OS Assignment

A. Kernel Version : **4.9.8**

B. Steps followed (*Source*: https://kernelnewbies.org/KernelBuild):

1. Downloaded the Kernel 4.9.8 for Linux in Ubuntu 16.04 LTS from `kernel.org.`

2. In order to build the linux kernel from source, we needed several tools: `git, make, gcc,`
    etc. These were downloaded by typing the following in terminal:

    `sudo apt-get install libncurses5-dev gcc make git exuberant-ctags bc`
    `libssl-dev`

3. Then, we duplicated our current config and copied the file into the source directory as
    .config file:

    `cp /boot/config-`uname -r`* .config`

4. We, then, make the default config:

    `make defconfig`

5. Now, we built the kernel:

    `make –j2`

    Here, j2 specifies that we have two cores in our processor.

6. To install the kernel, we ran the following command:

    `sudo make modules_install install`

7. To make the grub menu always appear on boot under Ubuntu, we removed `GRUB HIDDEN`
    `TIMEOUT, GRUB HIDDEN TIMEOUT QUIET` lines from `/etc/default/grub` and increased
    the `GRUB DEFAULT TIMEOUT` to 15 sec.

8. Now, we updated our grub.

    `sudo update-grub2`

9. Rebooted the virtual machine and we were done.

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