VARENDRA UNIVERSITY

Department of Computer Science and Engineering

LAB REPORT - 01

Course Title: Microcontroller, Computer Peripherals and Interfacing Lab

Course Code: CSE-426

Submission Date: 01– 06- 2021

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Experiment No: 01

Experiment Name: Basic circuit simulation using Proteus Software and Arduino Introduction.

Theory: **simulation software:** Simulation is a decision analysis and support tool. Simulation software allows you to evaluate, compare and optimize alternative designs, plans and policies. As such, it provides a tool for explaining and defending decisions to various stakeholders.

Arduino simulator: The Arduino simulator is a virtual portrayal of the circuits of Arduino in the real world. We can create many projects using a simulator without the need for any hardware.

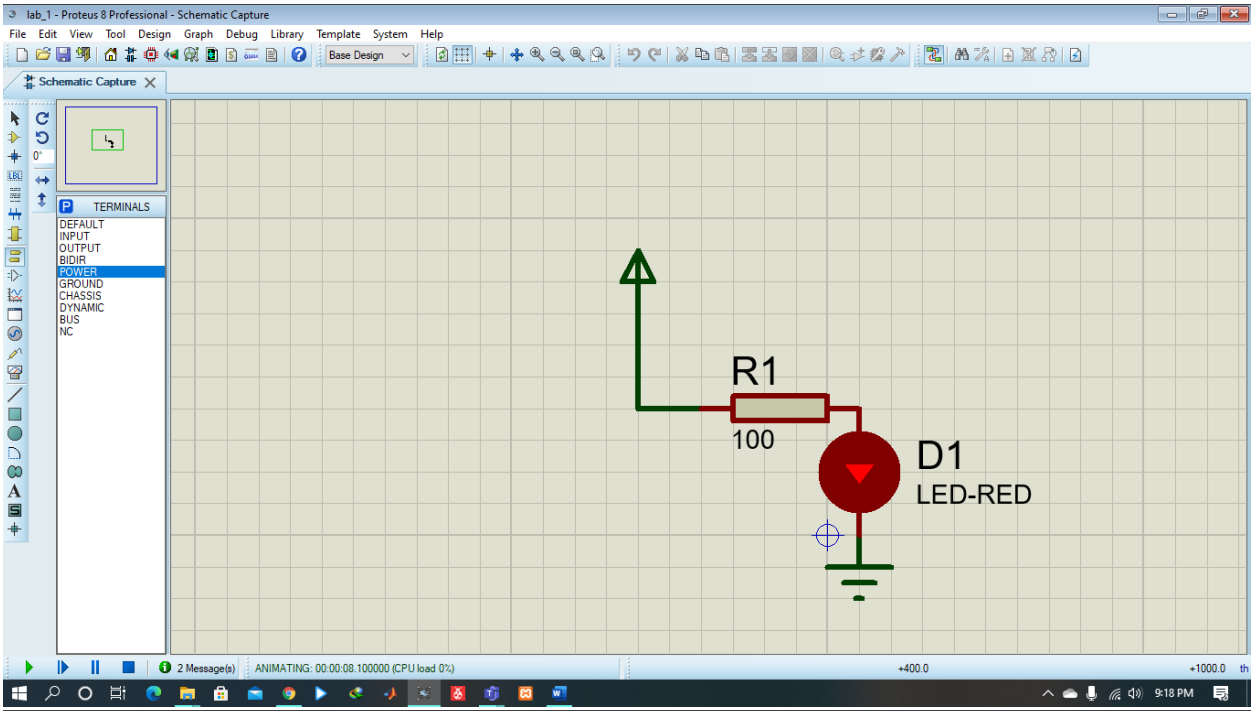
The Simulator helps beginner and professional designers to learn, program, and create their projects without wasting time on collecting hardware equipments.

Proteus: The Proteus is an electronic circuit design software which includes a schematic capture, simulation and PCB Layout modules. But generally now a days Eagle CAD is highly preferred over Proteus for PCB designing because of its flexibility.

Even though if are not using for PCB designing u can view the PCB layout of the component individually while selecting the component it helps during the soldering of components in PCB.

Tinkercad: Tinkercad has established itself as a worthy introduction to computer-aided design (CAD). It's a free and intuitive web-based CAD program that anyone can use. In fact, if you want to get started with Tinkercad, we even have a beginner's tutorial to get you going.

Screen Shot:


lab_1 - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Schematic Capture
TERMINALS
DEFAULT
INPUT
OUTPUT
BIDIR
POWER
GROUND
CHASSIS
DYNAMIC
BUS
NC
R1
100
D1
LED-RED
2 Message(s)
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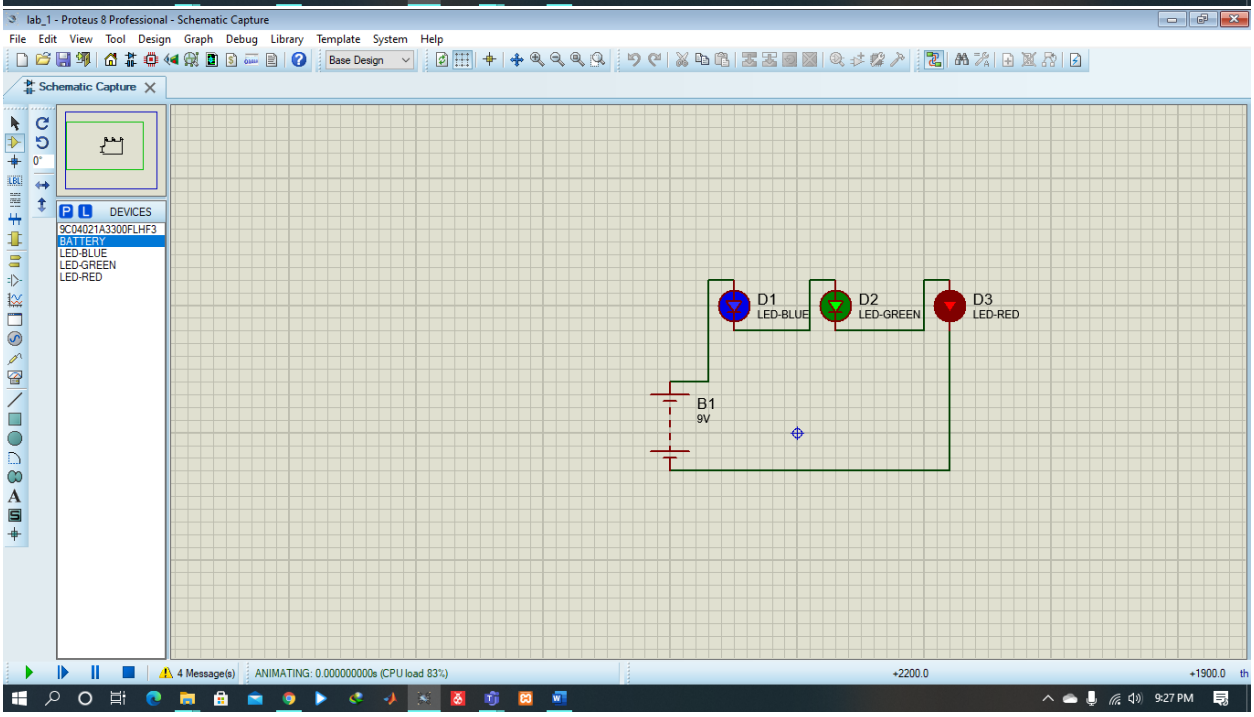
9:18 PM


lab_1 - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Schematic Capture
DEVICES
9C04021A3300FLHF3
BATTERY
LED-BLUE
LED-GREEN
LED-RED
D1
LED-BLUE
D2
LED-GREEN
D3
LED-RED
B1
9V
4 Message(s)
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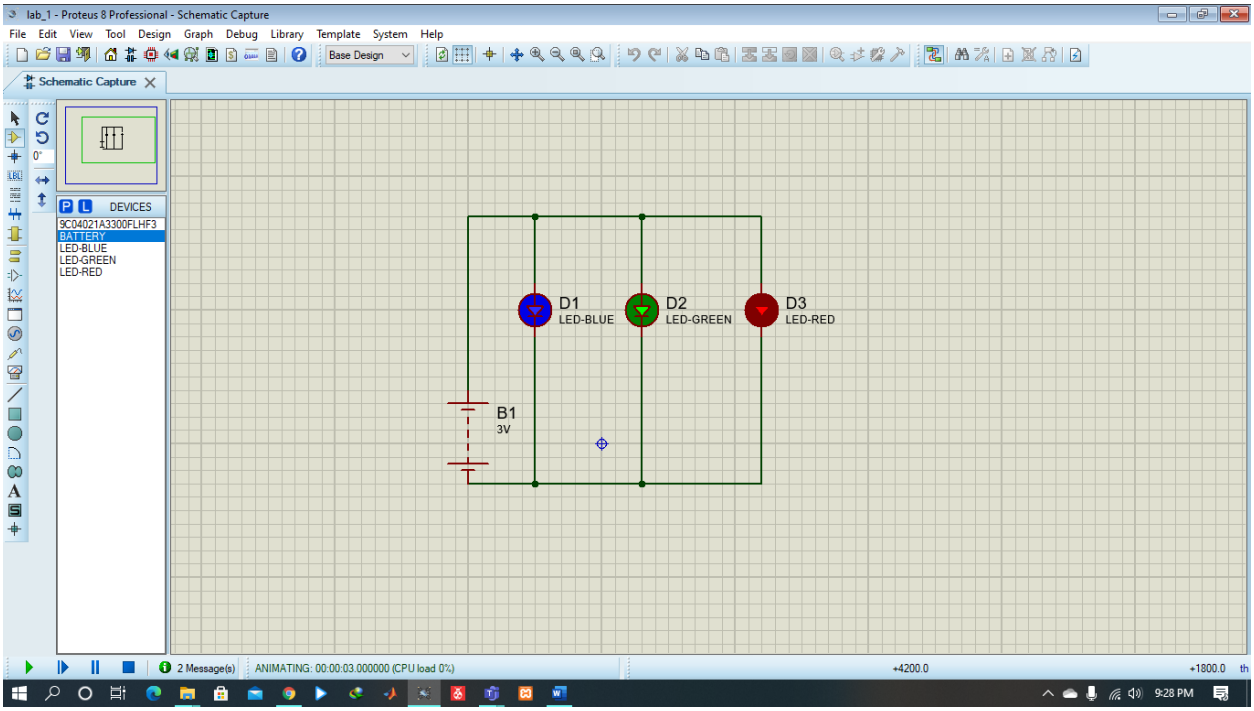
9:27 PM


lab_1 - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Schematic Capture
DEVICES
9C04021A3300FLHF3
BATTERY
LED-BLUE
LED-GREEN
LED-RED
D1
LED-BLUE
D2
LED-GREEN
D3
LED-RED
B1
3V
2 Message(s)
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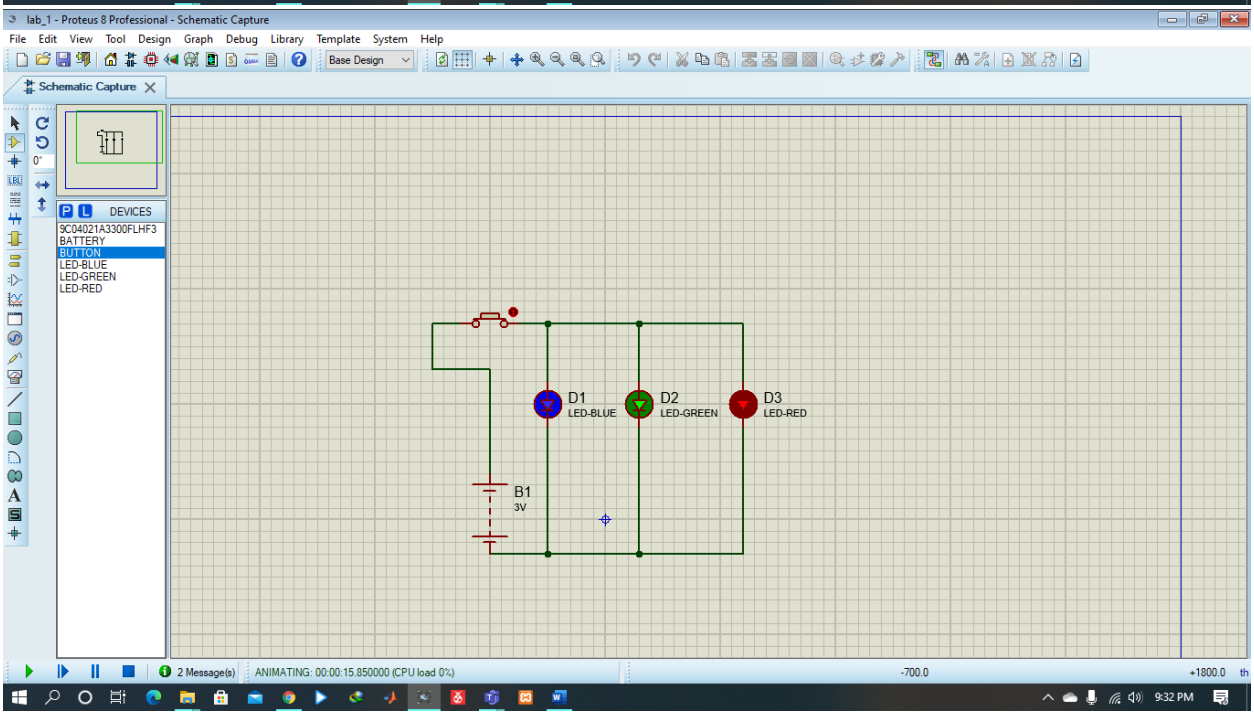
+1800.0
9:28 PM


lab_1 - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Schematic Capture
DEVICES
9C04021A3300FLHF3
BATTERY
BUTTON
LED-BLUE
LED-GREEN
LED-RED
D1
LED-BLUE
D2
LED-GREEN
D3
LED-RED
B1
3V
2 Message(s)
ANIMATING: 00:00:15.850000 (CPU load 0%)
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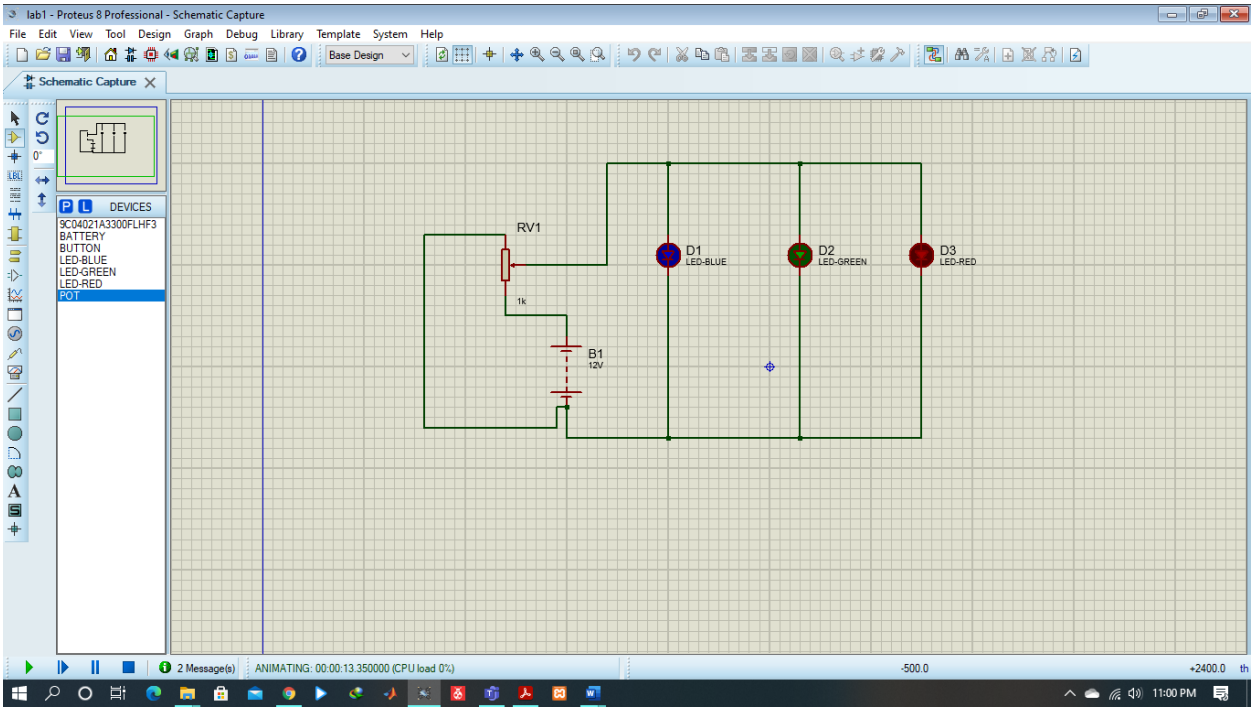
+1800.0
9:32 PM



Result: We have the outcome after completing the experiment is that how to use the proteus software to build circuit prototype.

Discussion: we have used a simulation software to make our circuit models in computer.