



Catholic University Institute of Buea (CUIB)
2020/2021 ACADEMIC YEAR
Second Semester Examinations – February/March 2021



School	SCHOOL OF INFORMATION TECHNOLOGY				
Course Code	SIT 121	Course Title	Introduction to Unix		
Status	C	Credit Value	6	Dept	Cyber Security
Date	26/02/2021	Venue	Ngongi H./ LH 2/3	Time	10:30AM – 12:30PM
Course Instructor(s)	Mrs. Tiako Fani N.				

INSTRUCTIONS: Answer all questions

Exercise I: (10 marks)

- 1) The Unix operating system is made up of 3 key parts. Name and briefly explain them. (3 marks)
- 2) Every item stored in a UNIX filesystem belongs to one of four types. What are those types? (2 marks)
- 3) What will happen if the command `$ shutdown -r now` is executed by the computer owner? (1 mark)
- 4) What command shows file permissions? (1 mark)
- 5) Write a command to present the disk space used by each file in the system. (1 mark)
- 6) Explain what the command `chmod 750 args.sh` means. (2 marks)

Exercise II (10 marks)

Consider the following Bourne Shell code that creates a file named `count_lines.sh` and writes as its content a shell script that will report the number of lines in each text file within the current directory.

```
cat > count_lines.sh << 'EOF'
#!/bin/bash
for FILE in $(*.txt)
do
    wc -l "${FILE}"
done
EOF
```

- 1) State 2 text editors on the Unix Shell where this code can be written while specifying the one which is installed by default on the system. (2 marks)
- 2) Update this script to add a statement that:
 - i- asks the user to enter his username and displays that name on the screen. (2 marks)
 - ii- counts the total number of `.txt` files in the current directory, and prints out this number to screen. (2 marks)
- 3) Write a command to make the script file executable for all users. (2 marks)
- 4) Write a command to run the file. (2 marks)

Exercise III (1*10 = 10 marks)

1. _____ command is used to count the total number of lines, words and character in a file.
 (a) countw (b) wcount (c) wc (d) count p (e) None of the above
2. _____ command is used to remove the directory.
 (a) rdir (b) remove (c) rd (d) rmdir (e) None of the above
3. _____ command is used to remove files.
 (a) dm (b) rm (c) delete (d) erase (e) None of the above
4. Which of the following is not a communication command?
 (a) grep (b) mail (c) msg (d) write (e) None of the above



5. Which of the following is a command in Linux?
(a) w (b) x (c) t (d) All of the Above (e) None of the above
6. _____ enables you to run Windows and Linux Kernel in parallel on the same machine.
(a) Virtualbox (b) Vmware (c) Cooperative Linux (d) LAN (e) None of the above
7. To start a process in the background, enter the command with this character at the end.
(a) \$ (b) # (c) & (d) % (e) None of the above
8. What command makes a copy of file "upper" in the directory two levels up?
(a) jump -2 upper (b) cp upper ../ (c) cp upper -2/ (d) cp upper ../ (e) None of the above
9. How do you get help about the command "cp"?
(a) man cp (b) help cp (c) cp ? (d) cp - ? (e) None of the above
10. If the command "ls proj*.c" is executed, what set of files would I expect to see?
(a) proj2.c project2.c (b) proj1.c proj3.c proj5.c (c) Both (a) and (b) (d) Neither (a) not (b) (e) None of the above

Exercise IV (20 marks)

- 1) Which Unix command is used to determine the used and free space of a disk? (1 mark)
- 2) Consider the output given below. What command generated this output? (1 mark)

```
drwxr-xr-x  3 will  finance 4096 Nov 20 10:45 will
```

- 3) Identify the different components of the output in (2). (2 marks)
- 4) What is a process? What is a pipe used for? (2 marks)
- 5) What does the following command do? (1 mark)
`$ cat hello.txt | sort | uniq`
- 6) Write a command to kill the process in (5) using its name. (1 mark)
- 7) What command is used to find out the process IDs of the underlying processes associated with the shell and its jobs? (1 mark)
- 8) What does the command `$ telnet www.doc.ic.ac.uk 80` do? How is this command limited? What other command can you use to avoid this limitation? (2 marks)
- 9) Consider the scenario where the user is currently in the **home** directory of a computer whose file system is given in Figure 1 below. Write the commands that perform the following tasks.
 - a) Create the folder foo/bar/baz
 - b) Create a file containing 'Hello world' named hello.txt in the foo/bar directory. (1 mark)
 - c) Delete the **foo** folder and everything in it, including subdirectories. (1 mark)
 - d) Copy the content of the files input1.txt and input2.txt to the **play** directory. (1 mark)
 - e) Move to the **will** directory. (1 mark)
 - f) In the file input1.txt, do the following actions: (1 * 5 = 5 marks)
 - i. Display the first 10 lines of the file.
 - ii. Display only lines that contain John.
 - iii. Display only lines that do not contain John.
 - iv. Display only lines that contain 4-letter words starting with J.
 - v. Compress the file with gzip.



E4
2/ of command

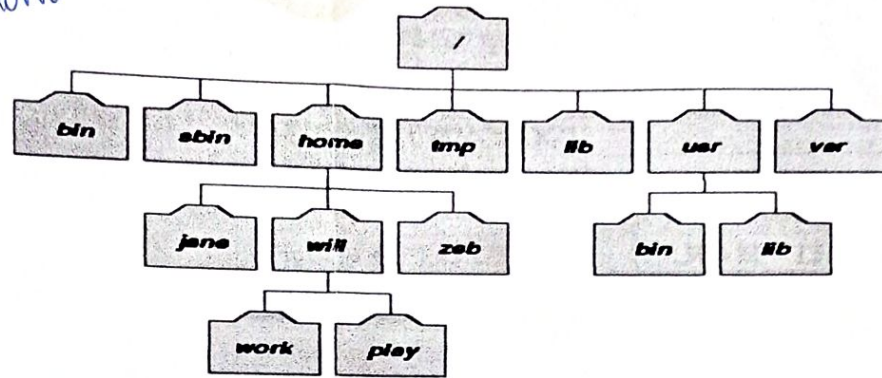


Figure 1

2 Shell, Kernel, programs

2) links, directories, devices, ordinary files

3) it will shut down then reboot the computer

4) ls - pm ~/.

5) \$ ls -l

6) chmod 750

general output ls - al

permission link owner group size date

Process N a program in execution

pipe is use for combining system utilities to perform more complex function

