**UNX511/DSP912 – Lab 3: Using I/O Control**

**Due: Monday, February 4h, 11:59PM**

In this lab you will make use of I/O control (ioctl) to control a CD Rom Drive. You will use ioctl’s to eject the CD Rom, close the CD Rom tray, and get the tray position.

* The device file for the CD Rom hardware can be found at: **/dev/cdrom**
* You have to open this file as **read only** and **non-blocking**. For a list of open() flags, see Chapter 4 of [The Linux Programming Interface](https://doc.lagout.org/programmation/unix/The%20Linux%20Programming%20Interface.pdf).
* You will ask the user to make a selection from one of four options:
  + 1. Eject the CD Rom
  + 2. Close the CD Rom tray
  + 3. Get the tray position
  + 0. Exit
* To eject the CD ROM, you will use the ioctl **CDROMEJECT**.
* To close the CD Rom tray, you will use the ioctl **CDROMCLOSETRAY**.
* To get the CD Rom tray position, you will use the ioctl **CDROM\_DRIVE\_STATUS** with **slot=0**. One of six statuses will be returned:
  + No information
  + No disk
  + Tray open
  + Drive not ready
  + Disk ok
  + Error

For documentation on CDROM ioctl’s, see [CDROM ioctl calls](https://www.kernel.org/doc/Documentation/ioctl/cdrom.txt).

For documentation on the CD Rom header file, see [cdrom.h](https://github.com/torvalds/linux/blob/master/include/uapi/linux/cdrom.h).

For a tutorial on I/O control in Linux, see [Embetronicx Linux Device Driver Tutorial, Part 8](https://embetronicx.com/tutorials/linux/device-drivers/ioctl-tutorial-in-linux/).

**Lab Submission:**

Email me your Makefile and your Lab3.cpp file to:

miguel.watler@senecacollege.ca

**NB: My last name is Watler, not Walter.**