

CST8227 Lab 01: Teensy Lab Kit

Lab Objectives:

1. Receive your lab kit, featuring the Teensy 3.2 microcontroller and various components.

Required Equipment:

- Your laptop as specified in BYOD
- **IMPORTANT:** you need to provide your own USB cable with 5-pin micro-B connector (!)

Part A: Protoboard Preparation and Layouts

Welcome to CST8227 – Interfacing!

Your lab kit for the course include the following items:

- 1 x Teensy 3.2, a 32-bit Arduino-compatible microcontroller
 - 1 x Teensy 3.2 Reference Card
 - 1 x Teensyduino Tutorials 1 to 4 Parts Kit
 - 1 x protoboard
 - 1 x wire set
 - 4 x switch, large (12mm)
 - 8 x red LEDs
 - 4 x green LEDs
 - 4 x yellow LEDs
 - 2 x shift registers (Texas Instruments)
 - 2 x 7 segment displays
 - 1 x Piezo buzzer
 - 1 x light dependent resistor (LDR), otherwise known as a CdS (Cadmium-Sulfide) or a photoresistor
 - resistors:
 - 16 x 220-ohm resistors
 - 8 x 180-ohm resistors
1. Remove the protoboard from its packaging.
 2. Remove the “sticky-tape” from the bottom of the protoboard and attach the conductive plate. Try your best to align the conductive plate squarely to the protoboard.

3. Attach your Teensy to the protoboard according to this schematic:

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Attach your Teensy to the protoboard thusly.

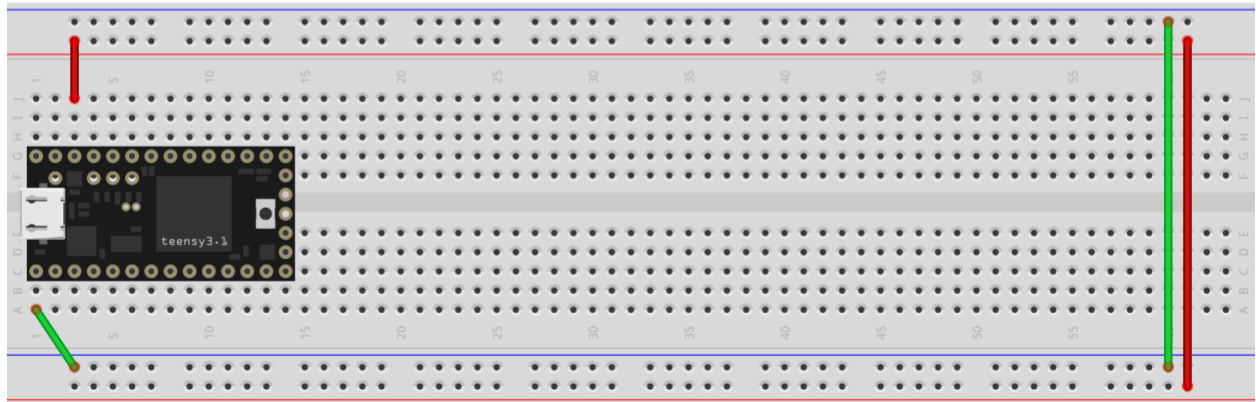
You're welcome to attach your Teensy in a different way. See: <https://www.pjrc.com/teensy/tutorial2.html> for details.

Course Standard for Wire Colour:

- * red when attaching to Vcc rail
- * green when attaching to GND rail; blue and black are permitted as well

Errata: fritzing does not have a template for Teensy 3.2, so ignore "3.1"

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fritzing

4. Please dispose unwanted packaging by either recycling or putting into a trash can.

Deliverable:

1. Create a text document named: cst8227_lab_kit_receipt.txt
2. Write the contents:

I, <insert your preferred firstname and lastname> (insert your userID), acknowledge receipt my CST8227 – Interfacing lab kit.

Dated Week 1 of Winter 2020

3. Save the document.

Upload and submit your receipt document to Brightspace before the due date.

Reference:

Compare your “cst8227_lab_kit_receipt.txt” document to mine:

I, Gerry Hurdle (hurdleg), acknowledge receipt my CST8227 – Interfacing lab kit.

Dated Week 1 of Winter 2020

Postlab:

Congratulations on receiving *your* lab kit ---- it's yours to keep as you've paid for it 😊

Enjoy!