we can develop electronic circuits that can be quickly updated, modified, and tested is called digital prototype.
- In Tinkercad, simulation tests the working of the circuits and the components.
- The device used to assemble and connect the various components is known as 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



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

The following electronic components are commonly used in a circuit assembly:

- **Resistor:** A resistor limits the flow of current in a circuit, controlling voltage levels and protecting components.
- **Capacitor:** A capacitor stores and releases electrical energy, often used to filter signals or smooth voltage.
- **Inductor:** An inductor resists changes in current flow and is used in filters, transformers, and energy storage.
- **Diode:** A diode allows current to flow in only one direction, used in rectifiers and for voltage regulation.
- **Transistor:** A transistor amplifies and switches electronic signals in a circuit, serving various functions.
- **LED (Light Emitting Diode):** An LED emits light when current flows through it, commonly used for indicators and displays.
- **Integrated Circuit (IC):** An IC is a complex assembly of electronic components on a single chip, performing various functions like amplification, processing, or memory storage.
- **Switch:** A switch opens or closes a circuit to control the flow of current.
- **Relay:** A relay is an electrically operated switch that controls high-voltage circuits with a low-voltage control signal.
- **Fuse:** A fuse is a safety device that breaks the circuit when current exceeds a specified value, protecting components from overcurrent.
- **Transformer:** A transformer changes the voltage level of an alternating current (AC) signal for power distribution and isolation.
- **Voltage Regulator:** A voltage regulator maintains a stable output voltage, often used to power sensitive components.
- **Potentiometer:** A potentiometer is a variable resistor used to adjust voltage or control the position of a mechanical device.
- **Sensor:** A sensor detects and measures physical properties like temperature, light, or motion.
- **Microcontroller:** A microcontroller is a small computer on a chip that controls and manages various tasks in electronic systems.