Operating Systems Programming Assignment 2

Liz Parker - elpa8934@colorado.edu

The goal: write a module to install a linux device driver

1. Create a device file in `/dev` directory corresponding to my character device driver

   `sudo mknod -m 777 /dev/pa2_char_device c 321 0`

   The 321 is an unused Major Number
   I verified the `pa2_character_device` file was in the `/dev` directory

2. Write the device driver implementation `pa2_char_driver.c`
   I put the device driver in a `modules` folder in my user home directory

3. Create the Makefile for the device driver
   I put the Makefile in a `modules` folder in my user home directory

```
obj-m:=pa2_char_driver.o

KDIR = /lib/modules/$(shell uname -r)/build

PWD = $(shell pwd)

all:
	$(MAKE) -C $(KDIR) M=$(PWD) modules

clean:
	$(MAKE) -C $(KDIR) M=$(PWD) clean
```

   Call `make` command
   I verified the `pa2_char_driver.ko` file was in the `/modules` directory

4. Install the module
   From the `modules` folder in my user home directory call:
   `sudo insmod pa2_char_driver.ko`

5. Write the test function `devDriverTest.c`
   I put the test function directly in my user home directory
   `gcc devDriverTest.c`
   `./a.out`