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| SCSR2043 OPERATING SYSTEMS  (June 2024)  [ Marks] | | |  | | --- | | Marks | | |
| Name  Student ID Section | Aland Fryad  qiu23-0457  OS |
| Instruction : Please answer all of the following questions. Whenever the | | 🖑 | symbol |

appears, please raise your hand to call your instructor, he/she will verify your results by putting his / her initial next to the symbol.

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| 1. | Type the following commands using a text editor and save it as a | yourname .sh |

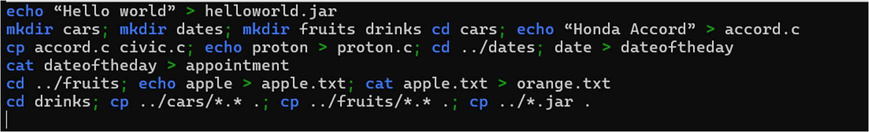
(Example: ahmad.sh).

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| --- | --- | --- | --- |
| |  | | --- | | 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 . | | |  | | --- | | 🖑 | |

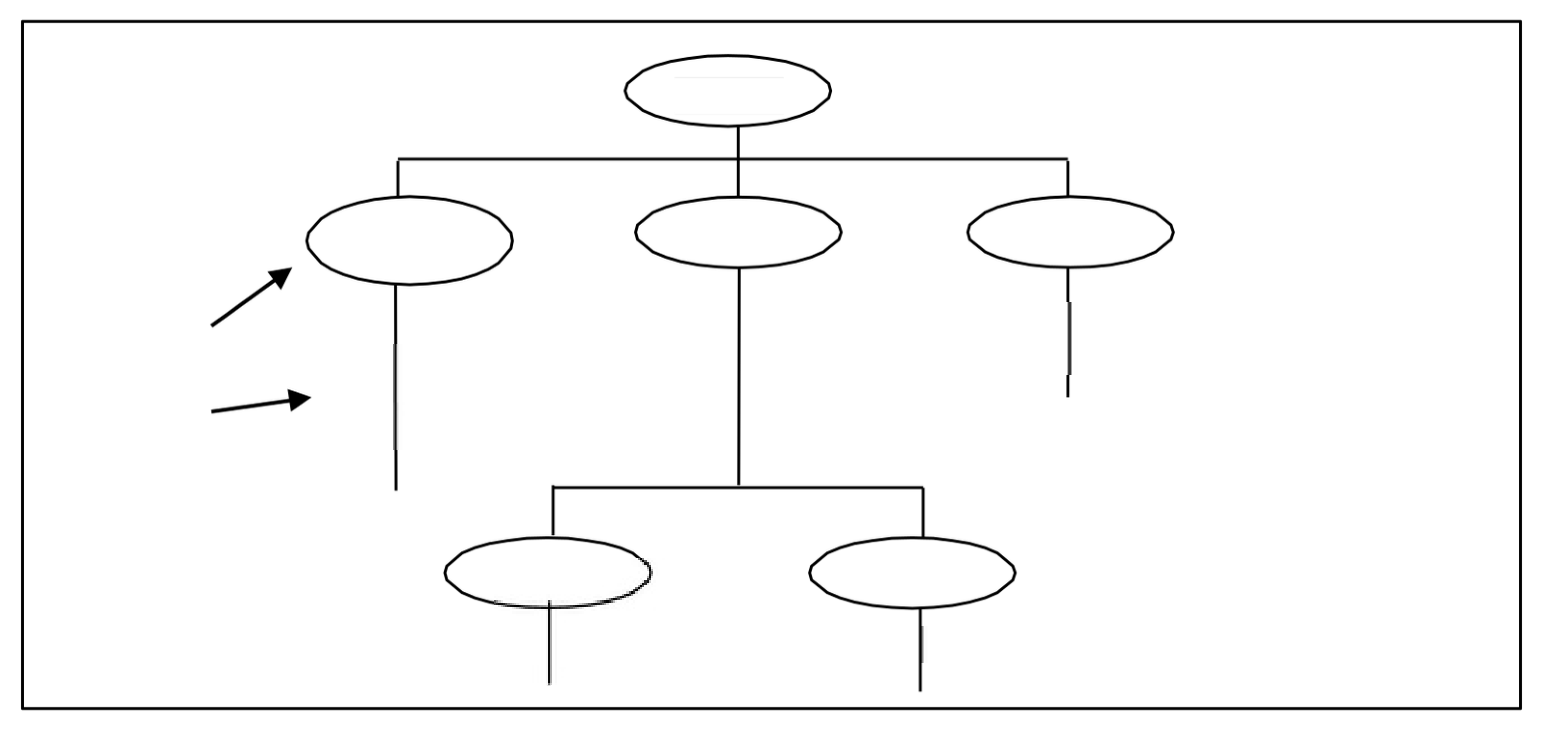
a) Execute the script and draw a tree structure that contains created directories and files. The parent node of the directory begin with $HOME directory.

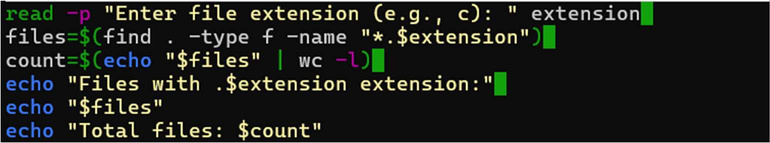
[4 marks]

|  |
| --- |
| $HOME |



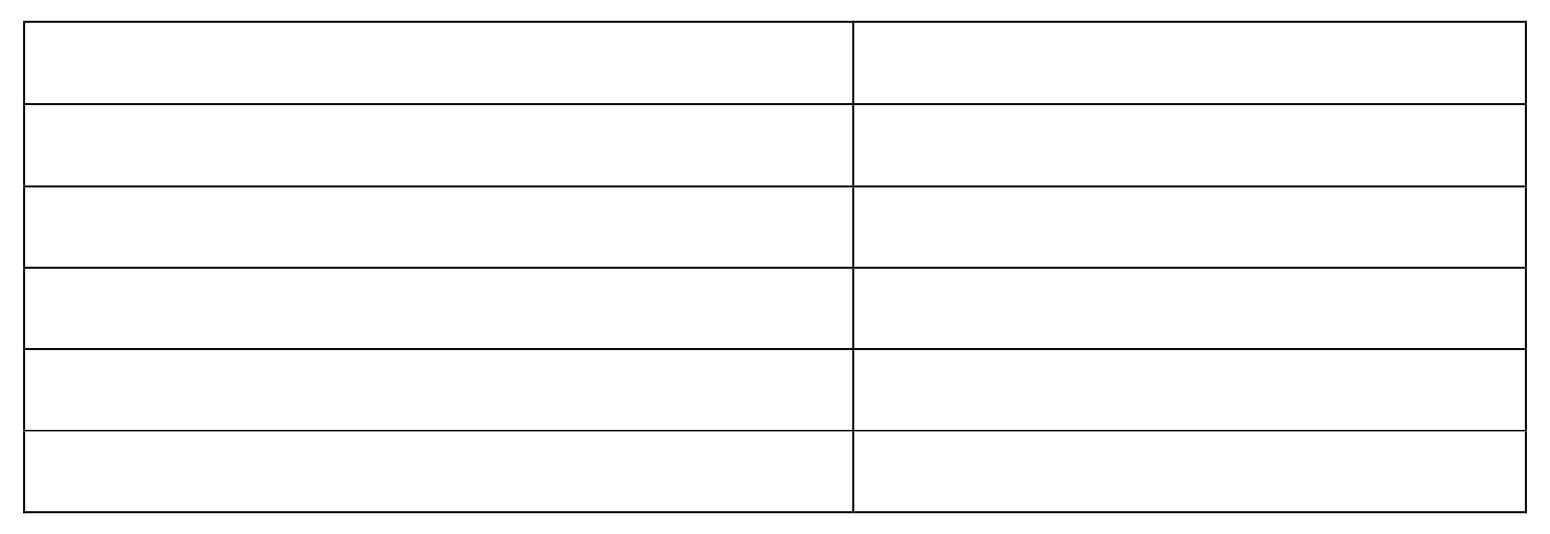
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b) Write an interactive bash script that will read a type of file extension, display all those files, and count the number of files. To validate your script, display c program files, and enter “c” as the input to the bash script. [4 marks] 



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| 2. The following Figure 1 illustrates a tree structure of some directories and files. | |  | | --- | | 🖑 | |
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| --- | --- | --- | --- | --- | --- |
| Directory | $HOME | | FBE | |  | | --- | | books | |
| subjects | faculties |
| -operating\_systems -software\_engineering-data\_communication | | -Linux\_operating\_systems |
| -Best\_of\_software\_engineering |
| Text Files |
| FCS | | - Project\_Manager |
| -dean | |
| -deputy\_dean | |

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

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| character. For example: text file Project\_Manager contains | Project |  |
| Manager). | [4 marks] |
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b) Complete the following table by writing the access control of directories or

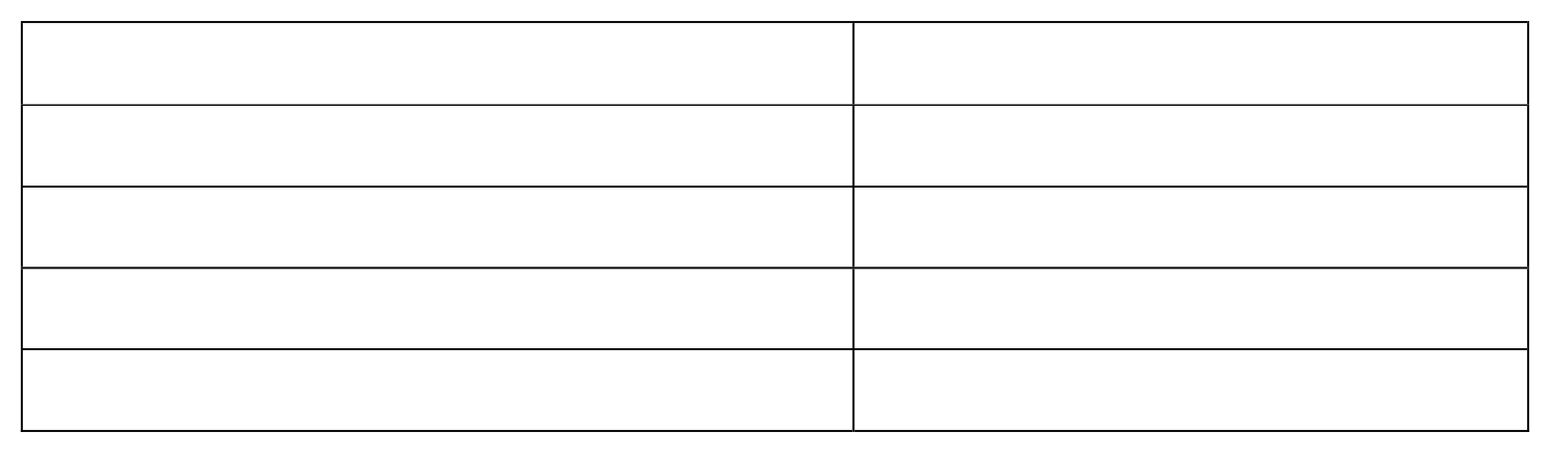
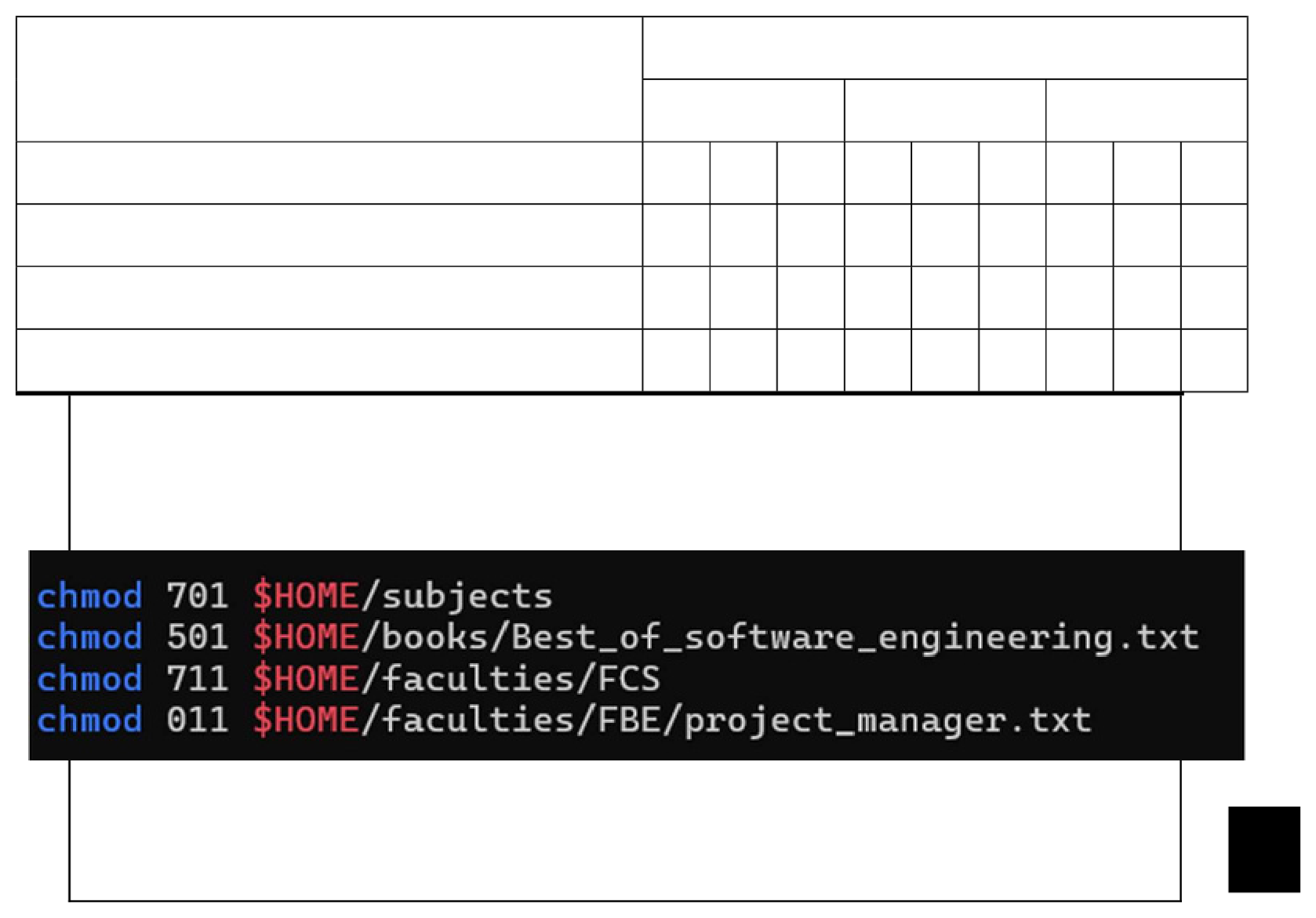
files that were produced. Given is the access control for directory called

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| --- | --- | --- | --- |
| book. |  | [2 marks] |  |
| Directory/File | drwxr-xr-x | Access Control | |  | | --- | | 🖑 | |
| books | drwxrwxr-x |
| subjects |
| Best\_of\_software\_engineering | -rw-r--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 | ✓ | Owner | ✓ | ✓ | Users | x | ✓ | Public | x |
| Group |
| subjects | ✓ | x | x |
| ✓ | x | ✓ | x | ✓ | x | x | x | x |
| Best\_of\_software\_engineering |
| ✓ | ✓ | x | x | x | x | ✓ | ✓ | ✓ |
| FCS |
| x | x | x | x | ✓ | ✓ | x | x | ✓ |
| project\_manager |

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d) Complete the following table by writing the access control for each directory

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| --- | --- | --- |
| or file after executing the bash script in question 2(c)). | | [2 marks] |
| |  | | --- | | Directory/File | | Access Control | |
| subjects | drwx-----x | |
| Best\_of\_software\_engineering | -r-x-----x | |
| FCS | drwx--x--x | |
| project\_manager | ------x--x | |

End of Lab 3

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