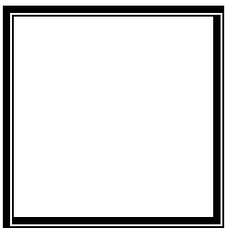
PAMANTASAN NG LUNGSOD NG MAYNILA

(University of the City of Manila)
Intramuros, Manila

Microprocessor Lab

Laboratory Activity No. 1
Familiarization with TinkerCAD



Score

Submitted by:
Opeña, Ralph Christopher F.
10:00 AM – 1:00 PM / CPE 0412.1-1

Date Submitted
16-09-2023

Submitted to:

Engr. Maria Rizette H. Sayo

1. Exercise

a. A process in Tinkercad where we can develop electronic circuits that can be quickly updated, modified and tested is called prototyping process.

b. In Tinkercad, star/stop simulationt tests the working of the circuits and the components.

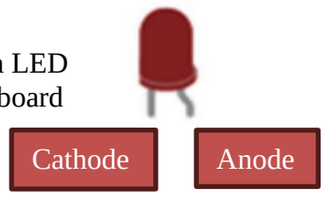
c. The device used to assemble and connect the various components is known as breadboard

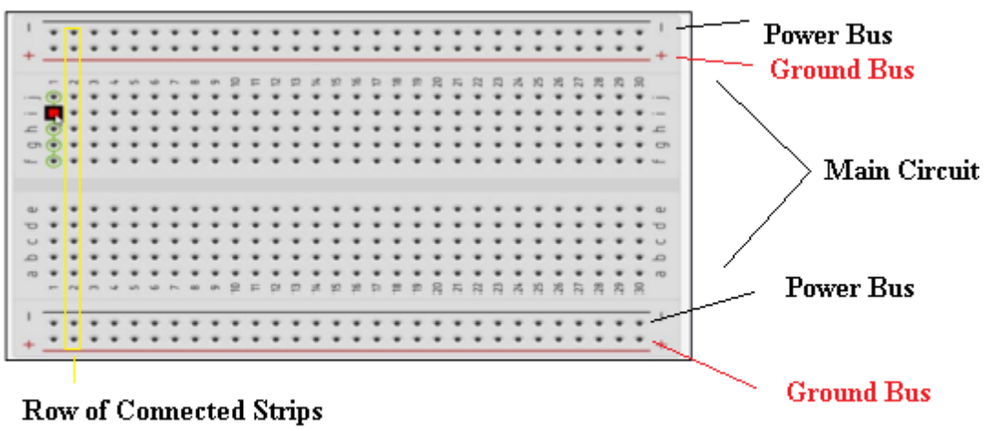
d. In an electronic circuit with LED, the positive end of the circuit should be connected to anode and negative end should be connected to cathode of the LED.

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.

- Resistor
  - Used to limit the flow of current in a circuit.
- Capacitor
  - Stores electrical energy and can release it when needed.
- Diode
  - Components that conduct electricity in only one direction.
- LED
  - A semiconductor light source that emits light when current flows through it.
- Transistor
  - Amplifies or switches electronic signals.
- Integrated Circuit
  - a semiconductor or chip with a microelectronic computer electronic circuit embedded in it
- Inductor
  - Stores energy in a magnetic field and resists changes in current.
- Switch
  - Allows you to open or close a circuit manually.
- Potentiometer
  - A variable resistor is used to adjust the current flowing in a circuit.
- Fuse
  - Protects a circuit by breaking the connection if there is excessive current.
- Relay
  - An electromechanical switch controlled by an electrical signal.
- Battery

    - Provides a source of electrical energy.
- Transformer
    - Changes the voltage level of AC signals.
- Connector
    - Used to physically connect wires and components.
- Sensor
    - detects environmental changes (such as temperature and light sensors).
- Microcontroller
    - A tiny computer on a chip that many electronic gadgets utilize to regulate and process data.
- DC Motor
    - A device that converts direct current electrical energy into mechanical energy.
- Arduino Uno R3
    - An open-source microcontroller board used for building digital devices and interactive projects.
- Multimeter
    - Used to test circuit resistance, amps, and voltage.
- Micro Servo
    - A small motor device with an output shaft whose position can be controlled precisely.

References:

Electronic Components Function | Basic Components / Parts & Function (electronicsandyou.com)