Workshop Report: One-Day Hands-on Workshop on Arduino

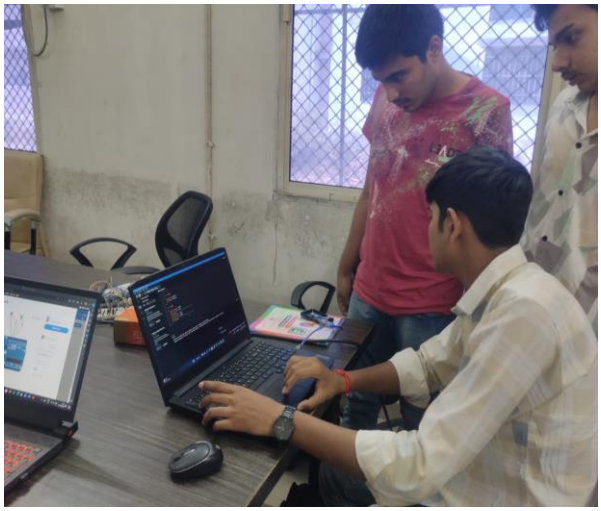
Date: 18-04-2023
Location: GTU IDEALAB – Chandkheda Campus
Attendees: 65 Students

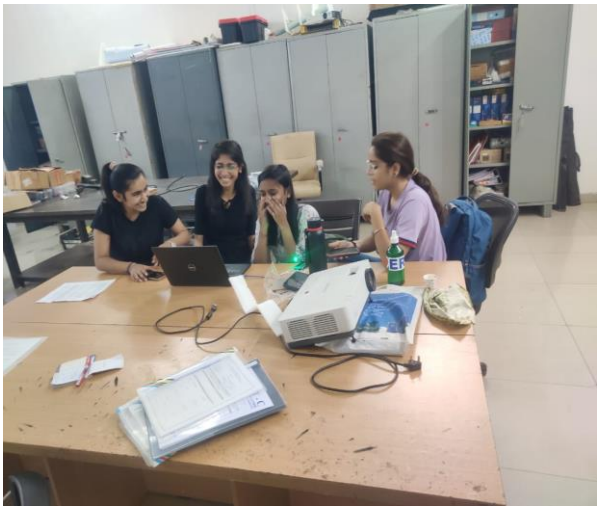
The one-day hands-on workshop on Arduino aimed to introduce students to the basics of Arduino programming and hardware interfacing. The workshop covered various topics including interfacing of LEDs, push buttons, a traffic light project, and sensor integration through LEDs. The objective was to provide students with practical experience in Arduino programming and circuit design.

Workshop Topics Covered:

- Interfacing of LED:
  - The workshop began with an introduction to Light Emitting Diodes (LEDs) and their basic principles.
  - Participants learned how to connect LEDs to Arduino boards and control them using simple code.
  - Hands-on exercises were conducted to blink LEDs at different frequencies and patterns.
- Push Button Interfacing:
  - Following LED interfacing, participants were introduced to push buttons and their functionality.
  - They learned how to connect push buttons to Arduino and control LED states based on button inputs.
  - Practical exercises enabled students to implement push button-controlled LED toggling.
- Traffic Light Project:
  - The workshop progressed to a more complex project involving the simulation of a traffic light system.
  - Participants were guided through the design and implementation of the traffic light project using multiple LEDs and push buttons.
  - Emphasis was placed on sequencing the traffic lights accurately and responding to user input.
- Sensor through LED:

- The final topic covered sensor integration with Arduino, specifically using LEDs as output indicators.
- Students learned how to interface sensors such as light sensors or temperature sensors with Arduino.
- Practical demonstrations illustrated how sensor readings could be displayed through LED outputs.





Co-Coordinator, IDEALAB