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.

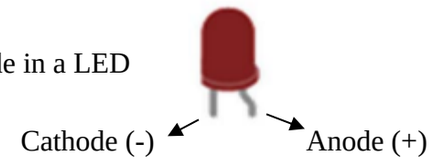
c. The device used to assemble and connect the various components is known as breadboard.

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.

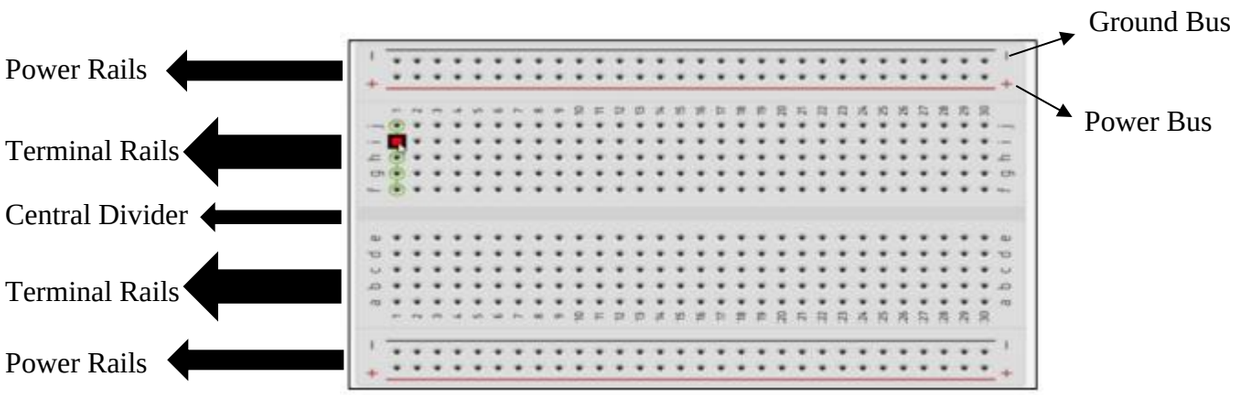
e. A resistor is used to restrict the flow of current to electrical components

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. Piezo Buzzer - Makes sound due to piezoelectric effect.
2. Ultrasonic Distance Sensor - Measures distance with sound waves.
3. 9V Battery - Gives 9 volts of power.
4. Hobby Gearmotor - Motor for DIY projects.
5. DC Motor - Changes electric energy to motion.
6. Temperature Sensor - Checks temperature, gives voltage output.
7. Potentiometer - Adjusts current in a circuit.
8. LED - Lights up when powered.
9. Micro Servo - Small motor with set position control.
10. NPN Transistor (BJT) - Allows current with positive voltage on base.
11. Diode - Directs current in one direction.
12. Multimeter - Measures circuit voltage, current, resistance.
13. Breadboard - Tool for no-solder circuit building.
14. Arduino Uno R3 - Board for digital and interactive projects.
15. RGB LED - LED with red, green, and blue color combinations.
16. Resistor - Regulates electrical current.
17. Micro:bit - Microcontroller for learning electronics.
18. Slideswitch - Switch with a sliding action.
19. Vibration Motor - Creates vibrations for alerts.
20. Capacitor - Stores electric energy.
21. Push button - Connects or disconnects a circuit when pressed.
22. Soil Moisture Sensor - Checks water level in soil.
23. PIR Sensor - Detects motion using infrared.
24. 1.5V Battery - Battery with 1.5-volt output.
25. Coin Cell 3V Battery - Small battery giving 3 volts.
26. Photoresistor - Changes resistance with light level.