LESSON 2 : The Linux Operating System

## **Exercises 1: Discovering Linux > Documentation**

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link: https://dcsit.twiki.ucc.edu.gh/do/view/UCC\_Course/LinuxSystem

**Goal:**

*The exercise session was aimed at introducing Linux System and the basic commands in order to use the command line interface efficiently.*

## ***Exercise 1: Explore the Linux file system***

## *Three directories; namely “exercises”,”bin”,”src” were created and other subdirectories; “solutions”,”doc” and “problems” created within the “exercises” directory that was first made. The new directory named “exercise\_1” was placed in the subdirectories aforementioned. A documentation file named “exercise1.odt”was placed in the “problems” subdirectory as required.*

## ***Exercise 2: Create a file system structure for all exercises of this course***

* The defined environment variables and their respective values were checked.
* A hidden file named “bashrc” was opened and edited as required.
* Another hidden file named “bash\_profile” was created and edited as required by the instruction manual. By doing so, the environment variable path was checked before “sourcing” the new “bash\_profile” created. Changes were observed in the variable path.
* A new environment variable named “MY\_VARIABLE” was created and exported with a few messages, after which the “unset” command was used to get rid of the file.

## ***Exercise 3: Environment variables and shell startup***

* The “ps ax” command was used in the “exercise1” subdirectory in the “solutions” subdirectory of the home “exercises” directory. It was observed that a list of running processes showed. The “ps ax” command was then redirected into a text file and the file was printed to show the currently running processes.
* The “grep” and “wc” commands were further used to sort out and count the number of lines the word yesterday appeared in the text file “yesterday.txt”.

## ***Exercise 4: Redirection and pipes***

* The octal value was calculated as “516”
* The octal value of 7+5 was calculated as 14
* The octal value of 345 was calculated as 1505
* The binary value of 0x83ab was calculated as 1000001110101011
* The hexadecimal value of 7+5 was calculated as “C”
* *The decimal value of 0xa3 was calculated as 163*

## ***Exercise 5: File permissions***

## The permissions on the /bin and yesterday.txt folder and file respectively were later checked and it was discovered that no user had read, write and execute permissions on the “/bin” directory but the “yesterday.txt” file had users with those permissions mentioned.

**Remarks**

From This exercise section I learnt the basic Linux terminal commands and how they can be called in several situations to acquire the desired results. I also learnt a lot about working with numbers in different bases and how to convert numbers from one base to another.