

README FILE

Problem Statement

Create a simple device driver (character device) for the compiled kernel (in Assignment-1) and test it with a sample application.

EXECUTION OF CHARACTER DEVICE DRIVER

1) assgn2_simple_char_drv.c

This C file contains the code of a CHARACTER DEVICE DRIVER.

Character device drivers normally perform I/O in a byte stream. Examples of devices using character drivers include tape drives and serial ports. Character device drivers can also provide additional interfaces not present in block drivers, such as I/O control (ioctl) commands, memory mapping, and device polling.

MAKEFILE

1) Makefile

This is the makefile for our character device driver. This is responsible for building objects, it is our present working directory. Our main objective is to make a kbuild makefile so our makefile code contain a single line command i.e

```
obj -m := ex07_simple_char_drv.o
```

all:

```
make -C /lib/modules/$(uname -r)/build M=$PWD modules
```

clean:

```
make -C /lib/modules/$(uname -r)/build M=$PWD clean
```

This tells there is a object in the directory named ebbchar.o and obj-m tells that this object should be built as a module

COMMANDS THAT ARE FOLLOWED

* Make sure that the terminal is in the correct directory where the source code and makefile are present.

* To compile the modules of driver run

```
make
```

* To insert our compiled module to the kernel run

```
sudo insmod assgn2_simple_char_drv.ko
```

* To verify whether module inserted or not run

```
lsmod |grep assgn2
```

* To show list of character devices and block devices run

```
cat /proc/devices
```

* To make the device accessible run

```
sudo mknod -m 666 /dev/simple_char_device c 240 0
```

* To verify whether char_device is available for the given node run

```
ls -l /dev/simple_char_device
```

* To show the system log console run

```
sudo tail -f /var/log/syslog
```