SCSR2043 OPERATING SYSTEMS
[20 Marks]

Name : Group 1

Student :

ID

Section : Section 02

Marks

Instruction: Please answer all the following questions.

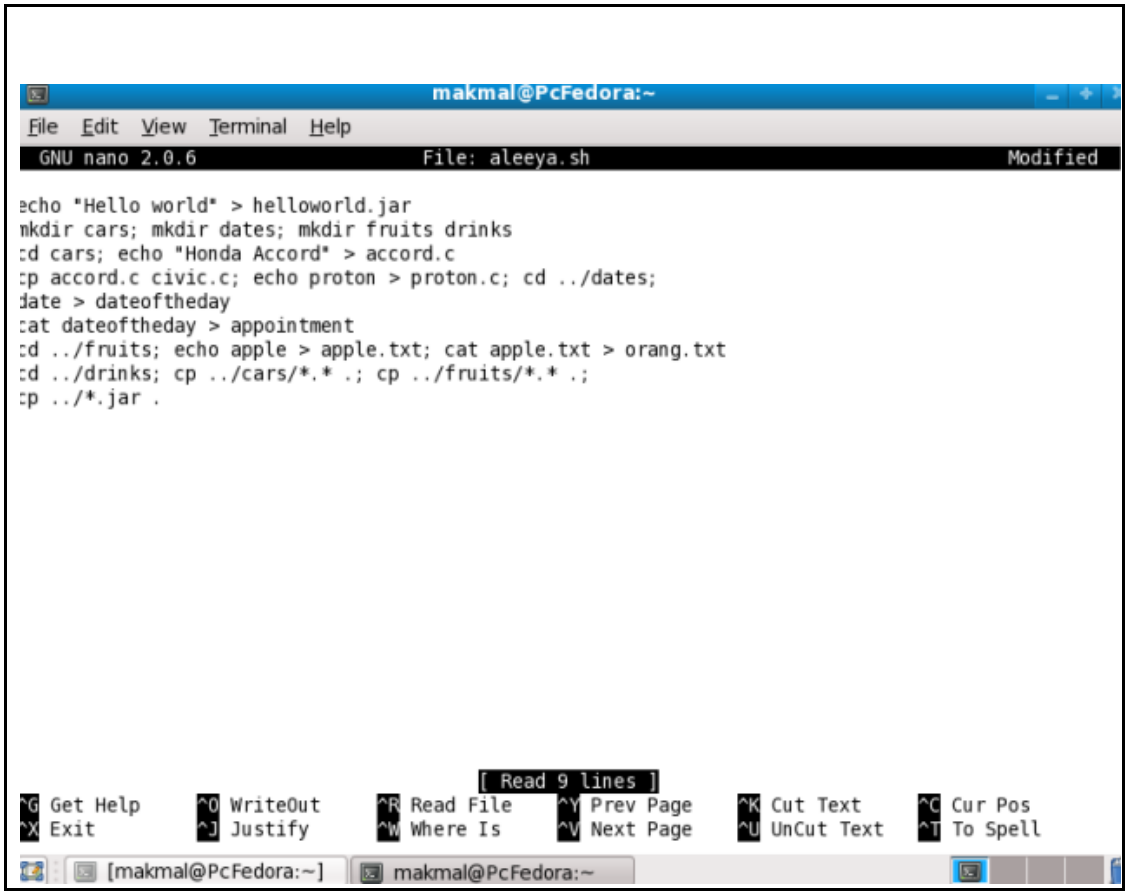
1. Type the following commands using a text editor and save it as a *yourname*.sh (Example: `ahmad.sh`).

```
echo "Hello world" > helloworld.jar
mkdir cars; mkdir dates; mkdir fruits drinks
cd cars; echo "Honda Accord" > accord.c
cp accord.c civic.c; echo proton > proton.c; cd ../dates;
date > dateoftheday
cat dateoftheday > appointment
cd ../fruits; echo apple > apple.txt; cat apple.txt >
orange.txt
cd drinks; cp ../cars/*.* .; cp ../fruits/*.* .;
cp ../*.jar .
```

a) Execute the script and draw a tree structure that contains created directories and files. The parent node of the directory begin with **`$HOME`** directory.

[4 marks]

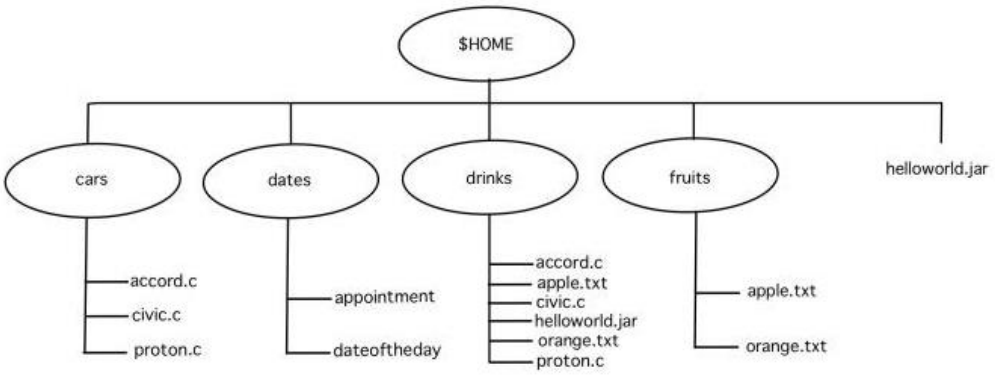
Print screen the script that you type;



Then draw the tree

```
makmal@PcFedora:~
File  Edit  View  Terminal  Help
|-- aleeya.sh
|-- cars
|   |-- accord.c
|   |-- civic.c
|   `-- proton.c
|-- dates
|   |-- appointment
|   `-- dateoftheday
|-- drinks
|   |-- accord.c
|   |-- apple.txt
|   |-- civic.c
|   |-- helloworld.jar
|   |-- orang.txt
|   `-- proton.c
|-- fruits
|   |-- apple.txt
|   `-- orang.txt
|-- helloworld.jar
|-- patketul
|   |-- Fiza
|   |   |-- Banana
|   |   |   |-- fork1.c
|   |   |   `-- fork1result
|   |   `-- Papaya
|   |       `-- fork2.c
|   `-- Muna
|       |-- Durian
|       |   |-- fork3.c
[makmal@PcFedora:~]  makmal@PcFedora:~
```

Tree Structure is given below

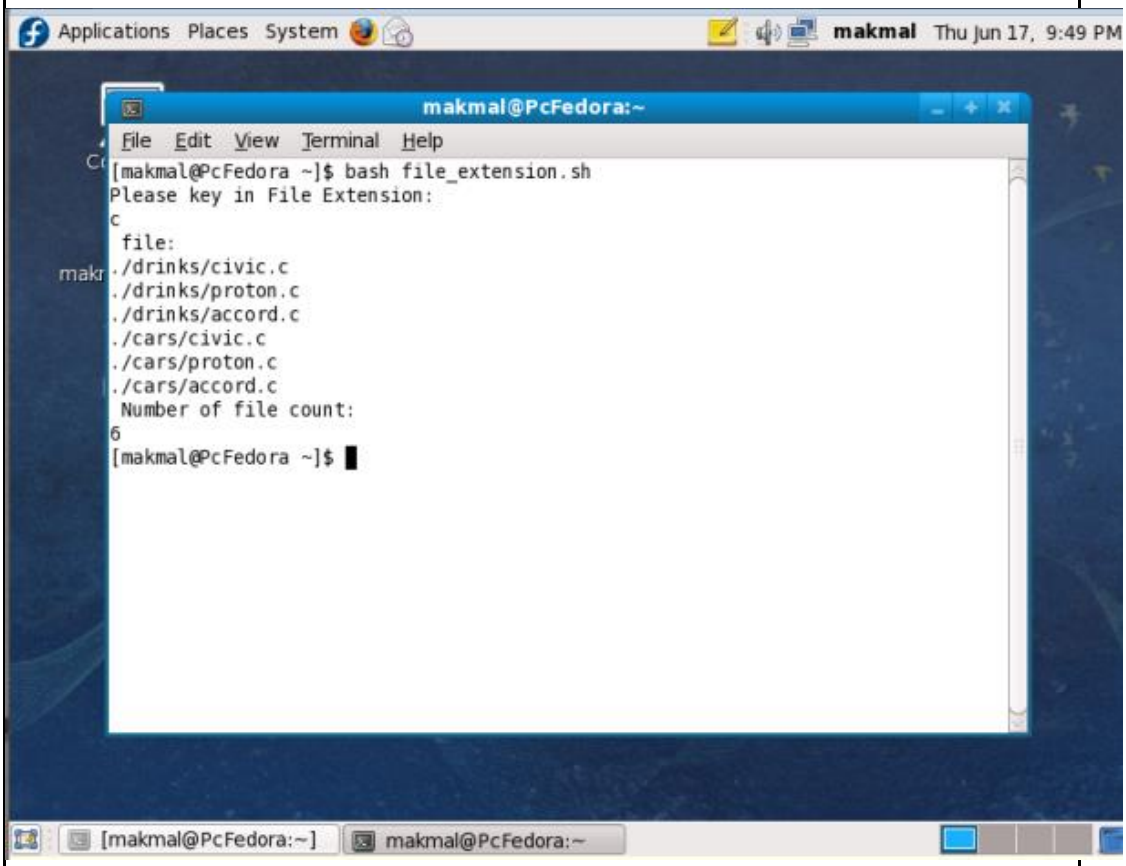


b) Write an interactive bash script that will read a type of file extension, display all those files, and count the number of files. To validate your script, display c program files, and enter "c" as the input to the bash script. [4 marks]

Print screen the bash script you type and run

Bash Script

Run


Applications Places System
makmal Thu Jun 17, 9:49 PM
makmal@PcFedora:~
File Edit View Terminal Help
[makmal@PcFedora ~]$ bash file_extension.sh
Please key in File Extension:
c
file:
./drinks/civic.c
./drinks/proton.c
./drinks/accord.c
./cars/civic.c
./cars/proton.c
./cars/accord.c
Number of file count:
6
[makmal@PcFedora ~]$
[makmal@PcFedora:~]
makmal@PcFedora:~

2. The following Figure 1 illustrates a tree structure of some directories and files.

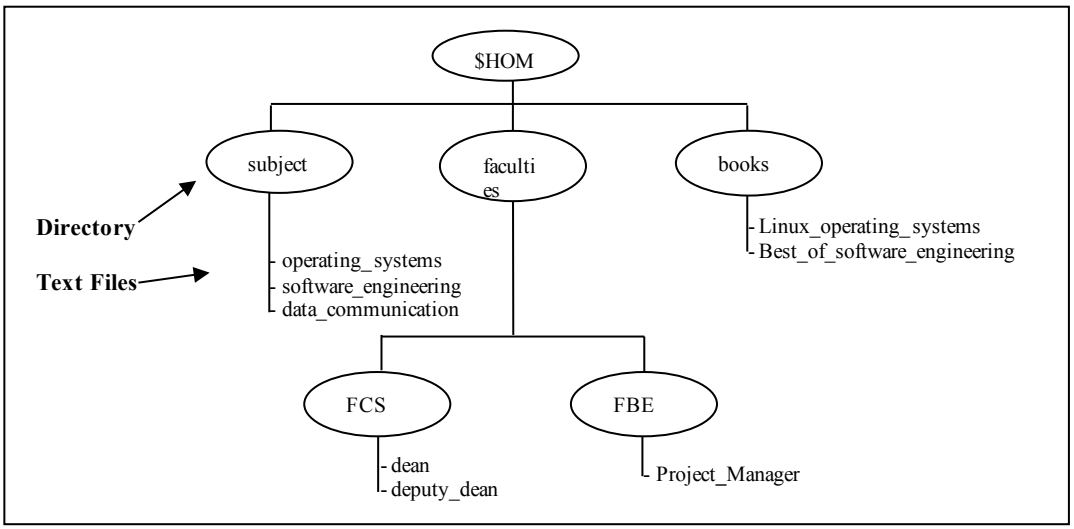
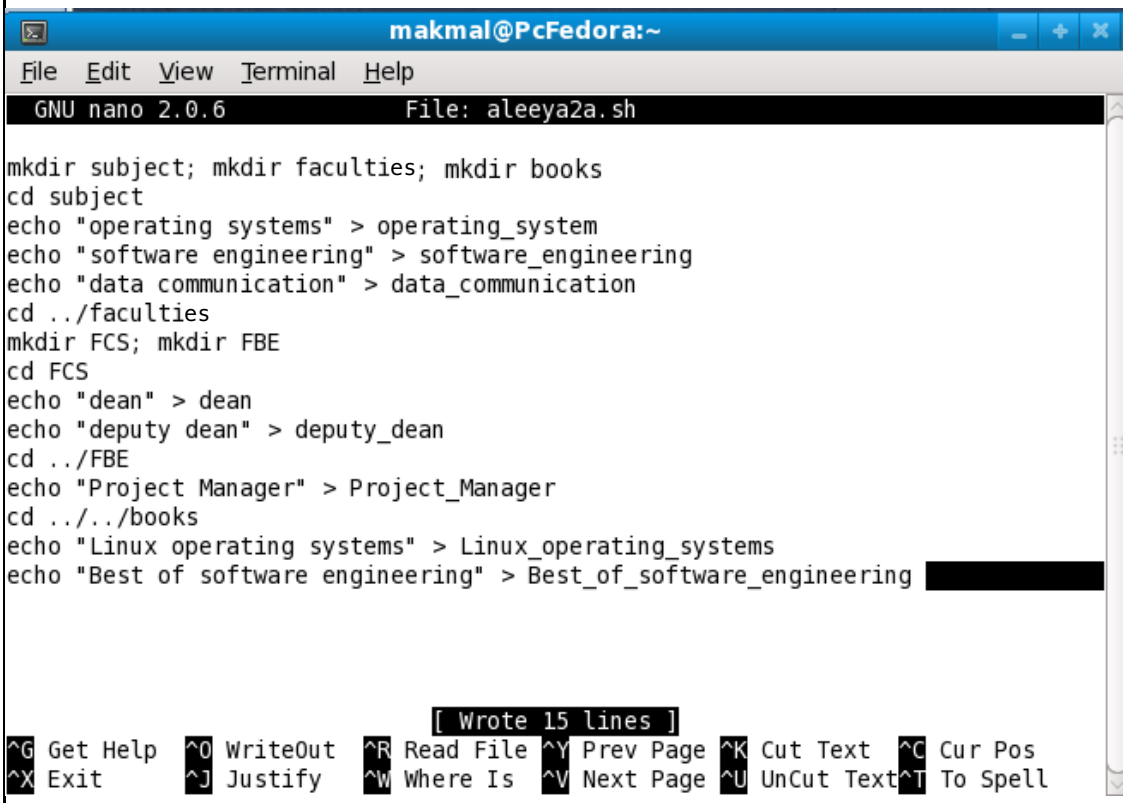


Figure 1

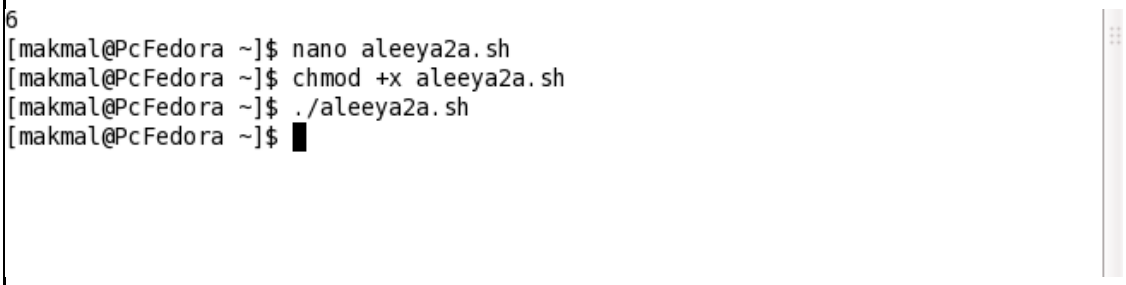
a) Write a bash script (called `myname2a.sh`) that will produce directories and files as in Figure 1. Each text files contain its filename without the underscore character. For example: text file `Project_Manager` contains `Project Manager`). [4 marks]

Print screen the bash script you type and run

Bash Script



Run



b) Complete the following table by writing the access control of directories or files that were produced. Given is the access control for directory called `book`.

[2 marks]

Directory/File	Access Control
books	drwxrwxr-x
subjects	drwxr-xr-x
Best_of_software_engineering	-rw--r--
FCS	drwxr-xr-x
project_manager	-rw-r—r--

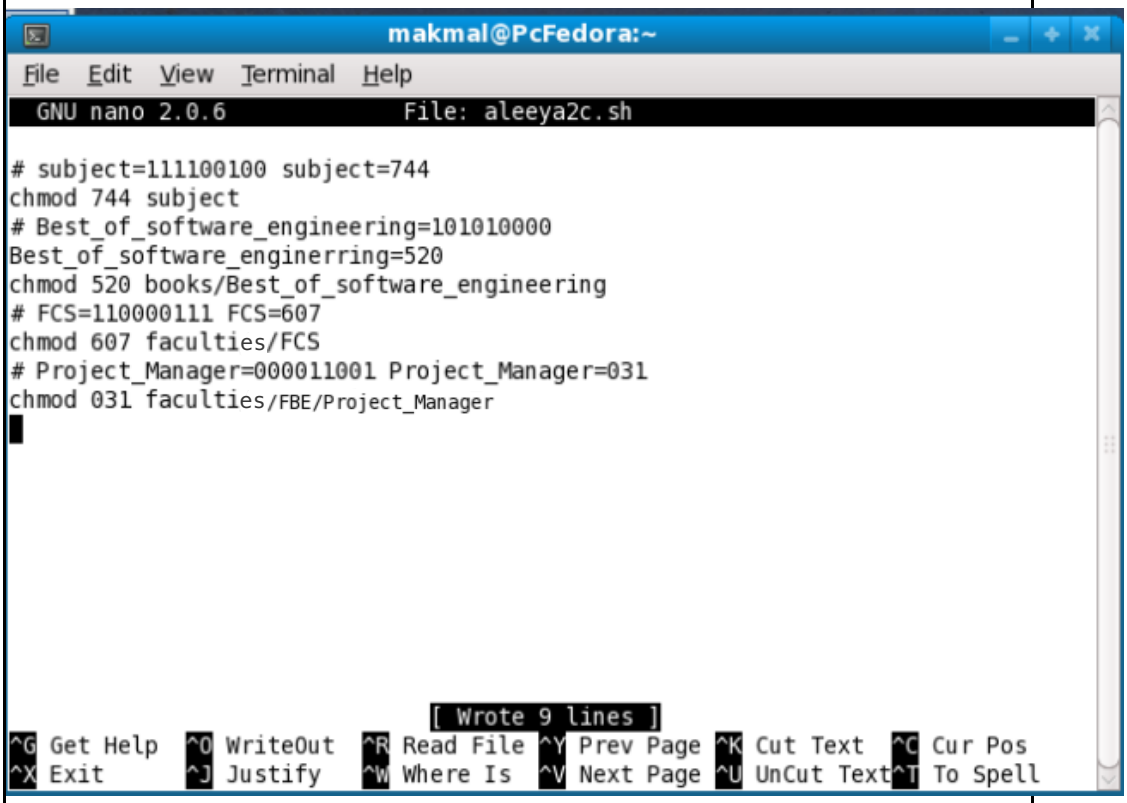
c) Write another bash script (called `myname2c.sh`) that will change the access control of the directories and files based on the following information:

[4 marks]

Directory/File	Users								
	Owner			Group			Public		
subjects	✓	✓	✓	✓	x	x	✓	x	x
Best_of_software_engineering	✓	x	✓	x	✓	x	x	x	x
FCS	✓	✓	x	x	x	x	✓	✓	✓
project_manager	x	x	x	x	✓	✓	x	x	✓

Print screen the bash script you type and run

Bash Script



Run

```
[makmal@PcFedora ~]$ nano aleeya2c.sh
[makmal@PcFedora ~]$ chmod +x aleeya2c.sh
[makmal@PcFedora ~]$ ./aleeya2c.sh
[makmal@PcFedora ~]$
```

d) Complete the following table by writing the access control for each directory or file after executing the bash script in question 2(c)). [2 marks]

Directory/File	Access Control
subjects	drwxr--r--
Best_of_software_engineering	-r-x-w----
FCS	drw----rwx
project_manager	-----wx--x

End of Lab 3

**** All the Best for Final Exam ****