Welcome students to the Tinkering Bootcamp!!
This is a 4-week course that aims to give you an insight into what it feels like working with Arduinos, Node-MCUs, Raspberry Pi, etc along with supporting sensors and modules. In the first week, the content will be based on Arduino (pin mapping, connections, and various terminology related to it) and sensor modules associated with it. By the end of this course, you will be able to build some cool projects like home automation, security system and much more, all by yourself.

Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so you use the Arduino programming language (based on Wiring and very similar to C++), and the Arduino Software (IDE), based on Processing.

Over the years Arduino has been the brain of thousands of projects, from everyday objects to complex scientific instruments. A worldwide community of makers - students, hobbyists, artists, programmers, and professionals - has gathered around this open-source platform, their contributions have added up to an incredible amount of accessible knowledge that can be of great help to novices and experts alike.
Thanks to its simple and accessible user experience, Arduino has been used in thousands of different projects and applications. The Arduino software is easy-to-use for beginners, yet flexible enough for advanced users. It runs on Mac, Windows, and Linux.

We are well aware that most of the students don't have access to the hardware components due to the prevalent situation, therefore, we bring to you an online simulator called "TinkerCad" which you can use to test your code virtually and see if it works as you expected it to. You can design your own circuit and get an online representation of your circuit in ideal conditions to test your code and the working of the circuit.

Link to setup TinkerCad:
https://www.youtube.com/watch?v=3kDMYomFw5o

Link to download the Arduino IDE:
https://www.arduino.cc/en/main/software