

Ques 3

Read Me

__init macro is used to define the process that needs to be executed when the module is inserted into the system using insmod.

__exit macro is executed when the module is removed.

The task struct is of process whose pid is given in input is read to get the pid, user id, group id and name of command.

```
9
0  static int __init init(void)
1  {
2      struct pid *pid_m;
3      struct task_struct *task1;
4      pid_m=find_get_pid(k);
5      task1=pid_task(pid_m,k);
6      printk("pid is  %d",task1->pid);
7      printk("user id is %d",task1->cred->uid);
8      printk("group id is %d",pid_vnr(task_pgrp(task1)));
9      printk("process name  %s",task1->comm);
0      printk("hello world%d.\n",k);
1      return 0;
2  }
3  static void __exit cleanup(void){
4      printk("Goodbye,thanks for using");
5  }
6
7  MODULE_LICENSE("GPL");
8  MODULE_AUTHOR("Arnav");
9  module_init(init);
0  module_exit(cleanup);
```

In the output the details of the runit process are given whose pid is 1, user id is 0 and group pid is 1.

```
[17486.290776] pid is 1
[17486.290780] user id is 0
[17486.290782] group id is 1
[17486.290783] process name runit
[17486.290784] hello world1.
[17505.240009] Goodbye, thanks for using
[18127.128122] pid is 1
[18127.128126] user id is 0
[18127.128128] group id is 1
[18127.128129] process name runit
[18127.128130] hello world1.
```

Makefile

```
1  obj-m += m.o
2
3  PWD := $(CURDIR)
4
5  all:
6      make -C /lib/modules/$(shell uname -r)/build M=$(PWD) modules
7
8  clean:
9      make -C /lib/modules/$(shell uname -r)/build M=$(PWD) clean
10
```