

Linux & bash script
Book– Exam #1
Bash command Interpreter

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November 16, 2023

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This exam contains 5 pages (including this cover) and 3 questions. The total of points is 50.
Good luck.

Points distribution

Questions	Points	Grade
1	15	
2	13	
3	22	
Total:	50	

1. In relation to the Operational system basic commands, answer:

- (a) (1 point) How can we list all the contents of a file?
- (b) (1 point) How to list the contents of a file, from the last line to the first line?
- (c) (1 point) How can we list the contents of a file, in an ordered manner?
- (d) (1 point) What is the command used to turn off the computer?
- (e) (1 point) What is the command used to restart the computer?
- (f) (1 point) What is the function of the command *cal*?
- (g) (1 point) What is the function of the command *date*?
- (h) (1 point) What is the command line we have to execute in order to see the manual of the command *date*?
- (i) (1 point) What is the purpose of *head* and *tail* commands ? What is the difference between them?
- (j) (1 point) How can we filter the lines of a file that contains a specified word?
- (k) (1 point) What is the difference between *more* and *less*?
- (l) (1 point) Considering *A.txt* and *B.txt* two files, how can we check the difference in their contents?
- (m) (1 point) Which commands makes a pause, before moving into the next instruction?
- (n) (1 point) Which command splits a line of text, delimited by a character?
- (o) (1 point) Which command is used to make text replacements in files?

2. Considering the structure of *etc/passwd* below, where the fields are separated by colon (:)

0	1	2	3	4	5	6
<i>user</i>	<i>x</i>	<i>UID</i>	<i>GID</i>	<i>Extra</i>	<i>Home</i>	<i>Shell</i>

Answer:

- (a) (1 point) What is the command to list the entire file?
- (b) (2 points) What is the command line to list only the usernames?
- (c) (2 points) What is the command line to list only *UID* and *home* of each user?
- (d) (2 points) What is the command line to print only the three first characters of each user's *home* ?
- (e) (2 points) What is the command line to load only *user*, *extra* from each user, replacing the field *extra* for "NOT INFORMED", if it is empty, or contains only commas?
- (f) (2 points) What is the command line to check how many users are registered in the file?
- (g) (2 points) What is the command line to show all users that start with consonants, and their respective *home* folders, alphabetically ordered?

3. (22 points) You received a file with the registered users to import in your system. The file, however, is not in a valid format. Your job is to remove the invalid entries that could potentially break your system. Create a valid output, considering the following:
- (a) The header line in the input must be removed.
 - (b) all usernames must be lowercase.
 - (c) All emails must have a user with more than 3 characters.
(*Ex:* 1234@example.com)
 - (d) All emails must end with *.com.br* or *.com*
 - (e) Only active users must be parsed.

Below, you can see the first lines of this file:

```
user,email,active
usuario1,user1@mycompany.com,true
usuario2,user2@mycompany.net,true
usuario3,3@mycompany.com.br,true
usuario4,user4@mycompany.com,false
USUARIO,user4@mycompany.com,false
falseUser,falseUser@company.com,true
trueUser,trueUser@company.com,false
usuario5,usuariojoao@company.com.br,true
usuario6,usr@company.com,true
usuario7,usuario@minicompany.net.br,true
```

This page can be used to draft your answers