**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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**Sat 10:00AM – 1:00PM / CPE 0412 – 1.1**

*Date Submitted*
**16-09-2023**

*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, Start/Stop Simulation tests the working of the circuits and the components.

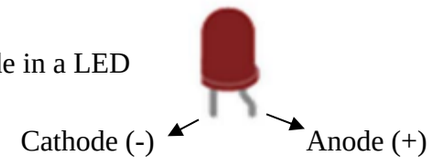
c. The device used to assemble and connect the various components is known as breadboard.

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.

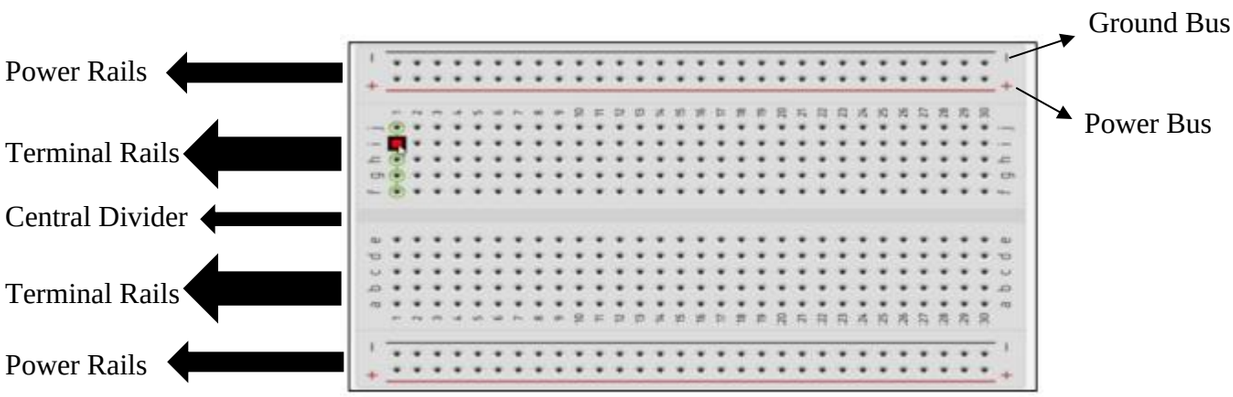
e. A resistor is used to restrict the flow of current to electrical components

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

1. Resistor: A resistor is a device that slows down or controls the flow of electricity.
2. LED: An LED is a light that comes from a semiconductor material and glows when electricity flows through it.
3. Push button: A push button is a switch that turns on a circuit when you press it and often turns it off when you release it.
4. Potentiometer: A potentiometer is a variable resistor that can be used to control the amount of electricity in a circuit.
5. Capacitor: A capacitor is an electronic device that stores electricity.
6. Slideswitch: A slideswitch is a switch that can be moved to different positions to control a circuit.
7. 9V Battery: A 9V battery is a battery that provides 9 volts of electricity.
8. Coin Cell 3V Battery: A coin cell battery is a small, round battery that provides 3 volts of electricity.
9. 1.5V Battery: A 1.5V battery is a battery that provides 1.5 volts of electricity.
10. Breadboard: A breadboard is a tool that allows you to build electronic circuits without soldering.
11. Micro:bit: A Micro:bit is a small, easy-to-use microcontroller that is designed for educational purposes.
12. Arduino Uno R3: An Arduino Uno R3 is an open-source microcontroller board that can be used to create digital devices and interactive projects.
13. Vibration Motor: A vibration motor is a motor that creates vibrations, often used in mobile phones for alerts.
14. DC Motor: A DC motor is a motor that converts direct current electrical energy into mechanical energy.

15. Micro Servo: A micro servo is a small, motorized device with a controllable output shaft position.
16. Hobby Gearmotor: A hobby gearmotor is a motor that is designed for hobbyist projects and converts electrical energy into motion.
17. NPN Transistor (BJT): An NPN transistor is a type of transistor that allows current to flow when a positive voltage is applied to its base.
18. RGB LED: An RGB LED is a light-emitting diode that can produce a range of colors by combining red, green, and blue light.
19. Diode: A diode is a semiconductor device that allows current to flow in only one direction.
20. Photoresistor: A photoresistor is a resistor whose resistance changes based on the amount of light it receives.
21. Soil Moisture Sensor: A soil moisture sensor is a device that measures the amount of water in the soil.
22. Ultrasonic Distance Sensor: An ultrasonic distance sensor is a sensor that uses ultrasonic waves to measure distance.
23. PIR Sensor: A PIR sensor is a motion sensor that detects moving objects, particularly humans, by sensing infrared radiation.
24. Piezo Buzzer: A piezo buzzer is a device that produces sound through the piezoelectric effect.
25. Temperature Sensor: A temperature sensor is a device that measures temperature and produces an analog voltage.
26. Multimeter: A multimeter is a device that is used to measure voltage, current, and resistance in electronic circuits.