

Lab 5: Arduino IDE and Introduction to Teensy

CSE 2100-001

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1 Objective

Install the Arduino IDE and add Teensy support as described in the lab video. Modify the provided Teensy LED blink example to flash the famous distress signal SOS in Morse code repeatedly (3 short flashes, 3 long flashes, 3 short flashes), with a 2 second delay between messages. The LED should be on for 250 milliseconds for short flashes, and 500 milliseconds for long flashes. Use a delay of 250 milliseconds between all flashes. Demo your SOS generator on the Teensy microcontroller when it is functioning properly.

1.1 Definitions

microcontroller Small computer on MOS Integrated Circuit chip.

Arduino IDE Program used to communicate with arduino compatible boards.

Teensy Microcontroller development system via USB that has a single button for programming.

udev rules Condition that will trigger a udev event.

tar Compression scheme utilized by the Linux system.

2 Question 1

What flags must be provided with the tar command to extract a tar.xz file?

Using 'x' after the tar command sets the flag for extraction of the tar file.

3 Question 2

List 3 advantages of using the Arduino platform when programming microcontrollers

Inexpensive, cross-platform, open-source software/hardware, simple clear programming environment.