許家文 408530049

1.

```
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ ls
nice-pro  nice-pro2
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ sudo setcap CAP_SYS_NICE+ep ./nice-pro
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ sudo chown root:root ./nice-pro2
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ nice -n -10 ls
nice: cannot set niceness: Permission denied
nice-pro  nice-pro2
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ ./nice-pro -n -10 ls
nice-pro  nice-pro2
```

```
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ ./nice-pro2 -n -10 ls
./nice-pro2: cannot set niceness: Permission denied
nice-pro  nice-pro2
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ sudo chomod +s ./nice-pro2
sudo: chomod: command not found
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ sudo chmod +s ./nice-pro2
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ ./nice-pro2 -n -10 ls
nice-pro  nice-pro2
```
'

CAP_SYS_TIME:可以改變系統時鐘。
CAP_CHOWN：可以改變檔案的UIDs和GIDs。
CAP_AUDIT_WRITE:可以write kernel的audit log(用來記錄可疑的活動的log)。

2.

```
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ ./test 5
Parent's cpp = 692366960
Child's cpp = 690853795
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ taskset 0x1 ./test 5
Parent's cpp = 164349195
ulohg@ulohg-VirtualBox:~/Desktop/system-program/hw08$ Child's cpp = 527723245
```

527723245/164349195約等於3.2， 1.25^5也約等於3
如同課程影片說若的每個增加1個優先權大約是差1.25倍