

Etude 2: Mind-It

CART 360 AUTUMN 2023

DUE: October 19th by 18H00

SUBMIT: To the Etude 2 Assignment Resource on the CART 360 Moodle page

WHAT: 1. REFER TO “WHAT TO SUBMIT”

DESCRIPTION:

From time to time, one sources Arduino example code from a variety of sites on the internet. The purpose of this exercise: build circuit (run) and analyse, trace and elucidate from the provided code how the core **functionality** of Etude 2 is established and maintained.

You will use:

4 LEDs (Red, Yellow, Green, Blue)

4 buttons

1 Piezo Buzzer (Sound Output)

Resistors (220 Ohm)

Arduino

The circuit, game, that you will build is: Simon Says. Build the circuit (reference provided), run it, consider the established game play and analyse the actual code – then answer the questions below.

PART ONE: BUILD ETUDE TWO CIRCUIT (1.0 Pts)

Use: ETUDE-TWO SKETCH (provided)

Step 1: Please build the circuit as **depicted in** the Fritzing Diagram – see below.

Step 2: Make a short video of your built circuit and game play (~ 1 – 2 min).

Step 3: Submit the ETUDE-TWO SKETCH (Arduino file), this may include any added comments which elucidate your tracing of the program and a video of game play in action – do not exceed 250mb.

PART TWO A: CODE OBSERVATION (1.0 Pts)

From your initial observation of how the game play is established and your initial analysis of the provided code:

- i) Identify and Explain the principal functions for establishing game state?

PART TWO B: HOW DOES THE GAME WORK (2.0 Pts) (MAX 128 WORDS)

Based on your observation of how game play is established and maintained and via your extended analysis of the provided code:

- i) What computational structure does the game employ to establish and maintain state?
- ii) What is special about this computational structure?

WHAT TO SUBMIT

For ETUDE-TWO on the CART360 Moodle page, submit a single archive (zip) that will contain the following:

- a) Documentation – Notes/ Observations on Circuit construction.
- b) Complete answers to Part Two A and Part Two B in a text file.

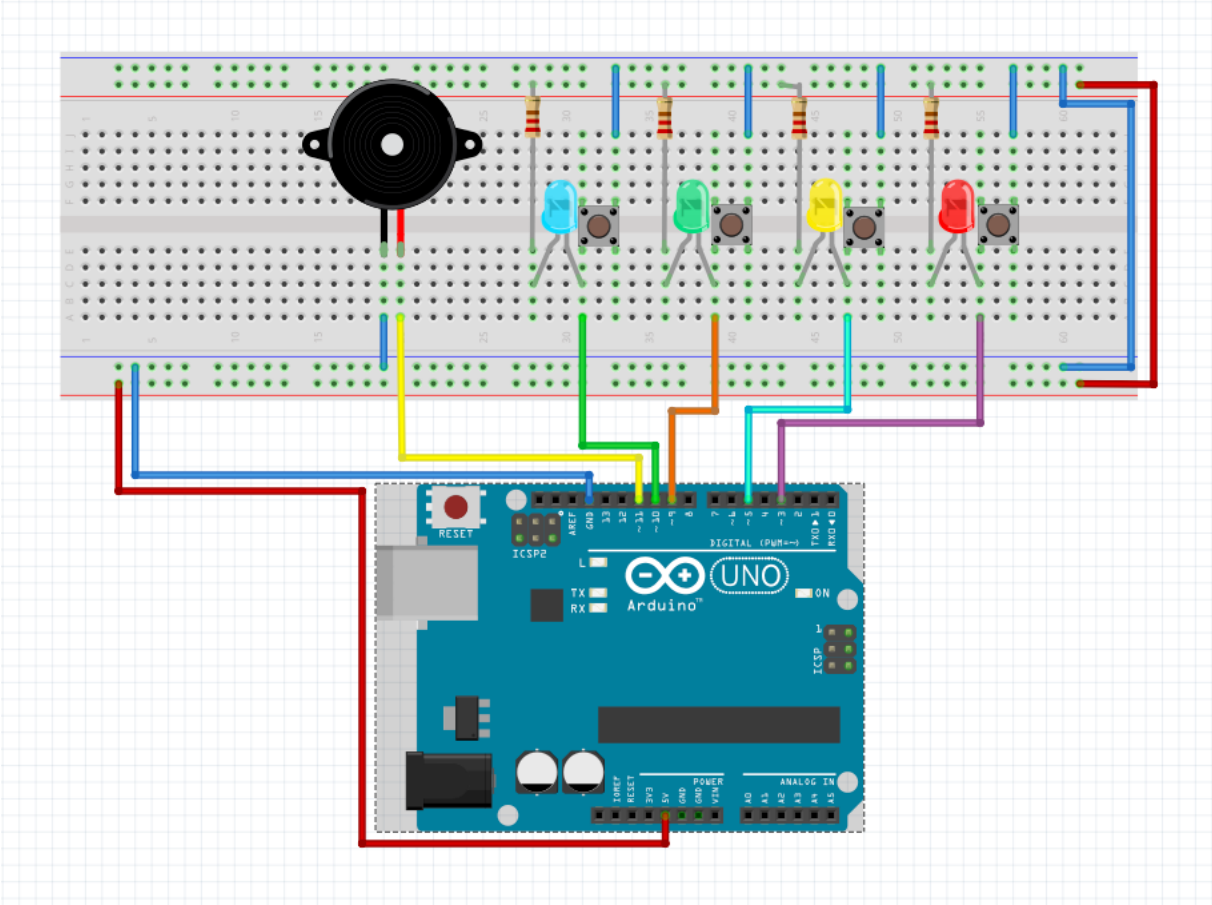
Separately, but in the same Etude-Two Folder, ensure:

- c) Upload a video of your working Part One.

NOTA BENE:

TIME COMMITMENT FOR ETUDE TWO <= 4 HOURS.

THERE IS ABSOLUTELY NO NEED FOR YOU TO ALTER THE PROVIDED ARDUINO CODE.



Resistor colour code

