CPSC 3125, Operating Systems Lab Assignment

Lab 01

1 Linux Terminal

I will be using the Cygwin terminal for this lab. First, we will see how to set your terminal window to your preferences. These are specific to Linux/UNIX: Looks, Text, Keys, Mouse, Selection, Window, Terminal. We will cover this first.

2 Essential Commands

These are specific to Windows DOS. We will also cover the Linux/UNIX equivalent. You are expected to be familiar with the most used of these commands, which are marked with an asterisk (*).
CD *Displays the name of or changes the current directory.
CLEAR Clears the screen.
CP *Copies one or more files to another location.
DATE Displays or sets the date.
RM *Deletes one or more files.
LS *Displays a list of files and subdirectories in a directory.
ECHO Displays messages, or turns command echoing on or off.
EXIT *Quits the CMD.EXE program (command interpreter).
HELP/MAN MAN *Provides Help information for Windows commands.
MKDIR *Creates a directory.
MV *Moves one or more files from one directory to another directory.
RMDIR *Removes a directory.
TIME Displays or sets the system time.
LS -R *Graphically displays the folder structure of a drive or path.
CAT *Displays the contents of a text file.

3 Non-Essential Commands

These are specific to Windows DOS. We will not cover the Linux/UNIX equivalent. You are *not* expected to be familiar with these commands.
APROPOS search the manual page names and descriptions
INSTALL install - copy files and set attributes
FSCK Checks a disk and displays a status report.
CMP Compares the contents of two files or sets of files.
GREP Searches for a text string in a file or files.
WHEREIS locate the binary, source, and manual page files for a command
WHOAMI print effective userid

4 Networking Commands

We may not cover all (or any) of these commands. We will become familiar with them in your Networking class. You are *not* expected to be familiar with these commands.

ARP Displays and modifies the IP-to-Physical address translation tables used by address resolution protocol (ARP).

FTP/SFTP/SCP Commands for file transfer

IFCONFIG The default is to display only the IP address, subnet mask and default gateway for each adapter bound to TCP/IP.

NBTSTAT Displays protocol statistics and current TCP/IP connections using NBT (NetBIOS over TCP/IP).

NETSTAT Displays protocol statistics and current TCP/IP network connections.

***PING** Ping the specified host until stopped.

***UNAME** Print certain system information. With no OPTION, same as -s.

- -a, –all print all information, in the following order, except omit -p and -i if unknown:
- -s, –kernel-name print the kernel name
- -n, –nodename print the network node hostname
- -r, –kernel-release print the kernel release
- -v, –kernel-version print the kernel version
- -m, –machine print the machine hardware name
- -p, –processor print the processor type (non-portable)
- -i, –hardware-platform print the hardware platform (non-portable)
- -o, –operating-system print the operating system
- –help display this help and exit
- –version output version information and exit

***PS** Report process status

KILL Send the processes identified by PID or JOBSPEC the signal named by SIGSPEC or SIGNUM. If neither SIGSPEC nor SIGNUM is present, then SIGTERM is assumed.

***TRACERT** traces hops to target

5 Configure Your Course Directory

You should configure your course directory like the following. We will be using `git` and Github for this course.

```
CPSC-3125
+---Ctut
+---Exams
+---Homework
+---Labs
+---PythonProgs
+---Readings
```

6 `git` Version Control

You will be expected to follow best practices and use version control. This is not a software engineering class and we will not spend much tie with this. However, you will be expected to know and use the commands listed below.

1. `git config`
2. `git add`
3. `git status`
4. `git commit`
5. `git log`
6. `git show`
7. `git push`
8. `git pull`
9. `git fetch`
10. `git merge`

There may be a need for more advanced `git` commands, such as creating a remote repository, pushing to remote, and pulling from remote. We will not cover these unless we have to. We will not cover the branching and merging commands (important though they are.)

7 Lab deliverable

Your lab deliverable will consist of a transcript of your lab session. It will be in the form of a text (ASCII) file named `lab01a_lastname.txt`. I will show you how to do this in class.