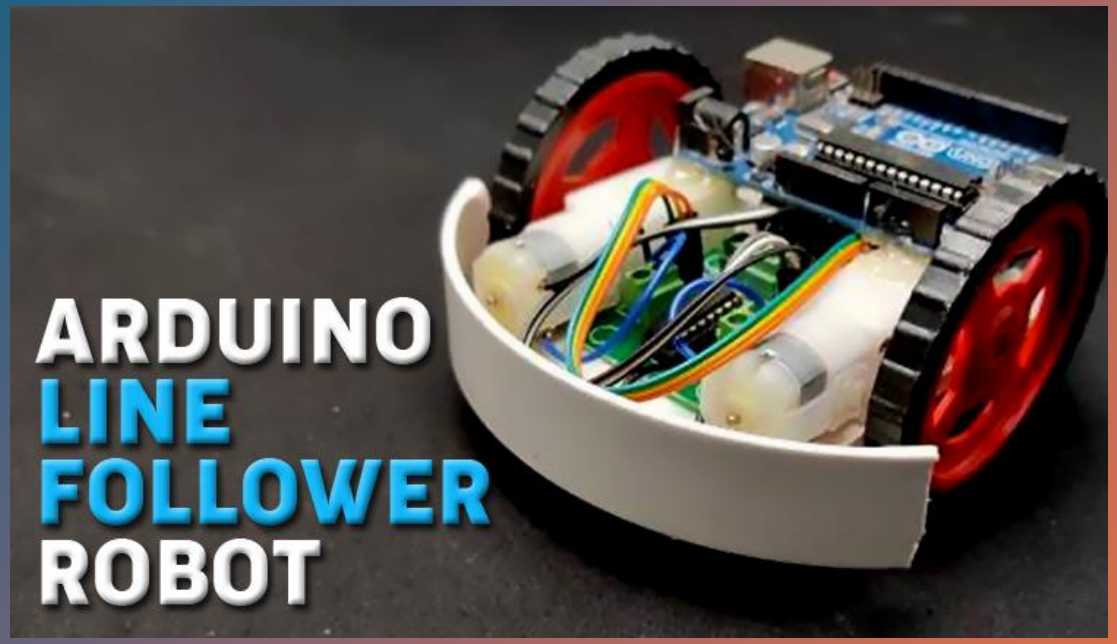
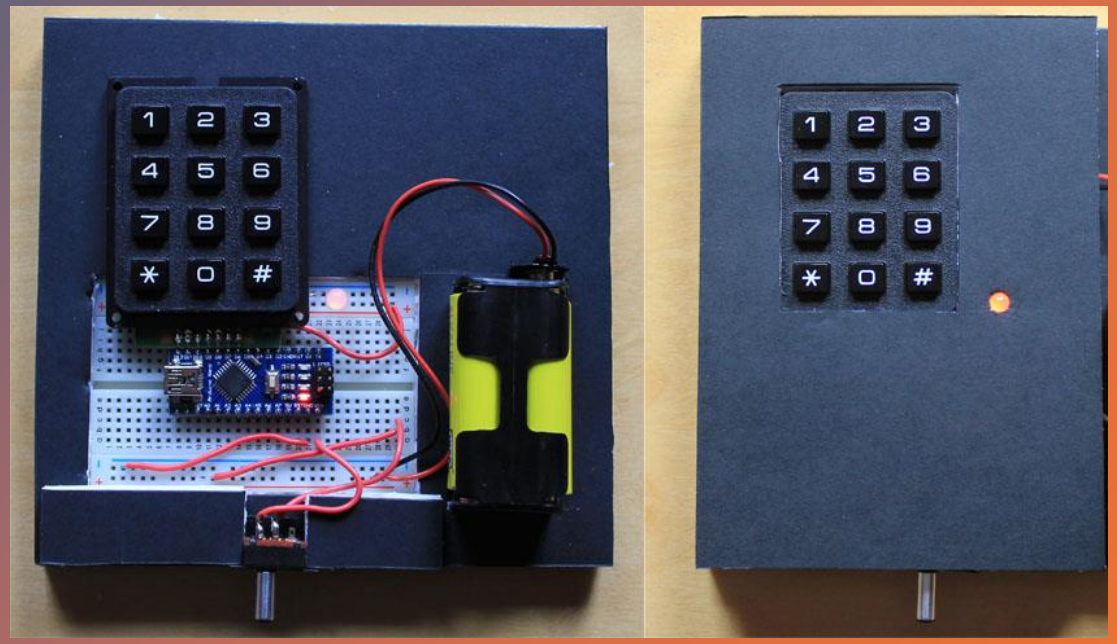
ARDUINO™

UNO
ARDUINO
DIGITAL (PWM~)
ANALOG IN
POWER
RESET-EN
TX
RX
AREF
GND

What is Arduino?

- Arduino is a microcontroller (pretty much a small computer) that takes inputs and turns them into desirable outputs. It also has its own memory
- Software:
  - Uses Arduino IDE to turn code into instructions for the board
- Hardware:
  - Port for power and connection to computer
  - Pins to connect Arduino to other electrical components





What can you do with Arduino?

- Some examples include:
  - A path-following robot
  - A keypad entry system
  - A digital dice roll
  - A Bluetooth-controlled RC car

- In the following weeks, you will be doing at least 2 of these in this club

What Arduino will we be using?

- While there are many types of Arduino boards, we will be using the Arduino Uno R3
- This is the one you saw on the first slide

What is Arduino IDE?

- Arduino IDE is the software we will be using for all of our projects heading forward
- Arduino IDE (Integrated Development Environment) is the official software used for programming Arduino microcontrollers. It provides an interface that allows you to write, edit, and upload code to your Arduino board.
- **Write Code:** You create a sketch (the term for an Arduino program) in the IDE.
- **Compile:** The IDE converts your code into machine-readable instructions.
- **Upload:** The compiled code is transferred to the Arduino via a USB connection.
- **Monitor & Debug:** You can use the Serial Monitor to communicate with your Arduino and troubleshoot your code.

Before we get started

- Emails
- Github acc creation
- Github repository access and explanation
- Snacks