

Device Drivers

LAB EXAM

Question 2(a) - Output

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- The module is made using the make command

```
ubuntu: ~/DeviceDriversLab/LAB_EXAM/Q2_PART_A
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$ make
make -C /lib/modules/4.15.0-70-generic/build M=/home/maria/DeviceDriversLab/LAB_EXAM/Q2_PART_A modules
make[1]: Entering directory '/usr/src/linux-headers-4.15.0-70-generic'
  CC [M]  /home/maria/DeviceDriversLab/LAB_EXAM/Q2_PART_A/q2.o
Building modules, stage 2.
MODPOST 1 modules
WARNING: modpost: missing MODULE_LICENSE() in /home/maria/DeviceDriversLab/LAB_EXAM/Q2_PART_A/q2.o
see include/linux/module.h for more information
  CC      /home/maria/DeviceDriversLab/LAB_EXAM/Q2_PART_A/q2.mod.o
  LD [M]  /home/maria/DeviceDriversLab/LAB_EXAM/Q2_PART_A/q2.ko
make[1]: Leaving directory '/usr/src/linux-headers-4.15.0-70-generic'
```

- The module is inserted using the insmod command

```
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$ sudo insmod q2.ko myint=7
[sudo] password for maria:
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$
```

- The log message is displayed

```
ubuntu: ~/DeviceDriversLab/LAB_EXAM/Q2_PART_A
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$ dmesg | tail -1
[15579.765991] myint is an integer: 7
```

- Lsmod command is used to see the inserted module

```
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$ lsmod
Module                Size  Used by
q2                     16384  0
ccm                    20480  3
```

- The module is removed and the log is displayed

```
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$ sudo rmmod q2.ko
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$ dmesg | tail -1
[15674.164727] Exiting module
maria@ubuntu:~/DeviceDriversLab/LAB_EXAM/Q2_PART_A$
```