



NATIONAL UNIVERSITY
OF COMPUTER & EMERGING SCIENCES
PESHAWAR CAMPUS



Problem Set:	Assignment 07	Semester:	Spring 2013
Points:	5		
Date Set:	May 07, 2013	Due Date:	May 16, 2013
Course:	CS206 Operating Systems	Instructor:	Nauman

This task is for practicing kernel compilation. Since the Linux kernel is readily available, we are going to compile and execute it. Perform the following steps in your Ubuntu distribution. (They are fairly the same in other distros but some commands may vary slightly.)

1. Download the kernel from Ubuntu repos using: `sudo aptitude install linux-source`
2. The kernel is downloaded in `/usr/src/` in the form of a `.tar.gz`. You can also download this tar from any other source and place it in this location if you do not have direct access to the Internet on your target machine.
3. Become root (for ease of use) using `sudo -i` and change directory to `/usr/src/`
4. Configure the kernel using the command: `make menuconfig`
(You may need to install the library `libncurses-dev` for this to work.)
5. Explore the interface and remove at least one device driver that will not be needed in your machine. (Hint: press the Esc key twice to exit from the main interface and to return to a parent menu from a sub menu.)
6. Exit the configuration (saving changes) and build and install the kernel using the following command:
`make && make modules_install && make install`
7. If all goes well, reboot the machine and boot into the new kernel by selecting Previous Linux Versions and then the version you built.
8. Once the system boots, open a terminal and verify that your new kernel is in use by entering the command `uname -a` and looking at the build timestamp.

Note: For submission, please include screenshots of the complete download/build/boot process as well as the final 'uname' output to demonstrate the complete methodology.