

1. Create .c file and Makefile



```
mycroft@mycroft-VMware-Virtual-Platform:~$ cd hw3
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ nano Makefile
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ ls -l
总计 8
-rw----- 1 mycroft mycroft 1562  9月 26 23:02 lab3.c
-rw-rw-r-- 1 mycroft mycroft  272  9月 26 23:03 Makefile
```

2. Make

```
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ make
make -C /lib/modules/6.14.0-29-generic/build M=/home/mycroft/hw3 modules
make[1]: 进入目录“/usr/src/linux-headers-6.14.0-29-generic”
make[2]: 进入目录“/home/mycroft/hw3”
warning: the compiler differs from the one used to build the kernel
The kernel was built by: x86_64-linux-gnu-gcc-13 (Ubuntu 13.3.0-6ubuntu2~24.04
) 13.3.0
You are using:          gcc-13 (Ubuntu 13.3.0-6ubuntu2~24.04) 13.3.0
CC [M]  lab3.o
MODPOST Module.symvers
CC [M]  lab3.mod.o
CC [M]  .module-common.o
LD [M]  lab3.ko
BTF [M] lab3.ko
Skipping BTF generation for lab3.ko due to unavailability of vmlinux
```



3.test

```
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ sudo rmmod lab3
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ lsmod | grep lab3
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ sudo dmesg -C
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ sudo insmod lab3.ko
```

```
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ sudo dmesg | tail -n 20
[ 3919.113113] hello
[ 3919.113119] tick interval: 1 ms
[ 3919.113126] Current time is: 03:08:16
```

```
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ sudo rmmod lab3
[sudo] mycroft 的密码:
mycroft@mycroft-VMware-Virtual-Platform:~/hw3$ sudo dmesg | tail -n 20
[ 3919.113113] hello
[ 3919.113119] tick interval: 1 ms
[ 3919.113126] Current time is: 03:08:16
[ 5006.577105] goodbye
[ 5006.577129] Elapsed since insert: 1087461 ms
[ 5006.577133] Current time is: 03:26:23
```