1. List 5 system services/features and provide some examples

File management - store and allow access to files on the machine

User interface - Command Line Interface (CLI), Graphical User Interface (GUI), Voice User Interface (VUI)

Handle system resources - manage resources such as RAM and CPU time

Application Management - open, run, and close various programs such as text editors.

Access Hardware - manage peripherals such as keyboards and mice

1. Describe 2 ways to obtain system services.

libraries - can be accessed by the user programs

System Call interface - direct contact from the system to the various resources controls

1. Write a command line that lists files in a current directory and if the output is more than a page long as well as count how many files there are, it will output a page at one time until you hit spacebar.

ls -a |more; ls|wc

1. Describe how Unix/Linux shell locates a given executable file when you don’t specify full search path

It checks the locations listed in $PATH which usually contains at least:

usr/sbin

/usr/bin

/sbin

/bin/

as well as others defined by the specific operating system or programs installed.

1. Describe how Unix/Linux shell command interpretation work

the shell takes the command entered and checks if it exists in the $PATH, if it does it applies whatever arguments given to that command, then it sends its’ output to the specified location. If the command is followed by a “|” and another command then it sends the output of the first command into the input of the second command. If the command is followed by a “;” and another command, it executes the first command and then the second. If the command is followed by a “>” then it sends the output of the command to a specified file.

1. Explain redirection in Linux and what are stdio, and stdout.. what different between stdout and stderr

stdio is the basics of inputting and outputting information to a command in the system

stdin is “standard input” This is where the information to be used by a command is given. The default is the keyboard, but a file can be used.

stdout is “standard output” This is where the information generated by a command is sent to. The default is to the screen, but a file can be used.

stderr is “standard error” it is where the error messages generated by a command are sent to, the default is to show stout instead of stderr, however using “your\_command 2> file\_name” will redirect stderr to “file\_name” instead of stdout

1. Start editor (vi or emacs), write number 1-30 hit return for each and save them to a file “mynumber” . Then suspend the editor and show that it is suspended or stopped but still active (in your job list). List the file. And resume the editor. (you can either show screen capture or describe commands). Check what is a process ID of editor and parent its process ID

$vim mynumber

i

1

2

.

.

.

29

30

esc

:w

Ctrl+z

$ps aux|grep “vim mynumber”

$ls -l |grep mynumber

$fg

(here a $ denotes a command that can be launched as a normal user and the tabs indicate the subsequent commands entered to navigate vim and then the output to write the file)

1. List your directory that contains mynumber file in a long format. Explain the current file permission info. Change file permission mynumber so that your group can read only

$ls -l

-rw-rw-r-- 1 steven users 7 11.01.2016 19:55 mynumber

the current file permissions give the owner “steven” acess to read and write to the file “mynumber” the group “users” access to read the file, and gives everyone else access to read the file as well.

to change the permission to prevent the group from being able to write to to file the commands

#chmod 644 mynumber

or

#chmod g-w mynumber

have to be entered

(here a $ denotes a command that can be launched as a normal user and the tabs indicate the output of the command, a # denotes a command that must be launched as a privileged user (root))