CHAPTER 2: Introduction to the Linux Filesystem

Introduction:
If you are a seasoned Windows user, then you have to make a considerable adjustment in understanding the key concepts of the Linux Filesystem. In Windows, the drive "A:" represents the floppy drive and the drive "C:, D:, E:, etc" presents the hard disk or the CDrom. In Linux, all these directories are under one hierarchy.

In this chapter, you will learn how to:
- Understand the Linux Filesystem
- Create and save a text file

Situation:
Your homeroom teacher has provided you with your class schedule for this school year:

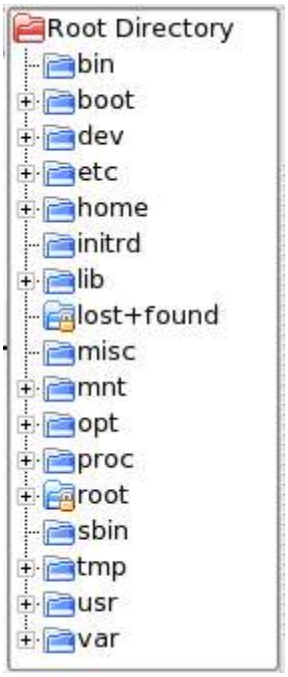
CLASS SCHEDULE SY 2004-2005					
	Day				
Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
8:00AM-8:30AM	H O M E R O O M				
8:30AM-9:30AM	Math	Science		Science	Math
9:30AM-10:30AM	Filipino	Filipino	Home Economics	Filipino	Filipino
10:30AM-11:00AM	S N A C K B R E A K				
11:00AM-12:00NN	Social Studies	English	Computer	English	Social Studies
12:00NN-1:00PM	L U N C H				
1:00PM-2:00PM	English	Social Studies	Physical	Social Studies	English
2:00PM-3:00PM	Science	Math	Education	Math	Science

You want to create an electronic copy of your schedule so that you can print it out later. Your lunch break is only for an hour therefore you only have time to encode the schedule for Monday, Tuesday and Wednesday.

Tasks:
1. Understand the Bayanihan Linux Filesystem.
2. Create a new text file and encode your Monday, Tuesday and Wednesday schedule.
3. Save the text file in a valid file format.

Solution:
1. Understand the Bayanihan Linux Filesystem.

   The Bayanihan Linux Filesystem is based on a hierarchical directory structure. The base directory is the "/" or the root directory and it expands into subdirectories. In DOS/Windows, there are various partitions like C:, D:, etc., and directories under those partitions. Linux, on the other hand places all the partitions under the root directory. The figure below shows the typical root-level Linux filesystem tree.



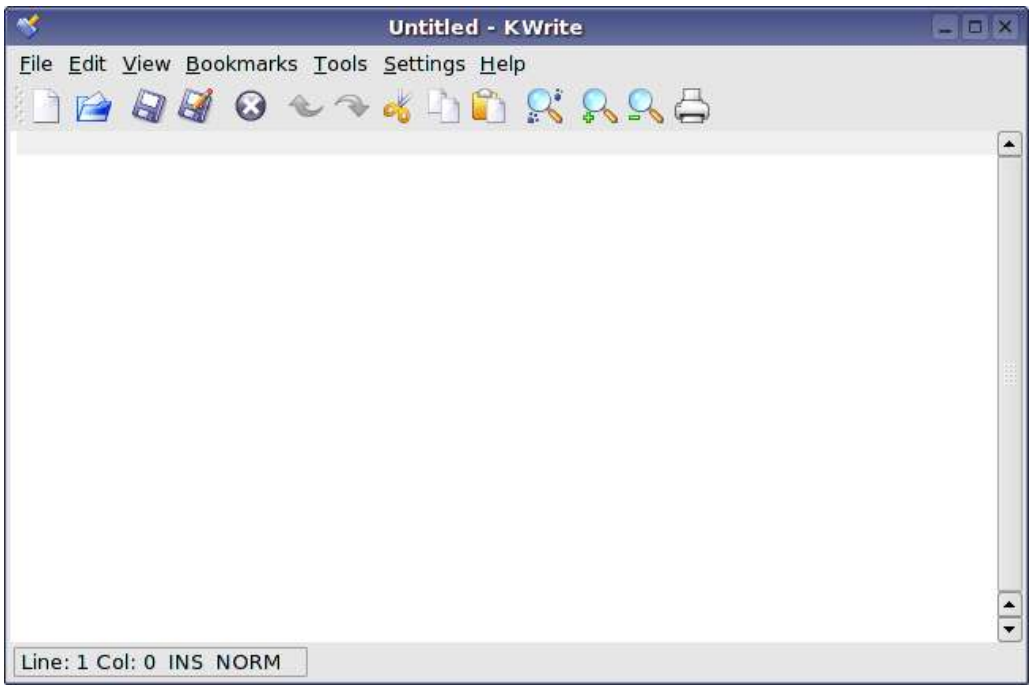
The root directory and the subdirectories under it have a particular purpose.

/	The / directory is the parent/main directory.
bin	The /bin directory contains programs used by user, admin and system
boot	The /boot directory contains the linux kernel, initial ram disk and bootloader information
dev	The /dev directory contains files that represent your system hardware
etc	The /etc directory contains system wide configuration files
home	The /home directory contains user files
initrd	The /initrd directory contains boot information
lib	The /lib directory contains library files used by both the system and the user
lost+found	The /lost+found directory contains files saved during failure
misc	The /misc directory contains miscellaneous files
mnt	The /mnt directory is the standard mount point for external filesystems such as floppies, cdroms, etc.
opt	The /opt directory contains third party software files
proc	The /proc directory is a virtual filesystem directory that contains information about system
root	The /root directory is the administrator's home directory
sbin	The /sbin directory contains programs used by the system administrator and system
tmp	The /tmp directory contains temporary files used by the system which are erased periodically
usr	The /usr directory contains programs, libraries for all user-related programs
var	The /var directory contains variable files suchs as system logs, web files, ftp files, print spools, database files, etc.

What is important for a new user is the"/home" directory where all his/her personal files are stored. Every user has its own subdirectory within the "/home" directory where the subdirectory name is based on the username. For example, if your username is "kim" then your home directory is "/home/kim".

2. Now that you know where your data will be stored, it's time to create a text file. On the panel menu click *Start Applications->Programs and Applications->More*

Accessories->KWrite.



3. Type the following details in KWrite:

Class Schedule

Monday

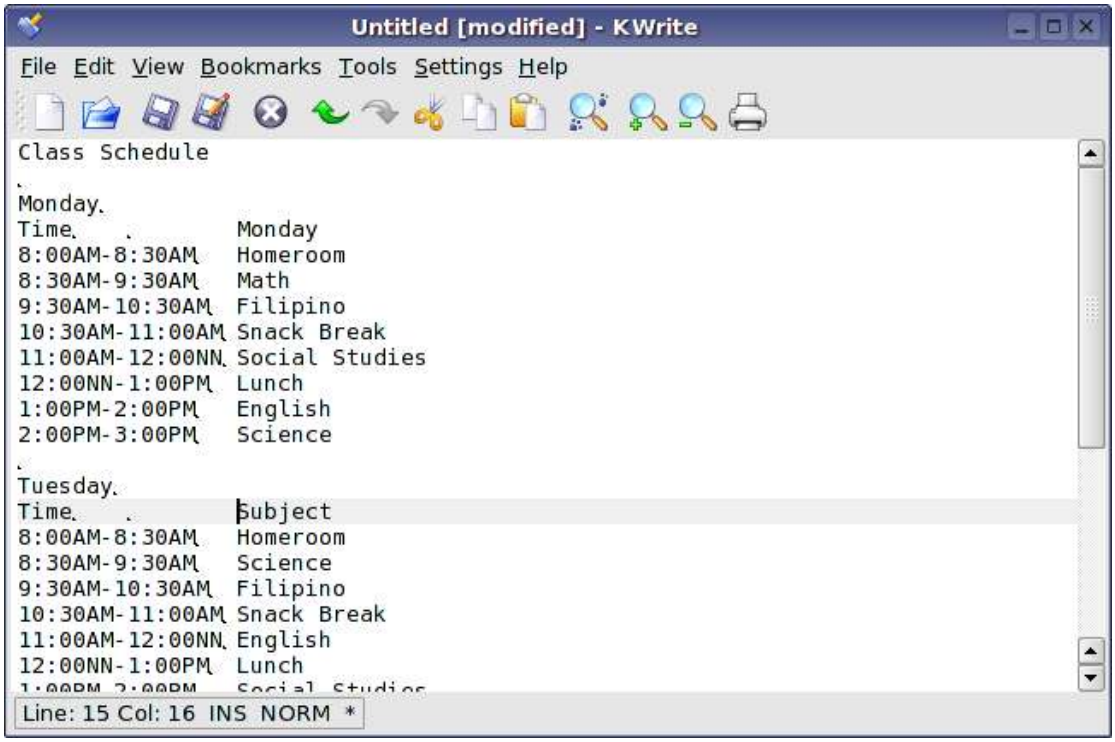
Time	Monday
8:00AM-8:30AM	Homeroom
8:30AM-9:30AM	Math
9:30AM-10:30AM	Filipino
10:30AM-11:00AM	Snack Break
11:00AM-12:00NN	Social Studies
12:00NN-1:00PM	Lunch
1:00PM-2:00PM	English
2:00PM-3:00PM	Science

Tuesday

Time	Subject
8:00AM-8:30AM	Homeroom
8:30AM-9:30AM	Science
9:30AM-10:30AM	Filipino
10:30AM-11:00AM	Snack Break
11:00AM-12:00NN	English
12:00NN-1:00PM	Lunch
1:00PM-2:00PM	Social Studies
2:00PM-3:00PM	Math

Wednesday

Time	Subject
8:00AM-8:30AM	Homeroom
8:30AM-9:30AM	Home
9:30AM-10:30AM	Economics
10:30AM-11:00AM	Snack Break
11:00AM-12:00NN	Computer
12:00NN-1:00PM	Lunch
1:00PM-2:00PM	Physical
2:00PM-3:00PM	Education



4. Before we can save the text file, you need to know the basic rules of creating a valid filename. Filenames in Bayanihan Linux are versatile, you can use almost any character in your filenames including non-printable/control characters. You must also remember that Linux is case sensitive so “MyClassSchedule.txt” is not the same with “myclassschedule.txt”.

   You are now ready to save your file. Click *File->Save*, the “Save File” dialog box will appear. In the “Location” box type ”MyClassSchedule.txt” and click the “Save” button.

Summary:

You are now able to**:**

- Understand the Linux Filesystem
- Create and save a text file