System Programming **Quiz #2** **2016-10-12**
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Name: _____ Student ID: _____

Score : _____/ 50

1. (11 points) In last lecture, we learned about kernel compile and ctags. Following is unordered list of the steps we took to compile and mount a new file system. Number them in right order. Not all items are not necessarily required.

   - _____ mount -t FSNAME /dev/sdb1 /YOUR/DIR
   - _____ decompress the tar.gz file
   - _____ download file system make tool
   - _____ download the kernel from www.kernel.org
   - _____ enable module compile
   - _____ download necessary tools
   - _____ bulld the file system
   - _____ fdisk /dev/sdb
   - _____ compile the kernel
   - _____ mkfs /dev/sdb1
   - _____ modify the file system

2. (10 points) What is the difference between kernel compile and kernel module compile? How do we load the module to the system?

3. (5 points) Alice opened a file with `vi`, and made some changes to the file, let's say 'foo'. However, Alice failed to save the file using `:w`. It shows `E45: 'readonly' option is set (add ! to override)`. If you are to help Alice save all the changes, what are the steps to do so?

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4. (5 points) What is Ctags?

5. (5 points) Alice downloaded a `tar` file and `untar`ed the file using `sudo`. Everytime Alice wants to operate of the downloaded files Alice has to use `sudo`. It seems very tedious. Does Alice have to always type in `sudo` before a command? What is the solution for Alice to type less?

6. (6 points) What is the resolution for following time data structures?

   - _____ `struct timeval`
   - _____ `struct timespec`
   - _____ `time_t` data type

7. (8 points) Following is the user list of a system. Explain what each field represents and how the two users different from each other.

```
root:x:0:0:root:/root:/bin/bash
nobody:x:65534:65534:Nobody:/home:/dev/null
```