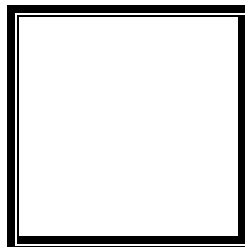




PAMANTASAN NG LUNGSOD NG MAYNILA
(University of the City of Manila)
Intramuros, Manila

Microprocessor Lab

Laboratory Activity No. 1
Familiarization with TinkerCAD



Score

Submitted by:
Ariega, Reginald A.
Sat 10:00AM – 1:00PM / CPE 0412 – 1.1

Date Submitted
16-09-2023

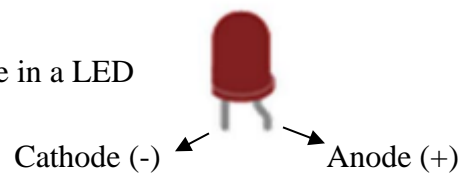
Submitted to:
Engr. Maria Rizette H. Sayo

1. Exercise

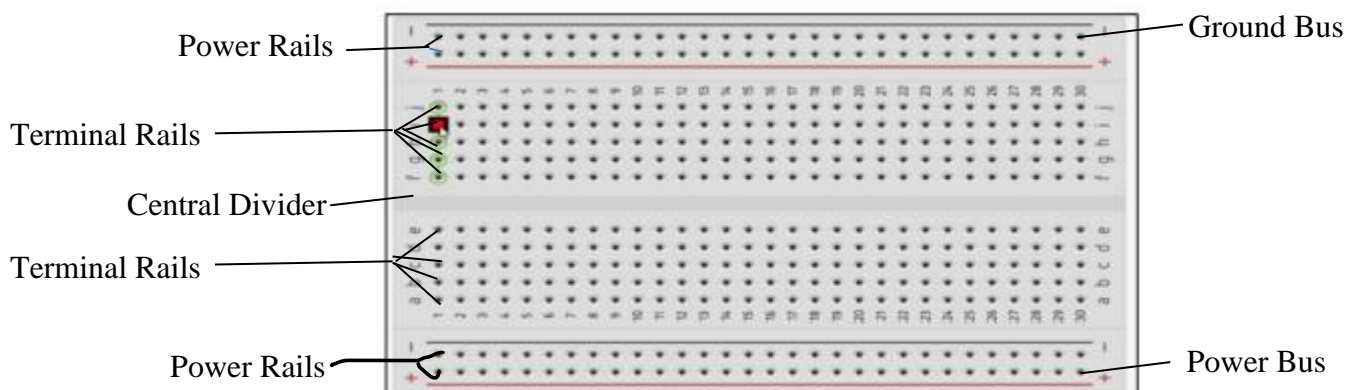
- A process in Tinkercad where we can develop electronic circuits that can be quickly updated, modified and tested is called prototyping.
- In Tinkercad, start/stop simulation tests the working of the circuits and the components.
- The device used to assemble and connect the various components is known 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
1. PIR Sensor - Utilizes infrared radiation to detect changes in the nearby environment, often spotting moving objects like humans.
 2. Multimeter - An analytical instrument gauging electrical properties such as voltage, current, and resistance in circuits.
 3. Diode - An electronic element allowing current to traverse in only a singular direction.
 4. Resistor - A passive component that introduces a specific resistance to the electric current flow.
 5. Soil Moisture Sensor - Utilizes capacitance to measure water content in soil, providing insights for agriculture or gardening.
 6. Vibration Motor - An apparatus specifically designed to produce a vibrating effect, prevalent in mobile devices for notifications.
 7. Push button - An electromechanical component that makes or breaks circuit connections upon depression.
 8. NPN Transistor (BJT) - A type of transistor that regulates current based on a voltage applied to its base terminal.
 9. RGB LED - A tricolor diode that, when powered, can manifest a wide spectrum of colors.
 10. 9V Battery - A power storage unit that delivers an electrical potential difference of 9 volts.
 11. Slideswitch - A type of switch where a slider is moved to open or close circuit pathways.
 12. Potentiometer - A resistor with an adjustable wiper, providing a variable resistance value.
 13. Capacitor - A component storing potential energy in an electrostatic field, releasing it when necessary.
 14. Piezo Buzzer - A sound-producing device utilizing the piezoelectric effect to generate tones.
 15. Arduino Uno R3 - A programmable board that acts as the brain for various interactive electronic projects.
 16. Micro Servo - A compact actuation device that offers rotational or linear movement under command.
 17. Photoresistor - A resistor where resistance varies inversely with the intensity of incoming light.
 18. 1.5V Battery - A chemical storage unit that provides an electric potential of 1.5 volts when connected.
 19. Breadboard - A reusable solderless device where electronic components can be placed for prototyping.
 20. LED - A diode that emits light when electric current is applied.
 21. Ultrasonic Distance Sensor - Uses high-frequency sound waves to deduce the distance from the sensor to an object.
 22. DC Motor - Converts electrical energy from a direct current source into mechanical energy via rotation.
 23. Coin Cell 3V Battery - A disc-shaped battery that offers a 3-volt potential, often found in small electronics.
 24. Micro:bit - A compact educational microcontroller with built-in features aiding in the learning of electronics.
 25. Hobby Gearmotor - An optimized motor for DIY endeavors, adept at converting electrical energy into mechanical motion.
 26. Temperature Sensor - A device that registers temperature fluctuations and outputs them as an electrical value.