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

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

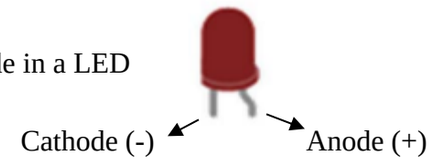
c. The device used to assemble and connect the various components is known as breadboard.

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.

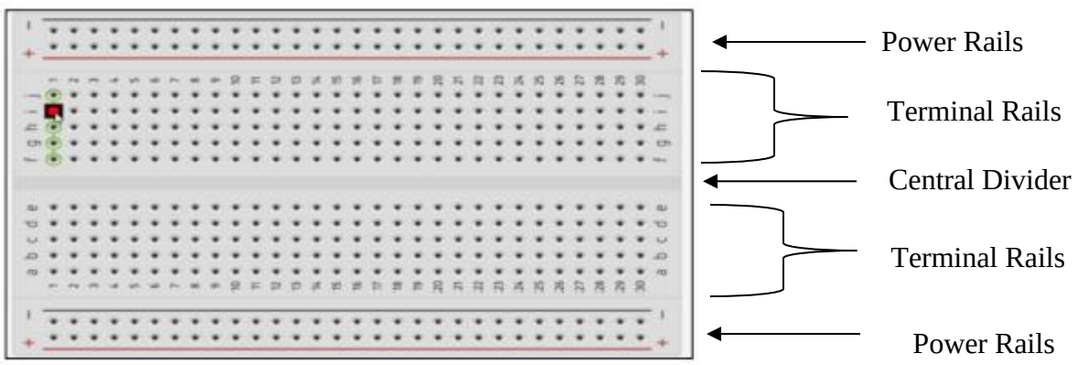
e. A resistor is used to restrict the flow of current to electrical components

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 component designed to impede or regulate the flow of electrical current.
2. LED - A light source made of semiconductor material that emits light when an electrical current passes through it.
3. Push button - A switch that completes an electrical circuit when pressed and often breaks the circuit when released.
4. Potentiometer - A variable resistor utilized to control the current within a circuit.
5. Capacitor - An electronic component that stores electrical energy in an electric field.
6. Slideswitch - A switch whose handle can be slid into various positions to control the circuit.
7. 9V Battery - A battery supplying an electrical potential of 9 volts.
8. Coin Cell 3V Battery - A compact battery commonly used in small electronic devices, providing 3 volts.
9. 1.5V Battery - A battery offering an electrical potential of 1.5 volts.
10. Breadboard - A tool enabling circuit prototyping without the need for soldering.
11. Micro:bit - A small, versatile microcontroller designed for educational purposes and beginners in electronics.
12. Arduino Uno R3 - An open-source microcontroller board used for creating digital devices and interactive projects.
13. Vibration Motor - A motor that generates vibrations, often used in mobile devices for alerts.
14. DC Motor - A device converting direct current electrical energy into mechanical energy.
15. Micro Servo - A small, motorized device with a controllable output shaft position.

16. Hobby Gearmotor - A motor suitable for hobbyist projects, converting electrical energy into motion.
17. NPN Transistor (BJT) - A type of bipolar junction transistor that permits current flow when a positive voltage is applied to its base.
18. RGB LED - A light-emitting diode capable of producing a range of colors by combining red, green, and blue light.
19. Diode - A semiconductor allowing current flow in only one direction.
20. Photoresistor - A resistor whose resistance changes based on the amount of light it receives.
21. Soil Moisture Sensor - A device measuring the moisture content in soil.
22. Ultrasonic Distance Sensor - A sensor determining distance using ultrasonic waves.
23. PIR Sensor - A motion sensor detecting moving objects, particularly humans, through infrared radiation.
24. Piezo Buzzer - A device generating sound through the piezoelectric effect.
25. Temperature Sensor - A sensor measuring temperature and producing an analog voltage.
26. Multimeter - An instrument used to measure voltage, current, and resistance in electronic circuits.