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:
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S 1:00-7:00 / CPE 0412-2

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Submitted to:

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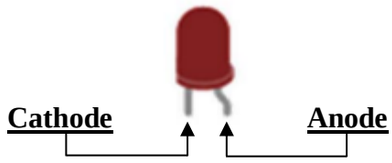
1. Exercise

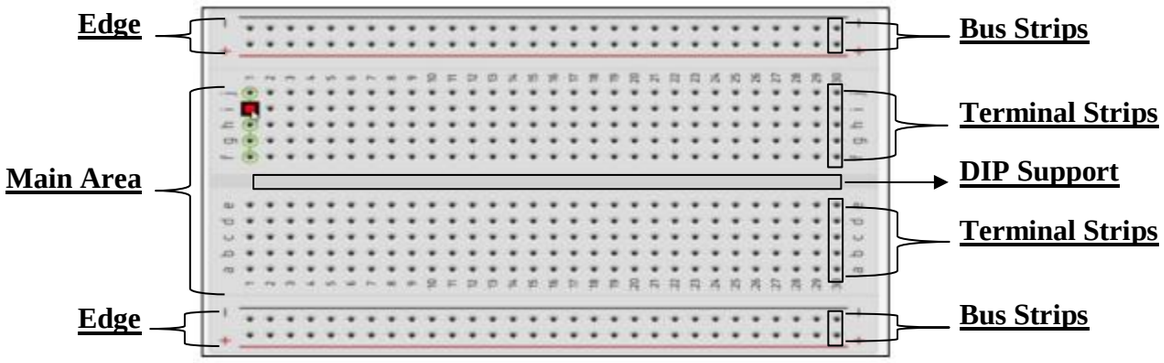
a. A process in Tinkercad where we can develop electronic circuits that can be quickly updated, modified and tested is called **prototyping**.
b. In Tinkercad, **simulation** tests the working of the circuits and the components.
c. The device used to assemble and connect the various components is known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

i. **Battery cell / power supply:** Components that supply voltage and power to the circuit.
ii. **Electrical wire / cable:** Components that conducts electrical current to connect components and circuits.
iii. **Breadboard:** Component that holds different electrical and electronic components.
iv. **Resistor:** Component that opposes and reduces current flow.
v. **Capacitor:** Component that stores energy via electric charge.
vi. **Inductor:** Component that stores energy via magnetic field.
vii. **Transistor:** Component that amplifies, switches, and processes signals.
viii. **Diode:** Component that allows current flow in one direction.
ix. **Light emitting diode (LED):** Component that emits light energy when current flows through it.
x. **Light bulb:** Component that generates a light glow when required voltage is present.
xi. **Integrated circuit (ICs):** Component on a single chip that performs logic operations, amplification, etc.
xii. **Potentiometer:** Component that allows for adjustable resistance.
xiii. **Push button:** Component that turns on when pressed and off when released.
xiv. **Switch:** Component that allows current when close and disables it when open.
xv. **Fuse:** Component that protects the circuit from overcurrent through disconnection.