

CTIS 166::Information Technologies::SPRING 2014-2015
Computer Technology and Information Systems, Bilkent University
FIRST Midterm Examination

Instructors: Mustafa Akgül and Hamdi Murat Yıldırım

A / Duration: 110' / 23.03.2015/ There are five (5) pages / Bonus: 6 points

Surname, Name:.....

Student ID:

Section Number:

NOTICE TO THE STUDENTS

Read the instructions carefully listed below and sign the box:

- 1.Textbooks, lecture notes, calculators with extensive memories, and any kind of computers are not permitted in the classrooms: if you have any, leave them on the instructors desk.
- 2.Cell phones should be totally switched off (not in silent or flight modes) and do not keep them with you: either put them in your bags or leave them on the instructors desk.
- 3.Permitted material to be kept on your desks are; pencils, sharpeners, erasers (and in case you may need: water and tissues). Pencil boxes are strictly forbidden.
- 4.Check your desk for any graffiti; the graffiti related to the course will be treated as an attempt to cheat.
- 5.You are not allowed to talk to other students during the exam whatever the reason may be.
- 6.Disobeying the above rules will be severely penalized and a disciplinary action will be conducted.
- 7.Please prepare your IDs (with photos) on your desk for identity check.

Signature	Time of Submission
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Closed Book, closed note exam.

You are required to write down commands with necessary arguments and options; and make sure that they work. Your script and output should match.

Give the best result that you can give!

**Over 100 points is bonus. **

Unless otherwise stated for question k, your answers as command must be in k.sh and output should in k.txt both should be in Answers directory. }

You can write down short scripts on exam paper, but you must have the output file and it should match.

Prelude: before solving questions you should:

- let NAME be your FirstLast name as ascii (MAkgul, ASOzgur, LMessi, LionelMessi)
- create NAME and NAME/Answers directories `\verb+mkdir -p ~/NAME/Answers+`
- script NAME/Answers/NAME.Log
- touch NAME/Answers/Your-Full-Name
- download the data file and unzip it in NAME Directory, use `unzip -X -K LabM1.zip`
- `mkdir -p ~/NAME/Answers/Dir{1,2,3,4,5,6,7,8,9,10,11,12,13}`

When you finish} (that is when exam ends), you will zip NAME directory with command `cd ; zip -r NAME NAME ; upload NAME.zip using browser into lab4t server`

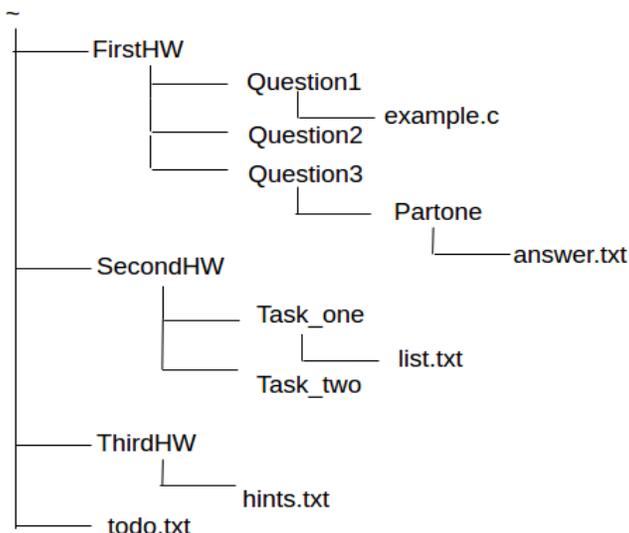
enter the LabM directory

1) (7 points)

Create the directory structure shown on the below in `~/NAME/LabM`

(Hint: In order to create files, you can use the command `touch`).

Assume that your present working directory is `~/NAME/LabM` and you run all commands while you are in that directory. You are required to write down all related command or commands necessary to create this directory structure.



2) (2 points) How can you display the contents of the directory **FirstHW**. (and write in `../Answers/2.txt`)

3) copy everything in LabM keeping properties in Dir1

4) copy everything in LabM into Dir2 using `rsync`

5) copy everything in LabM into Dir3 using `tar`

6) copy everything in LabM into Dir4 using `cpio`

7) (2 points) Put the copy the file `list.txt` inside the directory **Question2**.

8) (2 points) Move the directory **Question3** inside the directory **ThirdHW**

9) (2 points) Remove/Delete the non-empty directory **Question3**.

- 10) **(2 points)** copy `input*.txt` into `Dir5` and compress `input1.txt` fast with `gzip`, compress `input2.txt` with `bzip2`, and compress `input3.txt` with `xz` in `Dir5`
- 11) **(2 points)** copy `Dene*` into `Dir6` and uncompress them in `Dir6`
- 12) **(2 points)** compress all files inside the directory `FirstHW`
- 13) **(2 points)** Create an archive file `My.tar` containing the directories `ABC`, and `SecondHW`
- 14) **(2 points)** extract contents of directory `ABC` of `my.tar` into `Dir7`
- 15) combine all `*txt` files on surface into `15.txt` in `Answers`
- 16) find all `*.txt` files in `LabM` write file names in `16.txt` in `Answers`
- 17) find all `*txt` files in `LabM` and put them in `TXT.zip` in `Answers`
- 18) find all `*.txt` files in `LabM` and put them in `TXT.tar` in `Answers`
- 19) find all `*txt` files which are newer than file `time.stamp` and place them in `Dir8` keeping the directory structure
- 20) create a link to directory `/etc` in `Answer`
- 21) create a soft link to file `/etc/passwd` in `Answers`
- 22) create a hard link to file `A.txt` as `B.txt` in `LabM`
- 23) **(4 points)** Consider directories `/etc` `/proc` `/dev` `/usr` under the root directory of the Linux file system. Briefly explain which kinds of files available inside each of these four directions. (You can write in `23.txt`)
- 24) **(3 points)** Determine the full pathname of the `apropos` command's binary or executable file in a Linux system? (write the command and the path) also list the related files in the system

25) (2 points) Given Dene.txt of 103 lines, how would you obtain dene.txt containing lines 21-90 with line numbers as 25.txt in Answers

26) (2 points) Determine lines containing string fox case insensitive in Dene1.txt.xz without uncompressing Dene1.xz (put result in 26.txt in Answers)

27) (3 points) How would you create the empty text files

a3.txt a4.txt a5.txt a6.txt

b3.txt b4.txt b5.txt b6.txt

c3.txt c4.txt c5.txt c6.txt

d3.txt d4.txt d5.txt d6.txt

e3.txt e4.txt e5.txt e6.txt

using a single command (you are required to use suitable shell metacharacters)? (in Answers)

27x) (3 points) Create directories A B C D each containing X Y Z and each in turn containing d e f in a single command. (in Answers)

28)

a) (3 points) How would you learn the locations of all all directories whose filenames do not start with a letter, second character is a digit and then followed by zero or more characters? This command recursively searches the directory *usr*. (put the list of directories in 28a.txt in Answers)

b) (4 points) Determine list of empty directories under *usr* (put in 28b.txt) and determine number of such directories (put in 28b.TXT in Answers or write that number here)

29)

a) (2 points) copy Dene*.txt* into Dir8 and uncompress them

b) (2 points) copy all hidden files and hidden directories which are on the surface in LabM into Dir9

30) (3 points) Write down a command to find recursively all files inside directory *etc* whose size is greater than 90 KB and copy them into Dir10

31) (3 points) How would you learn the locations of all standard files whose filenames start with a letter and followed by any two characters other than letters between a and t? This command recursively searches the directory *usr* put filename in 31.txt in Answers

32) (4 pts) How would determine files type of all files in directory */dev*. And list different file types and give an example of each type

- 33) (2 points) Determine number of empty lines in AA.txt
- 34) (3 points) Determine lines in A.txt which contains at least one of elif and ayse
- 35) (2 points) Determine lines of A.txt which contains both of elif and ayse
- 36) (3 points) Determine lines of A.txt which contains none of elif and ayse
- 37) (2 points) Print the list of all manual pages whose one-line description part contain the string *disk*.
- 38) (2 points) Determine all empty files in Dir1 and write name of files in 38.txt in Answers
- 39) (2 pts) Delete all empty files in Dir1 (do this after question 38)
- 40) (3 pts) Create a directory named Upload in Answers so that everybody (user,group,others) can create files but can not see file names.
- 41) (3 pts) Assume you have an Rsync Server (name will be given in class). Determine list of all visible modules on the Rsync Server
- 42) (3 pts) copy contents of public module temp into Dir11
- 43) (3 pts) create a file containing your full name with name NAME.txt. Upload it into module gizli, which requires user ctis with passwd ctisxx
- 44) (4 points) Determine list of files in LabM (on the surface) which contains string net case insensitive (write into 44.txt) and combine these files into 44.TXT
- 45) (3 pts) Determine lines of Dene.txt which contains string elif followed by ayse