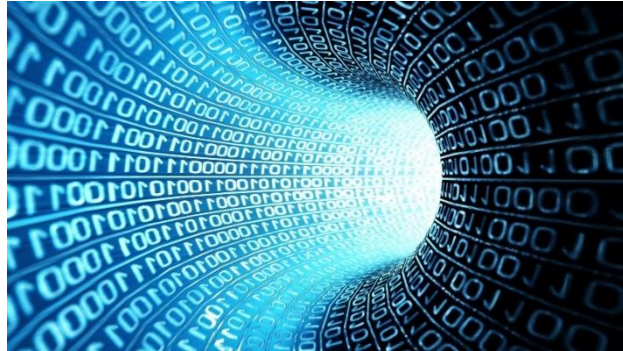




DP Program 2022
Level 1 ENGG
(Engineering — Robotics)
Academic Year 2022/23

Our topics



Numbering

Learning objectives:
Apply the academic knowledge of mathematics and physics to view and implement an engineering solution. Get to know “why” and “how”

Enhance the students’ problem-solving skills

Nurture academic literacy of STEM



```
Button [Arduino 1.8.1]
File Edit Serial Tools Help

Button
-----
created 2009
by Arduino <http://www.arduino.cc>
modified 30 Aug 2011
by Tom Igoe

This example code is in the public domain.
http://www.arduino.cc/en/Code/Button

// constants won't change. They're used here to
// set pin numbers:
const int buttonPin = 2; // the number of the pushbutton pin
const int ledPin = 13; // the number of the LED pin

// variables will change:
int buttonState = 0; // variable for reading the pushbutton state

void setup() {
  // initialize the LED pin as an output:
  pinMode(ledPin, OUTPUT);
  // initialize the pushbutton pin as an input:
  pinMode(buttonPin, INPUT);
}

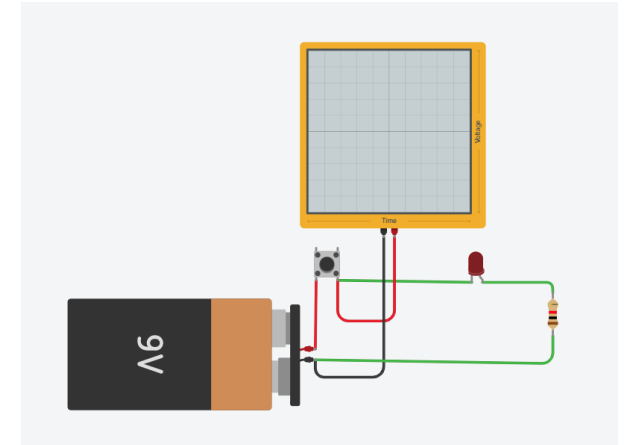
void loop() {
  // read the state of the pushbutton value:
  buttonState = digitalRead(buttonPin);

  // check if the pushbutton is pressed:
  // if it is, the buttonState is HIGH:
  if (buttonState == HIGH) {
    // turn LED on:
    digitalWrite(ledPin, HIGH);
  } else {
    // turn LED off:
    digitalWrite(ledPin, LOW);
  }
}
```

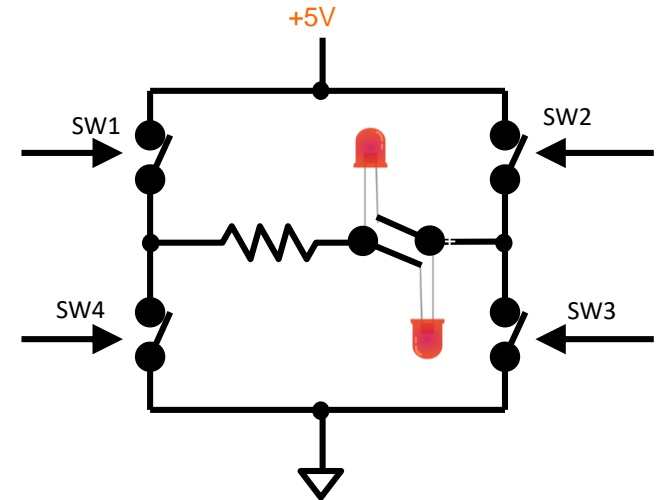
Coding



System integration



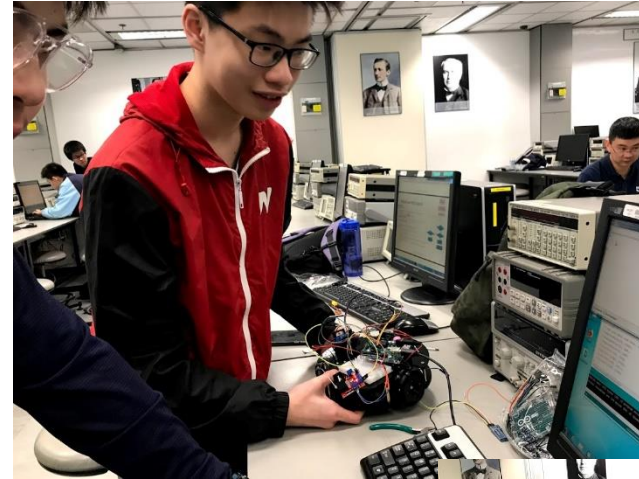
Basic electrical circuits



Advanced electrical circuits

What is our pedagogy?

Experiential learning



Every class = academic knowledge + experiments



Q&A