**OPERATING SYSTEM PRACTICAL CAT 2**

**GROUP 4**

**Experiment 1 (Basic commands)** **10marks**

I.

a) Show/demonstrate the Installation of Unix/Linux operating system.

b) All Unix/linux systems require passwords to help ensure that your files and data remain your own and that the system itself is secure from hackers and crackers, change your password using the **passwd.**

c) Demonstrate and describe the use of all this commands (man, who, cat, cd, cp, ps, ls, mv, rm, mkdir, rmdir, echo, more, date, time, kill, history, chmod, chown, finger, pwd, cal, logout, shutdown) commands.

Cat - Sends file contents to standard output. This is a way to list the contents of short files to the screen. It works well with piping

Man – Short for manual, which allows a user to format and display the user manual built into linux distribution.

Who – lists all users who are currently logged in

Cd - Change directory

Cp - Copy files

Ps – prints process status

Ls - List files

Mv - Move or rename files

Rm – used to delete files

Mkdir – creates a new folder

Rmdir – deletes a folder

Echo – Allows a user to repeat , or a string variable to standard output.

More - Allows file contents or piped output to be sent to the screen one page at a time

Date – sets a system’s date and time.

Time – measures program running time

Kill – kills a process by using its PID

History – shows the command history

Chmod – changes the access mode of one or more files

Chown – changes file or group ownership and has option to change ownership of all object within a directory tree.

Finger – displays information about the system’s users

Pwd - Show the name of the current working directory

Cal – display a calendar

Logout - Logs the current user off the system.

Shutdown - Shuts the system down.

d) Study **vi editor.** ( <http://www.tutorialspoint.com/unix/pdf/unix-vi-editor.pdf>) and show how it works.

* Vi editor is a screen-oriented text editor used to edit existing files, create and new file from the scratch or just read a text file.
* Different commands should be used to perform specific tasks like control commands, editing text command, delete characters command etc.

e) Study git/github <https://git-scm.com/doc> and perform the following

Installation on Linux, working on repositories, creating a branch and merging, pull requests, pushing to branch. (This will help when you will be working on the next experiments)

**The following experiments should be pushed to github. (I will mark from Github on Tuesday will be available for you guys the whole day, till 5)**

**Experiment 4 (Shell scripts and sed)**

**By** **Group 2 members (Lewis, Owden, Simon, Mohammed) (10marks)**

1. Shell script program to check whether given file is a directory or not.

*echo "ENTER A NAME"*

*read a*

*if [ -d $ a ]*

*then*

*ls $a*

1. Shell script program to count number of files in a Directory.

*#!/bin/sh*

*if [ -d "$@" ]*

*then*

*find "$@" -type f | ls -l "$@" | wc -l | echo "Number of files is $@"*

*find "$@" -type d | ls -l "$@" | wc -l | echo "Number of directories is $@"*

*fi*

1. Shell script program to copy contents of one file to another.

*cat filename >> newfilename*

1. Create directory, write contents on that and Copy to a suitable location in your home directory.

*mkdir foldername*

*cat > sample.txt*

*\*enter text then ctrl+d\**

*mv sample.txt ~/*

1. Write a program using sed command to print duplicated lines of Input.

For example if we have duplicated line like:

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Then the codes will be:

$ sort file | sed '$!N; s/^\(.\*\)\n\1$/\1/; t; D'

*Lewis*

*Simon*

*Mohammed*