

Team project

Team member / responsibility:

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Chap.2 Project1: Linux Kernel Modules

environment require: Ubuntu 14.04 LTS / Kernel 3.19.0-31-generic

both run in Linux terminal

Part I

kernel_test 目錄下輸入 make 編譯

sudo insmod hello.ko

dmesg

sudo rmmod hello.ko

dmesg

```
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/kernel_test$ make
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/kernel_test$ sudo insmod hello.ko
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/kernel_test$ dmesg
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/kernel_test$ sudo rmmod hello.ko
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/kernel_test$ dmesg
```

```
[12443.665133] Hello world !
[12487.824905] Goodbye !
```

Part II

birthday 目錄下輸入 make 編譯

sudo insmod birthday.ko

dmesg

sudo rmmod birthday.ko

dmesg

```
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/birthday$ make
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/birthday$ sudo insmod birthday.ko
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/birthday$ dmesg
```

```
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/birthday$ sudo rmmod birthday.ko
sean@ubuntu:~/Documents/110-2_OS/Projects/Chap2/birthday$ dmesg
```

```
[ 2795.128642] birthday: loading out-of-tree module taints kernel.
[ 2795.128735] birthday: module verification failed: signature and/or required key missing - tainting kernel
[ 2795.128990] Create the list of birthday
[ 2795.128991] Add Sean's birthday which is 2000/11/18
[ 2795.128992] Add Zoe's birthday which is 2000/3/19
[ 2795.128993] Add Kenny's birthday which is 2001/9/2
[ 2795.128993] Add Annie's birthday which is 2001/10/29
[ 2795.128994] Add Bob's birthday which is 2001/4/6
[ 7384.803956] perf: interrupt took too long (2715 > 2500), lowering kernel.perf_event_max_sample_rate to 73500
[11725.290980] Remove the list of birthday
[11725.290984] Remove Sean's birthday which is 2000/11/18
[11725.290986] Remove Zoe's birthday which is 2000/3/19
[11725.290987] Remove Kenny's birthday which is 2001/9/2
[11725.290988] Remove Annie's birthday which is 2001/10/29
[11725.290988] Remove Bob's birthday which is 2001/4/6
```

Chap.3 Project1: UNIX Shell and History Feature

run in bash

輸入 gcc unix_shell.c 編譯

輸入 ./a.out 執行

```
zoezo@LAPTOP-CPOOMK9R: /mnt/c/Users/zoezo/Desktop/Operating System/Homework/108820015_hw1/ch3_project1$ gcc unix_shell.c
zoezo@LAPTOP-CPOOMK9R: /mnt/c/Users/zoezo/Desktop/Operating System/Homework/108820015_hw1/ch3_project1$ ./a.out
shell> ls
shell> a.out source.txt unix_shell.c
ps
shell>
  PID TTY          TIME CMD
 809 pts/2    00:00:00 bash
 879 pts/2    00:00:00 a.out
 880 pts/2    00:00:00 ls <defunct>
 881 pts/2    00:00:00 ps
touch new.txt
shell> ls
shell> a.out new.txt source.txt unix_shell.c
cat new.txt
shell> cat source.txt
shell> hello world
cp source.txt new.txt
shell> cp: cannot stat 'source.txt': No such file or directory
cat new.txt
shell> cp source.txt new.txt
shell> cat new.txt
shell> hello world
rm new.txt
shell> ls
shell> a.out source.txt unix_shell.c
history

used command:
1.Command name: cat, Used count: 4
2.Command name: ls, Used count: 3
3.Command name: cp, Used count: 2
4.Command name: ps, Used count: 1
5.Command name: touch, Used count: 1
6.Command name: rm, Used count: 1

shell> exit
zoezo@LAPTOP-CPOOMK9R: /mnt/c/Users/zoezo/Desktop/Operating System/Homework/108820015_hw1/ch3_project1$
```