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:
Colengco, Carlo Louise P.
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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 SIMULATION.

b. In Tinkercad, DESIGN AND 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.

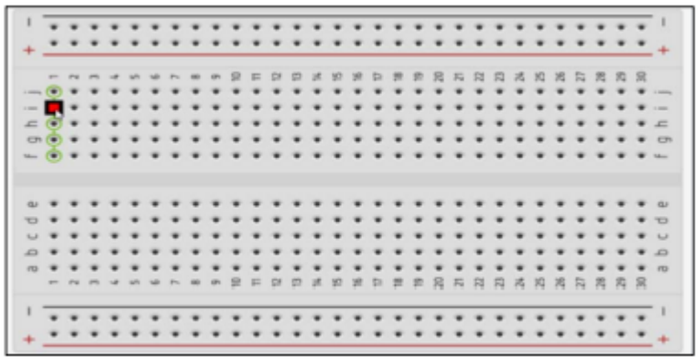
2. Label the following:

a. Anode and Cathode in a LED

ANODE

CATHODE

b. Different parts of breadboard



EDGE

MAIN AREA

EDGE

c. List the electronic components used in a circuit assembly

Certainly! Here is a list of common electronic components used in a circuit assembly, along with short descriptions of their functions:

1. Resistor: Restricts the flow of current, providing resistance to the electrical circuit.

2. Capacitor: Stores and releases electrical energy, often used for filtering and timing applications.

3. Inductor: Stores energy in a magnetic field and resists changes in current flow.

4. Diode: Allows current to flow in one direction while blocking it in the other direction, commonly used as a rectifier.

5. Transistor: Amplifies and switches electronic signals in a circuit.

6. Integrated Circuit (IC): A miniaturized electronic circuit containing multiple components and functions, such as microcontrollers and microprocessors.

7. Resistor Network: Multiple resistors packaged together in a single component, often used for voltage division and signal conditioning.

8. Voltage Regulator: Maintains a constant output voltage despite fluctuations in input voltage, essential for powering sensitive components.

9. LED (Light Emitting Diode): Emits light when current flows through it, used for indicators, displays, and lighting.

10. Switch: Opens or closes a circuit to control the flow of current.

11. Fuse: Protects the circuit by melting when current exceeds a specified limit, preventing damage to other components.

12. Relay: An electrically operated switch that controls high-current or high-voltage circuits with a low-power signal.

13. Transformer: Transfers electrical energy between two or more coils, typically used for voltage conversion and isolation.

14. Crystal Oscillator: Generates precise and stable clock signals for timing purposes in digital circuits.

15. Potentiometer: Adjustable resistor that can vary resistance, often used for volume control and tuning.

16. Sensor: Converts physical or environmental parameters (e.g., temperature, light, pressure) into electrical signals.

17. Connector: Establishes electrical connections between components or external devices.

18. Fuse Holder: A device that secures and houses a fuse in a circuit.

19. Terminal Block: Provides a convenient way to connect and secure multiple wires or conductors.

20. Thermistor: A resistor whose resistance varies with temperature, often used for temperature sensing.

21. IC Socket: A socket that allows easy insertion and removal of integrated circuits.

22. Varistor: Protects against voltage spikes and surges by changing resistance with voltage changes.