The first part of this project involves following a series of steps for creating and inserting a module in the Linux kernel.

You can list all kernel modules currently loaded by entering the following command in the terminal window:

lsmod

The program (simple.c in chapter 2’s folder on the desktop) illustrates a very basic kernel module that prints appropriate messages when the kernel module is loaded and unloaded.

<examine source code>

simple\_init() is the module entry point, which represents the function invoked when the module is loaded into the kernel. Similarly, simple\_exit is the module exit point, the function called when the module is removed from the kernel.

The two following macros are used for registering the module entry and exit points with the kernel:  
module\_init()

module\_exit()

The kernel module is compiled using the Makefile accompanying the source code. To compile, simply enter the command

make

Once compiled, the module can be inserted into the kernel with insmod as in:

sudo insmod simple.ko

To check whether the module has loaded, enter the lsmod command and search for the module simple. Recall that the module entry point is invoked when the module is inserted into the kernel. To check the contents of this message in the kernel log buffer, enter the command

dmesg

Remove the module with

sudo rmmod simple

To be sure the module was successfully removed, confirm with dmesg